

Institute *for* Policy Integrity

New York University School of Law

July 29, 2009

Hon. Lisa P. Jackson, Administrator
United States Environmental Protection Agency
Ariel Rios Building, 1200 Pennsylvania Avenue, N.W., Room 3000
Washington, D.C. 20460
(202) 501-1450 (f)
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VIA EMAIL AND FAX

Re: Petition for Rulemaking Under Sections 211 and 231 of the Clean Air Act to Institute a Cap-and-Trade System for Greenhouse Gas Emissions from Vehicle Fuels

Dear Administrator Jackson:

Pursuant to the Administrative Procedure Act, 5 U.S.C. § 553(e), the Clean Air Act, 42 U.S.C. § 7401 et seq., and other relevant regulations and practices, the Institute for Policy Integrity at New York University School of Law hereby files this Petition for Rulemaking with the Administrator of the Environmental Protection Agency ("EPA") to initiate a rulemaking procedure under the Clean Air Act.

Specifically, the Institute for Policy Integrity petitions the Administrator to propose and adopt regulations instituting a cap-and-trade system to control emissions of greenhouse gases from fuels used in motor vehicles, nonroad vehicles, and aircraft, and to begin this process immediately. EPA is authorized to adopt such standards under Sections 211 and 231 of the Clean Air Act, 42 U.S.C. §§ 7545, 7571.

Petitioner respectfully requests that the Administrator take the following actions under Sections 211 and 231 of the Clean Air Act:

- (1) Make a finding under Section 211 that greenhouse gas emissions from fuels used in motor and nonroad vehicles and engines cause or contribute to air pollution that may reasonably be anticipated to endanger public welfare;
- (2) Propose a cap-and-trade system with an auction mechanism to control greenhouse gas emissions from fuels used in mobile sources under the authority of Section 211;
- (3) Make a finding under Section 231 that greenhouse gas emissions from aircraft engines cause or contribute to air pollution that may reasonably be anticipated to endanger public welfare;
- (4) Propose a joint rulemaking with the Federal Aviation Administration to incorporate fuels used in aircraft into the cap-and-trade system established under Section 211; and
- (5) Finalize regulations on both proposals within 90 days of the issuance of such proposed standards.

PETITIONER

The Institute for Policy Integrity (“IPI” or “Petitioner”) is a non-profit advocacy organization and think-tank at New York University School of Law. IPI is dedicated to improving the quality of governmental decisionmaking in the areas of administrative and environmental law, economics, and public policy. IPI is a collaborative effort of faculty at New York University School of Law; a full-time staff of attorneys and policy experts; law students; and a Board of Advisors comprised of leaders in public policy, law, and government.

IPI advocates using rational economic analysis as a tool to advance socially-beneficial regulation, especially in the areas of energy and environmental policy. IPI and associated faculty have produced scholarship on issues relating to regulatory review under the Administrative Procedure Act, the benefits of a cap-and-trade system designed to limit greenhouse gas emissions, and environmental regulation under the Clean Air Act.

IPI strongly advocates for a cap-and-trade system, either legislative or regulatory, as the most efficient and cost-effective means of reducing harmful greenhouse gas emissions. Recently, IPI published an in-depth analysis of the Clean Air Act entitled *The Road Ahead: EPA’s Options and Obligations for Regulating Greenhouse Gases*.¹ That Report discusses how EPA can construct regulations under the Clean Air Act to complement any action by Congress on climate change. The Report advocates that, in order to maximize the net benefits of greenhouse gas regulations, EPA should, whenever possible, adopt market-based incentives that are carefully tailored to adhere to the language of the Clean Air Act, while giving businesses maximum flexibility to achieve compliance at the lowest possible costs. For example, *The Road Ahead* explores how EPA can use Sections 211 and 231 of the Clean Air Act to institute a cap-and-trade system for vehicle fuels as an efficient mechanism to combat greenhouse gas emission from mobile sources.

IPI now files this Petition with EPA requesting creation of a regulatory cap-and-trade system for vehicle fuels as the most cost-effective policy option to reduce GHG emissions from the transportation sector.

STATEMENT OF LAW

Section 211 of the Clean Air Act (“CAA”) authorizes EPA to regulate fuels and fuel additives used in motor vehicles and nonroad vehicles. Section 211(c) provides:

The Administrator *may*, from time to time on the basis of information obtained [from registration requirements] or other information available to [her], by regulation, control or prohibit the manufacture, introduction into commerce, offering for sale, or sale of any fuel or fuel additive for use in a motor vehicle, motor vehicle engine, or nonroad engine or nonroad vehicle if, in the judgment of the Administrator, any fuel or fuel additive or any emission product of such fuel or fuel additive causes, or contributes, to air pollution . . . that may reasonably be anticipated to endanger the public health or welfare.²

¹ IPI, *THE ROAD AHEAD: EPA’S OPTIONS AND OBLIGATIONS FOR REGULATING GREENHOUSE GASES (2009)*, available at <http://policyintegrity.org/publications/documents/TheRoadAhead.pdf> [hereinafter IPI, *THE ROAD AHEAD*].

² Clean Air Act § 211(c), 42 U.S.C. § 7545(c) (2009) [hereinafter CAA].

Similar to other CAA provisions on mobile source emissions, this Section involves an endangerment finding that includes considering the contribution to air pollution made by a fuel or fuel additive. If EPA makes a positive endangerment finding, the agency then has discretion in deciding whether to issue regulations. When setting standards under Section 211, EPA must consider “all relevant medical and scientific evidence available . . . including consideration of other technologically or economically feasible means of achieving emission standards under section [202 (which applies to regulations of motor vehicles emissions)].”³

In striking contrast to most other mobile source provisions in the CAA, Section 211 grants EPA extremely broad authority if it decides to regulate. That provision allows EPA to do more than just set emissions standards; instead, it allows EPA to “control” or “prohibit” the manufacture—including importing and refining—or sale of fuel. Typically EPA has acted through Section 211(c) to prohibit the use of certain additives (e.g., lead) in fuel, to control the level of a particular fuel component (e.g., sulfur and benzene), or to place limits on tailpipe emissions of a pollutant (e.g., the reformulated gasoline standards for volatile organic compounds and toxic emissions).⁴ Notably, Section 211 does not extend to fuel used in aircraft.

Instead, Section 231 of the CAA gives EPA authority to establish emissions standards applicable to aircraft engines. Section 231(a)(2)(A) provides:

The [EPA] Administrator *shall*, from time to time, issue proposed emission standards applicable to the emission of any air pollutant from any class or classes of aircraft engines which in [her] judgment causes or contributes to, air pollution which may reasonably be anticipated to endanger public health or welfare.⁵

This language is nondiscretionary due to the use of the word “shall”: if EPA makes a positive endangerment finding for the greenhouse gas emissions from aircraft, it must then issue emissions standards. Notably, Section 231 applies to both existing and new aircraft engines.

EPA does not directly enforce its standards regulating aircraft engines, but rather the Federal Aviation Administration (“FAA”) is required to prescribe regulations to ensure compliance with EPA’s standards.⁶ Once EPA makes a positive endangerment finding under Section 231, the FAA must issue regulations for jet fuel. Section 601(e) of the Federal Aviation Act provides that FAA “shall” prescribe:

(1) standards for the composition of chemical or physical properties of an aircraft fuel or fuel additive to control or eliminate aircraft emissions the Administrator of the Environmental Protection Agency decides under Section 231 of the Clean Air Act (42 U.S.C. 7571) endanger the public health or welfare; and

(2) regulations providing for carrying out and enforcing those standards.⁷

³ CAA § 211(c)(2)(A) (emphasis added).

⁴ See EPA, Regulating Greenhouse Gas Emissions under the Clean Air Act; Advanced Notice of Proposed Rulemaking, 73 Fed. Reg. 44,354, 44,476 (July 11, 2008) (to be codified at 40 C.F.R. ch. I) [hereinafter EPA 2008 ANPR].

⁵ CAA § 231(a)(2)(A) (emphasis added).

⁶ CAA § 231(a)(2)(B)(i); *id.* § 232(a) (delegating enforcement authority to aircraft emissions standards to Department of Transportation (DOT)); 49 C.F.R. § 1.47(g) (assigning to FAA authority delegated by CAA to DOT over aircraft standards).

⁷ 49 U.S.C. § 44714.

This language is also nondiscretionary: once EPA makes an endangerment finding under Section 231, FAA must regulate aircraft fuel.

STATEMENT OF FACTS

Scientific experts agree there is abundant, persuasive proof both for the existence and danger of global climate change, and for humankind's role in generating the greenhouse gas ("GHG") pollution responsible for warming the planet.⁸ Indeed, EPA has recently published a proposed endangerment finding that concludes the main GHG pollutants—carbon dioxide (CO₂), methane (CH₄), nitrous oxide (N₂O), sulfur hexafluoride (SF₆), perfluorocarbons (PFCs), and hydrofluorocarbons (HFCs)—endanger public welfare.⁹ EPA issued that finding in compliance with the 2007 Supreme Court ruling in *Massachusetts v. EPA*, which recognized the near-unanimous scientific consensus that GHGs are causing significant harm and directed EPA to take action accordingly.¹⁰ EPA is now moving toward finalizing its endangerment finding for GHGs, and the agency is also on track to propose regulations to curb GHG emissions from new automobiles and light trucks.¹¹ For more detail on the immediacy and severity of the threat to public welfare presented by GHG pollution, see EPA's "Proposed Endangerment and Cause or Contribute Findings for Greenhouse Gases Under Section 202(a) of the Clean Air Act," or see IPI's *The Road Ahead*.¹²

However, no federal regulations currently apply to—or are being developed for—the GHG emissions from existing cars, existing trucks, and the many other types of mobile sources that comprise the transportation sector. These transportation sources as a whole make the second-largest (or by some accounts the largest) contribution to GHG pollution in the United States.¹³ According to EPA's accounting methodology, the transportation sector contributes approximately 28% of total U.S. GHG emissions, and 6% of the world's GHG emissions.¹⁴ However, as EPA has noted, this percentage does not include two important transportation categories: upstream transportation fuel emissions (associated with extraction, shipping, refining, and distribution), and "nonroad" mobile sources (such as construction, farm, and lawn and garden equipment). When these sources are accounted for, the transportation sector becomes the single largest source of U.S.

⁸ See Peter T. Doran & Maggie K. Zimmerman, *Examining the Scientific Consensus on Climate Change*, EOS, TRANSACTIONS, AM. GEOPHYSICAL UNION, Jan. 20, 2009, at 22 (surveying 3,146 earth scientists and finding that of the most-active climatologists, over 97% believe that "human activity is a significant contributing factor in changing mean global temperatures"). The practically unanimous and worldwide agreement on the fundamental existence and danger of climate change is reflected in the work of the United Nation's Intergovernmental Panel on Climate Change (IPCC), an objective intergovernmental body consisting of hundreds of scientists of various disciplines and nationalities. IPCC, *Climate Change Synthesis Report*, in IPCC FOURTH ASSESSMENT REPORT 30 (2007), available at http://www.ipcc.ch/pdf/assessment-report/ar4/syr/ar4_syr.pdf [hereinafter IPCC 2007 Report] ("Warming of the climate system is unequivocal.").

⁹ EPA, Proposed Endangerment and Cause or Contribute Findings for Greenhouse Gases Under Section 202(a) of the Clean Air Act; Proposed Rule, 74 Fed. Reg. 18,886, 18,888, 18,890-91 (Apr. 24, 2009) (to be codified at 40 C.F.R. ch. 1) [hereinafter EPA Proposed Endangerment Finding].

¹⁰ *Massachusetts v. EPA*, 549 U.S. 497, 521, 533-34 (2007).

¹¹ EPA and Dep't of Transportation, Notice of Upcoming Joint Rulemaking to Establish Vehicle GHG Emissions and CAFE Standards; Notice of Intent to Conduct Joint Rulemaking, 74 Fed. Reg. 24,007 (May 22, 2009) [hereinafter EPA/DOT CAFE Notice of Intent].

¹² EPA Proposed Endangerment Finding, 74 Fed. Reg. at 18,902-03; IPI, *THE ROAD AHEAD*, *supra* note 1, at 23-24.

¹³ EPA, 430-R-09-004, INVENTORY OF U.S. GREENHOUSE GAS EMISSIONS AND SINKS: 1990-2006, at ES-15 (2009), available at <http://www.epa.gov/climatechange/emissions/downloads09/InventoryUSGhG1990-2007.pdf> [hereinafter EPA GHG INVENTORY].

¹⁴ EPA 2008 ANPR, 73 Fed. Reg. at 44,435; EPA GHG INVENTORY, *supra* note 13, at ES-14, 2-20.

GHG emissions—accounting for 36% of U.S. GHG emissions and 8% of global GHG emissions.¹⁵ As EPA has the responsibility under Title II of the CAA to consider the full lifecycle GHG emissions from fuel used by all mobile sources under its authority, the 36% percentage more accurately represents the actual GHG emissions from Title II sources subject to EPA regulations.

The transportation sector consists of three major types of mobile sources: motor vehicles, aircraft, and nonroad vehicles, each of which emits large quantities of GHGs. Motor vehicles (such as automobiles, light-duty trucks, medium-duty trucks, heavy-duty trucks, buses, and motorcycles) account for 72% of U.S. transportation sector emissions,¹⁶ 24% of total U.S. GHG emissions, and 4.3% of the world's GHG emissions.¹⁷ These emissions are primarily in the form of carbon dioxide, as well as methane and nitrous oxide, generated as by-products of the combustion of fossil fuel. Leaking air conditioners also emit hydrofluorocarbons.¹⁸ Motor vehicles are responsible for about one-third of U.S. carbon dioxide emissions, and over 60% of these carbon emissions are attributable solely to gasoline consumption for personal vehicle use.¹⁹

Aircraft contribute approximately 11% of U.S. transportation sector emissions and 3% of total United States GHG emissions, mainly in the form of carbon dioxide.²⁰ While aircraft emissions per passenger mile have declined over time, total emissions have increased due to growth in air travel,²¹ and GHG emissions from aircraft are expected to increase 60% over current levels by 2025.²²

Nonroad vehicles (including marine vessels, locomotives, construction equipment, farm tractors, forklifts, harbor crafts, and lawn and garden equipment) account for about 16% of U.S. mobile source GHG emissions, and almost 6% of total U.S. GHG emissions—again, mainly in the form of carbon dioxide, but also HFCs, methane, and nitrous oxide.²³ Those emissions are expected to increase by 46% between 2006 and 2030.²⁴ One particular type of nonroad vehicle, marine vessels, alone constitutes 5% of the total U.S. mobile source GHG emissions, and its emissions are expected to double between 2006 and 2030.²⁵ And while the environmental impacts of ocean-crossing

¹⁵ EPA 2008 ANPR, 73 Fed. Reg. at 44,435. In EPA's GHG Inventory, these two sources are included in the "industry" sector as opposed to the "transportation" sector. *See id.*

¹⁶ This number is derived using *all* U.S. transportation sources (including nonroad and upstream fuel).

¹⁷ EPA Proposed Endangerment Finding, 74 Fed. Reg. at 18,888; EPA, TECHNICAL SUPPORT DOCUMENT FOR ENDANGERMENT AND CAUSE OR CONTRIBUTE FINDING FOR GREENHOUSE GASES UNDER SECTION 202(A) OF THE CLEAN AIR ACT ES-1, 12 (2008), *available at* http://epa.gov/climatechange/endangerment/downloads/TSD_Endangerment.pdf; EPA 2008 ANPR, 73 Fed. Reg. at 44,435.

¹⁸ EPA GHG INVENTORY, *supra* note 13, at 2-20, 2-21.

¹⁹ *Id.* at ES-8.

²⁰ OFFICE OF ENVIRONMENT AND ENERGY, FAA, AVIATION AND EMISSION: A PRIMER 10 (Jan. 2005), *available at* http://www.faa.gov/regulations_policies/policy_guidance/envir_policy/media/aeprimer.pdf [hereinafter FAA EMISSIONS REPORT]; EPA GHG INVENTORY, *supra* note 13, at 3-13; EPA 2008 ANPR, 73 Fed. Reg. at 44,435.

²¹ FAA EMISSIONS REPORT, *supra* note 20, at 5.

²² *Id.* at 10.

²³ EPA 2008 ANPR, 73 Fed. Reg. at 44,435 (citing EPA GHG INVENTORY, *supra* note 13) (noting that marine vessels constitute 5%, rail 3%, and other nonroad sources 8% of U.S. transportation emissions). The remaining 1% of U.S. transportation source emissions comes from pipelines. *Id.*

²⁴ *Id.* at 44,462.

²⁵ *Id.* at 44,435, 44,466; *see also* Sean Poltrack, *The Maritime Industry and Our Environment: The Delicate Balance of Economic and Environmental Concerns, Globally, Nationally, and Within the Port of Baltimore*, 8 U. BALT. J. ENVTL. L. 51, 64 (2000).

vessels clearly have international implications, these GHG emissions are not regulated by any international treaty.

GHG emissions from all these mobile sources are directly proportional to fuel consumption, and GHG emissions from motor vehicles, aircraft, and nonroad vehicles are primarily emitted by use of particular fuels in those vehicles. Over the next 25 years, transportation is expected to drive all the projected growth in total petroleum consumption in the United States, and energy use for transportation is projected to grow by 0.5% *per year* from 2007 to 2030.²⁶ In fact, according to the Department of Transportation, petroleum alone accounts for about 99% of mobile sources' energy use and GHG emissions.²⁷

Thus, the use of fuel (petroleum-based and other) in mobile sources constitutes at least 99% of the transportation sector's contribution (36%) to total U.S. emissions. In other words, at least 35.6% of total U.S. GHG emissions directly result from the combustion of vehicle fuels.²⁸ Curbing these emissions would lead to a significant decrease in global GHG emissions.

ARGUMENT

Summary of Argument

Section 211 of the Clean Air Act provides ample authority for EPA to institute a regulatory cap-and-trade system on the sale and manufacture of fuels used in vehicles. Not only is a cap-and-trade system a permissible regulatory option, but it is also a superior one. It is the most efficient and cost-justified policy solution to reduce GHG emissions from transportation sources, which is one of the largest (or the largest) contributor to U.S. GHG emissions.

A number of organizations have already petitioned EPA to issue endangerment findings and regulations for a plethora of mobile sources, including motor vehicles, aircraft, marine vessels, marine fuels, and other nonroad vehicles. Given Supreme Court precedent, CAA authorities, and basic administrative law principles, EPA is required to respond to each petition and will most likely be required to promulgate mandatory emissions standards to regulate several of these individual sources. EPA has begun to issue "command-and-control" regulations for a handful of these sources—particularly new automobiles, new light trucks, and renewable fuels. These types of regulations require every regulated source to comply with a specific standard, and often prescribe exactly how those standards must be met.

Instead of regulating each mobile source in a piecemeal fashion, EPA should choose a more comprehensive and effective mechanism to reduce GHG emissions from the entire transportation

²⁶ ENERGY INFO. ADMIN., NO. DOE/EIA-0383 ANNUAL ENERGY OUTLOOK 2009 62 (Mar. 2009), *available at* [http://www.eia.doe.gov/oiaf/aeo/pdf/0383\(2009\).pdf](http://www.eia.doe.gov/oiaf/aeo/pdf/0383(2009).pdf) [hereinafter DOE/EIA ANNUAL ENERGY OUTLOOK].

²⁷ See EPA 2008 ANPR, 73 Fed. Reg. at 44,362 (republishing comments from the Dep't of Transportation). Other estimates put this number in the same ballpark. See, e.g., EPA GHG INVENTORY, *supra* note 13, at ES-8, 3-12 (stating "virtually all" or "almost all" energy in transportation comes from petroleum); ANUP BANDIVADEKAR ET AL., LAB. FOR ENERGY & THE ENV'T, MASS. INST. TECH., ON THE ROAD IN 2035: REDUCING TRANSPORTATION'S PETROLEUM CONSUMPTION AND GHG EMISSIONS 87 (2008), http://web.mit.edu/sloan-auto-lab/research/beforeh2/otr2035/On%20the%20Road%20in%202035_MIT_July%202008.pdf (stating that more than 97% of energy in transportation comes from petroleum).

²⁸ Even using the more conservative 28% contribution of the U.S. transportation sector, 26.7% of total U.S. GHG emissions result directly from fuels used in vehicles.

sector. EPA should promulgate a comprehensive cap-and-trade system for all vehicle fuels under Sections 211 and 231 of the Clean Air Act.

As recognized by most economists, the most efficient mechanism to reduce GHG emissions is a cap-and-trade system. In contrast to command-and-control regulations, this system allows the market to identify the most cost-efficient way to reduce overall emissions and does not restrict the options of individual actors. No other tool is able to deliver the same predictable reductions in GHGs, while allowing for flexibility to achieve those reductions in the most cost-efficient manner. A cap-and-trade method offers clear benefits for climate change regulation as the most effective and least costly mechanism for actually limiting the amount of pollution released into the atmosphere.

EPA is well within its authority under the CAA to establish such a system. Section 211 allows EPA to issue regulations prohibiting or controlling the sale, manufacture, or import of vehicle fuels once EPA makes an endangerment finding for those fuels. Given the scientific reality of climate change, a positive endangerment finding for vehicle fuels is inevitable. And, although the act of regulation is discretionary under Section 211 even after a positive endangerment finding, EPA will find it difficult to articulate a legally justifiable reason not to regulate vehicle fuels once it determines that GHG emissions from vehicle fuels endanger public welfare.

Although Section 211 only authorizes EPA to regulate fuels used in motor and nonroad vehicles, FAA and EPA have combined authority under CAA Section 231 and the Federal Aviation Act to regulate fuels used in aircraft. It is well within the powers of both agencies to issue a joint rulemaking to incorporate aircraft fuels into any cap-and-trade system established for vehicle fuels under Section 211.

Creating this regulatory cap-and-trade mechanism for fuel is an even more efficient choice given that Congress may soon pass climate legislation that will include vehicle fuels under a broader cap-and-trade mechanism. If EPA continues to pursue traditional command-and-control regulations to combat GHG pollution from the transportation sector, the agency may find itself wasting administrative time and resources on regimes that Congress may later supersede.

I. A Cap-and-Trade System for Vehicles Fuels is EPA's Most Efficient and Effective Policy Option to Control GHGs from Mobile Sources

Although EPA is in the process of promulgating regulations that impose mandatory controls on manufacturers of new automobiles ("command-and-control" regulations), these regulations are insufficient. They only cover a small subset of the universe of transportation sources. As the transportation sector is responsible for 36% of the GHG emissions of the United States, EPA should find a more comprehensive means by which to reduce GHG emissions from that sector.

Not only are command-and-control regulations insufficient, but they are also inefficient. A cap-and-trade system is a far superior mechanism to deal with GHG emissions; it guarantees an actual limit on GHG emissions while allowing actors to achieve this reduction through the most cost-effective methods possible.

A. Proposed Regulations are Insufficient

1. GHG Standards for Automobiles are Insufficient

In 1999, organizations petitioned EPA to regulate the GHG emissions from motor vehicles. EPA's decision not to regulate was eventually appealed to the Supreme Court, and in April 2007, the Court issued a landmark ruling in *Massachusetts v. EPA*. In that opinion, the Court made three broad determinations that will trigger several mandatory responses by EPA under various provisions in the Clean Air Act. First, the Clean Air Act's definition of "air pollutant" is both "sweeping" and "unambiguous" and includes greenhouse gases.²⁹ Second, when EPA is petitioned by the public, the Court will strike down any response that is not supported by "reasoned justification" or that does not "conform to the authorizing statute."³⁰ And, third, the Court recognized that "[t]he harms associated with climate change are serious and well recognized."³¹

Although *Massachusetts v. EPA* focused on one specific public petition that sought the regulation of only some GHGs from motor vehicles, the Court's determinations are clearly and directly applicable to a wide range of statutory provisions, and they will ineluctably and automatically trigger a number of statutory requirements for EPA action.³²

EPA is now in the process of responding to the Supreme Court's mandate by proposing regulations oriented toward reducing GHG emissions from motor vehicles. On April 24, 2009, EPA issued a "Proposed Endangerment and Cause or Contribute Findings for Greenhouse Gases Under Section 202(a) of the Clean Air Act." That proposal would: define "air pollution" under the CAA to include the total collective elevated concentrations of the six GHGs (CO₂, CH₄, N₂O, HFCs, PFCs, and SF₆); find that GHGs pose a danger to public health and welfare (the endangerment finding); and determine that emissions from motor vehicles contribute to the GHG air pollution (the contribution finding).³³

Section 202 of the CAA mandates that once EPA makes these findings, EPA "shall" (i.e. must) set "standards applicable to the emission" of the air pollutant from new motor vehicles. Following that statutory obligation, EPA published a Notice of Joint Rulemaking on May 22, 2009, announcing its intention to work with the Department of Transportation to propose standards for control of emissions of GHGs and for fuel economy for new passenger cars, new light-duty trucks, and new medium-duty passenger vehicles.³⁴

But EPA's duties to regulate mobile sources under the Clean Air Act do not end with finalization of the proposed endangerment finding for motor vehicles nor with promulgation of GHG emissions standards for new passenger cars and light trucks. Because EPA's proposed contribution finding includes *all* new motor vehicles, EPA is statutorily obliged to promulgate emissions standards for all new motor vehicles. However, its Notice of Joint Rulemaking only applies to automobiles and light trucks. EPA will be required to promulgate similar standards for heavy-duty trucks, buses, and motorcycles.

²⁹ 549 U.S. at 528-29.

³⁰ *Id.* at 533-34.

³¹ *Id.* at 521.

³² IPI, THE ROAD AHEAD, *supra* note 1, at 9-57.

³³ EPA Proposed Endangerment Finding, 74 Fed. Reg. 18,886.

³⁴ EPA/DOT CAFE Notice of Intent, 74 Fed. Reg. 24,007.

Additionally, once EPA finalizes emissions standards for all new motor vehicles, manufacturers meeting those standards will be creating more fuel-efficient cars (as increasing fuel efficiency is directly correlated to reducing GHG emissions). The increased fuel efficiency of cars will lower the cost of driving per mile traveled, as less gas will be consumed per mile. As driving becomes cheaper, a “rebound effect” may result in an increase in vehicle miles traveled.³⁵ And as cars travel more miles, they will release more GHG emissions. Direct limitation on vehicle miles traveled is not a viable policy option, as it would require the monitoring and regulation of every individual vehicle. Although the “rebound effect” created by these regulations may be small given that that personal vehicle use is fairly inelastic (and the net gain of imposing such standards would be an overall GHG emissions decrease), the effect will certainly cut into the efficacy of these command-and-control regulations on vehicle emissions.

Finally, regulations promulgated under Section 202 do not apply to the whole universe of mobile sources. Those regulations will not apply to existing motor vehicles, but rather only to *new* motor vehicles. Existing motor vehicles will continue to contribute to GHG air pollution completely unbridled. For example, as of 2007, 135.9 million passenger cars were registered in the United States, but only around 7.6 million new cars are sold in any given year.³⁶ The millions of existing cars already on the road will not be subject to any new regulations under Section 202.

Similarly, those regulations will not apply to other types of mobile sources—such as aircraft and nonroad vehicles. Currently there are several petitions pending before EPA requesting it to regulate GHG emissions from these other mobile sources.³⁷ Neither the proposed endangerment finding nor the forthcoming proposed GHG emissions standards for automobiles will reduce harmful GHG emissions from these other mobile sources. These two sources, which emit 27% of the nation’s mobile source GHG emissions,³⁸ will be allowed to emit GHGs uncontrolled.

³⁵ Some studies suggest that a 10% increase in fuel efficiency for automobiles would likely result in a 1-2% increase in vehicle miles traveled. See NAT’L RESEARCH COUNCIL, EFFECTIVENESS AND IMPACT OF CORPORATE AVERAGE FUEL ECONOMY (CAFE) STANDARDS 19 (2002); David L. Greene et al., *Fuel Economy Rebound Effect for U.S. Household Vehicles*, 20 ENERGY J. 1 (1999); Jonathan Houghton & Soumodip Sarkar, *Gasoline Tax as a Corrective Tax: Estimates for the United States: 1970-1991*, 17 ENERGY J. 103 (1996).

³⁶ DOT, Bureau of Transportation Statistics, National Transportation Statistics, tbl. 1-11 (2009), available at http://www.bts.gov/publications/national_transportation_statistics/html/table_01_11.html; *id.*, tbl. 1-12, available at http://www.bts.gov/publications/national_transportation_statistics/html/table_01_12.html.

³⁷ See, e.g., *California v. Johnson*, Petition for Rule Making Seeking the Regulation of Greenhouse Gas Emissions from Ocean-Going Vessels (EPA Oct. 3, 2007), available at http://ag.ca.gov/cms_pdfs/press/N1474_Petition.pdf; Petition for Rulemaking under the Clean Air Act to Reduce the Emission of Air Pollutants from Marine Shipping Vessels that Contribute to Global Climate Change (EPA Oct. 3, 2007) (filed by Earthjustice, Center for Biological Diversity, Friends of the Earth, and Oceana), available at http://www.oceana.org/fileadmin/oceana/uploads/Climate_Change/Marine_GHG_Petition_FINAL.pdf [hereinafter Earthjustice Marine Vessels Petition]; *California v. Johnson*, Petition for Rulemaking Seeking the Regulation of Greenhouse Gas Emissions from Aircraft (EPA Dec. 4, 2007), available at http://ag.ca.gov/globalwarming/pdf/aircraft_petition.pdf; Petition for Rulemaking Under the Clean Air Act to Reduce the Emission of Air Pollutants from Aircraft that Contribute to Global Climate Change Earthjustice (Dec. 5, 2007), available at http://www.earthjustice.org/library/legal_docs/petition-to-epa-on-aircraft-global-warming-emissions.pdf; Petition for Rulemaking Seeking the Regulation of Greenhouse Gas Emissions from Nonroad Vehicles and Engines (Jan. 29, 2008), available at http://ag.ca.gov/cms_attachments/press/pdfs/n1522_finaldraftnonroadpetition3.pdf; *ICTA v. Johnson*, Petition for Rulemaking Seeking the Regulation of Greenhouse Gas Emissions from Nonroad Vehicles and Engines (Jan. 29, 2008), available at <http://www.westernlaw.org/files-1/Petition%20Nonroad%20Final%2020080129.pdf>.

See IPI, THE ROAD AHEAD, *supra* note 1, at 17-18, 26-30, for further discussion.

³⁸ See *supra* notes 20, 23 (noting that aircraft constitute 11% of U.S. transportation GHG emissions and nonroad vehicles account for 16%).

Under basic principles of administrative law, EPA must respond to these petitions in a reasonable manner and time.³⁹ And EPA will inevitably be required to take some type of regulatory action to curb emissions from these other sources. One petition specifically requests the regulation of fuel used in marine vessels under Section 211.⁴⁰ As a responsible regulator, EPA should consider whether creating a system to regulate all fuels used in mobile sources may be more advantageous than only regulating fuel used in marine vessels.

For these reasons EPA's current plans to regulate GHG emissions from motor vehicles are an incomplete response to the problem of growing GHG emissions from the transportation sector.

2. Renewable Fuel Standard is Insufficient

On May 26, 2009, EPA issued a Notice of Proposed Rulemaking making certain changes to the Renewable Fuel Standard Program.⁴¹ Section 211(o) of the CAA requires refiners, blenders, and importers of transportation fuel to place into commerce increasingly higher amounts of renewable fuels.⁴² The Energy Independence and Security Act of 2007 expanded that Section to include all transportation fuels and to set a total renewable fuel standard of 36 billion gallons annually by 2022.⁴³ The proposed rule, which would go into effect in 2010, increases the volume requirements for renewable fuels, establishes four categories of renewable fuels, and requires some renewable fuels to achieve GHG emission reductions compared to the gasoline and diesel fuels they displace. That proposal also would use lifecycle analysis of GHG emissions to establish which fuels qualify for the different renewable fuel standards.

However, increasing the volume of renewable fuel, or even the ratio of renewable to non-renewable fuels, does not ensure an absolute decrease in GHG emissions. Increases in the total amount of fuel consumed could easily outstrip any gains achieved by switching to somewhat less carbon-intensive fuels. Even if regulations could establish the efficient ratio of renewable to non-renewable fuels, those regulations would not internalize the social costs of GHG emissions, and would therefore allow inefficiently high levels of fuel consumption. Absent an emissions cap, or other means to internalize the social costs of emissions (like a carbon tax), the renewable fuel standard is an incomplete response.

³⁹See Administrative Procedure Act ("APA"), 5 U.S.C. § 555(b) ("With due regard for the convenience and necessity of the parties or their representatives and within a reasonable time, each agency shall proceed to conclude a matter presented to it."); *id.* § 706(a) ("[A] reviewing court shall - (1) compel agency action unlawfully withheld or unreasonably delayed."); *Telecomm. Research & Action Ctr. v. Federal Comm'n's Comm'n*, 750 F.2d 70 (D.C. Cir. 1984) (outlining a six factor test to assess what constitutes "unreasonabl[e] delay[]" by an agency under the APA); *In re Am. Rivers & Idaho Rivers United*, 372 F.3d 413, 418-19 (D.C. Cir. 2004) (applying same standard to hold "unreasonable" and "egregious" agency's six year delay in responding to environmental group's petition requesting discretionary agency action, and noting that "a reasonable time for agency action is typically counted in weeks or months, not years"). For further discussion, *see* IPI, *THE ROAD AHEAD*, *supra* note 1, app.

⁴⁰ Earthjustice Marine Vessels Petition, *supra* note 37, at 40. *See* IPI, *THE ROAD AHEAD*, *supra* note 1, at 32 for further discussion.

⁴¹ EPA, Regulation of Fuels and Fuel Additives: Changes to Renewable Fuel Standard Program; Notice of proposed rulemaking, 74 Fed. Reg. 24,904 (May 26, 2009).

⁴² CAA, § 211(o), 42 U.S.C. § 7545(o) (2009).

⁴³ Pub. L. No. 110-140, 121 Stat. 1492 (2007) (amending 42 U.S.C. § 7545(o)).

B. Cap-and-Trade Systems Are More Efficient than Command-and-Control Regulations

For decades, economists have generally agreed that, whenever possible, it is better to use market-based regulations—like cap-and-trade systems—to achieve environmental goals rather than command-and-control regulations. Market-based regimes give greater flexibility to businesses by demanding economy-wide reductions while allowing individual firms to reduce pollution in the cheapest possible manner. Command-and-control regulations, however, require central regulators to prescribe conduct for huge classes of economic actors, and often impose costly requirements that are not necessary to achieve environmental goals.

In order to maximize the net benefits of GHG regulations, EPA should whenever possible adopt market-based incentives. Those market-based programs can be carefully tailored to adhere to the language of the Clean Air Act, while giving businesses maximum flexibility to achieve compliance at the lowest possible costs.

1. Efficiency of Cap-and-Trade Systems

Economists nearly all agree that the most efficient method to reduce greenhouse gases is to give individual polluters maximum flexibility while still creating incentives for economy-wide emissions reductions.⁴⁴ A cap-and-trade system achieves these goals by mandating a total cut in emissions and allowing businesses to achieve those reductions in the cheapest manner possible. Generally, such a system “caps” the nation’s total emissions and distributes a limited number of permits to emit GHG pollution. Polluters can then “trade” (i.e. buy and sell) permits with each other, thereby letting the marketplace identify the most efficient allocation.

Historically, environmental regulations have most often followed the “command-and-control” model.⁴⁵ That category encompasses any equipment or design standard, any work or operational standard, and any performance standard or emissions limitation. Command-and-control requires every regulated source to comply with a specific standard, and it often prescribes exactly how those standards must be met. In contrast, market-based regulatory mechanisms, such as an emissions tax or a system of tradable permits, let the market identify the most cost-efficient way to reduce overall emissions and do not restrict the options of individual sources.

In many situations—including the control of air pollutants like GHGs—command-and-control regulations are less efficient than market-based controls:

Market-based regulation can attain aggregate emission reductions equivalent to those produced by a command-and-control regime, while at the same time giving companies the flexibility to follow least-cost abatement strategies. As Professor Robert Stavins has observed, market-based instruments induce firms to choose control levels, for each source, at which their marginal abatement costs are the same, thus minimizing overall pollution abatement costs. He explains: “Because the costs of controlling pollution vary greatly among and within firms, any given aggregate pollution control level can be met at minimum aggregate control cost only if pollution sources control at the same *marginal cost*, as

⁴⁴ See, e.g., Robert R. Nordhaus, *New Wine Into Old Bottles: The Feasibility of Greenhouse Gas Regulation Under the Clean Air Act*, 15 N.Y.U. ENVTL. L.J. 53, 55-56 (2007) (citing Climate Stewardship Act of 2003, S. 139, 108th Cong. §§ 311-372 (2003)); Robert N. Stavins, *Policy Instruments for Climate Change: How can National Governments Address a Global Problem?*, 1997 U. Chi. Legal F. 293, 297-98 (1997).

⁴⁵ See H.R. Rep. No. 95-1175 (1976) (noting that the CAA of 1970 relied almost exclusively on command-and-control).

opposed to the same *emission level*. Indeed, depending on the age and location of emission sources and available technologies, the cost of controlling a unit of a given pollutant may vary by a factor of one hundred or more among sources.”⁴⁶

Market-based regulations also tend to be more transparent and less complex than command-and-control systems. Among market-based regulations, a cap-and-trade method offers clear benefits for climate change regulation. It is the most effective mechanism for actually limiting the amount of pollution released into the atmosphere. No other tool is able to deliver the same predictable reductions in GHGs. Other market-based regulatory options, like an emissions tax, cannot guarantee a precise reduction in emissions.⁴⁷

Given this economic reality, it is no surprise that cap-and-trade has emerged as Congress’s preferred design choice for legislation to address climate change.⁴⁸ If Congress eventually acts on climate change, EPA should expect the legislation to include a cap-and-trade program. As international negotiations have also focused on how countries can take advantage of efficient opportunities to trade international emissions permits, some trading elements will likely feature in any climate treaty the United States enters.⁴⁹

EPA should anticipate that a legislative and/or international response to climate change will include a cap-and-trade program, including such a program for vehicle fuels. EPA should therefore focus its attention on regulatory options that will serve as smooth precursors or bridges to such a program, rather than on command-and-control regulations that will inevitably conflict with future, broader efforts on climate change.⁵⁰

More generally, EPA should implement a regulatory cap-and-trade approach where possible. When the CAA gives EPA regulatory discretion, the agency frequently uses cost-benefit analysis to determine how best to exercise its authority. Under Executive Orders that have been in place for nearly thirty years, all major regulatory actions are subjected to cost-benefit analysis, unless specifically prohibited by statute.⁵¹ Although the use of cost-benefit analysis is prohibited in some areas of the CAA,⁵² many other provisions permit or even require EPA to consider costs, benefits, and efficiencies.⁵³ Given the mandate of the Executive Orders and general principles of sound decisionmaking, EPA should endeavor to find regulatory options that maximize the benefits of GHG

⁴⁶ Nordhaus, *supra* note 44 (quoting Robert N. Stavins, *Policy Instruments for Climate Change: How Can National Governments Address a Global Problem?* 1997 U. CHI. LEGAL F. 298, 297-98).

⁴⁷ Some economists and policy analysts would prefer an emissions tax or “carbon tax.” See JONATHAN L. RAMSEUR & LARRY PARKER, CONG. RESEARCH SERV., NO. R40242, CARBON TAX AND GREENHOUSE GAS CONTROL: OPTIONS AND CONSIDERATIONS FOR CONGRESS (2009). Such a system would levy fees on the producers, distributors, or users of fossil fuels based on anticipated greenhouse gas emissions. The tax incentivizes the adoption of cost-effective emissions controls and makes alternative energy technologies more cost-competitive with cheaper polluting fuels. However, unlike a cap-and-trade program, a carbon tax would not set a precise limit on total emissions: producers, distributors, and users could emit as much GHGs as they desired as long as they paid for it. A cap-and-trade approach reduces uncertainty about overall emissions.

⁴⁸ See, e.g., American Clean Energy and Security Act of 2009, H.R. 2454, 111th Cong. (2009) (as passed by House, Jun. 26, 2009).

⁴⁹ See Peter D. Cameron, *The Kyoto Process: Past, Present, and Future*, in KYOTO: FROM PRINCIPLES TO PRACTICE 3, 10 (Peter D. Cameron & Donald Zillman eds., 2001) (discussing the flexible trading mechanisms built into the Kyoto Protocol).

⁵⁰ For more details on how command-and-control regulations would conflict with a broader cap-and-trade system, see IPI, *THE ROAD AHEAD*, *supra* note 1, at ch.6.

⁵¹ See, e.g., Exec. Order No. 12,866 § 6, 58 Fed. Reg. 51,735 (1993).

⁵² See *Whitman v. Am. Trucking Ass’ns*, 531 U.S. 457 (2001).

⁵³ See, e.g., CAA §§ 111, 202.

reductions while minimizing the costs imposed. Cap-and-trade is the optimal solution to meet these criteria.

2. Efficiency of a Cap-and-Trade System for Vehicle Fuels

A trading program for vehicle fuels should prove highly effective and efficient. Petroleum-based fuels account for 99% of the energy used in, and GHG emissions from, the transportation sector.⁵⁴ Therefore, a cap-and-trade system for fuels (including petroleum-based and others) would be able to achieve substantial and comprehensive GHG emission reductions in the transportation sector—which accounts for more than one-third of total U.S. GHG emissions.⁵⁵

Covering fuels under a cap-and-trade program will create a disincentive to introduce carbon-heavy fuels into commerce and instead will promote innovation in low-carbon fuels as well as in more efficient vehicle designs. The cap-and-trade system will operate most efficiently if it targets the upstream, domestic importers, refiners, and producers of fuel. Each permit would allow the sale of fuel representing a certain amount of potential GHG emissions.⁵⁶ EPA would then cap the total number of permits auctioned off to fuel manufacturers. As with any cap-and-trade system, covered entities would pass along the cost of the allowances to consumers, who will take into account the increased prices when deciding how much and which fuels to purchase.

If EPA targets an upstream point in the stream of commerce, oil refineries, fuel importers, and fuel manufacturers will need to buy permits. There are only approximately 150 refineries in this country:⁵⁷ keeping the number of regulated entities low will minimize the administrative burdens of the program. These refineries are already subject to regulation as stationary sources, as they emit GHGs and other pollutants during the refining process, so imposing additional regulations will not impose drastically higher administrative costs. Additionally, there are already information-collecting regulations for fuels.⁵⁸ EPA could use these data collection processes to identify suppliers of transportation fuels and include them in the cap-and-trade program.

Furthermore, a cap-and-trade system for vehicles fuels under Sections 211 and 231 will allow a far more comprehensive strategy to reduce GHG pollution from mobile sources as compared to separate regulations for different types of mobile sources. Not only will a vehicle fuels trading system cover GHG emissions from new passenger vehicles, but it will also cover harmful emissions from existing passenger vehicles, new and existing other types of motor vehicles, and new and existing other mobile sources. By raising the price of fuels, a cap-and-trade system will also help prevent the “rebound effect” discussed above for command-and-control regulations. This is a far

⁵⁴ See sources cited *supra* note 27.

⁵⁵ EPA 2008 ANPR, 73 Fed. Reg. at 44,403.

⁵⁶ In addition to the carbon content of the fuel, EPA could also require permits to cover upstream or full lifecycle emissions.

⁵⁷ NAT'L PETROCHEMICAL & REFINERS ASS'N, UNITED STATES REFINING AND STORAGE CAPACITY REPORT (Aug. 2008), <http://www.npradc.org/docs/publications/statistics/RC2008.pdf>.

⁵⁸ For example, the Internal Revenue Service and Departments of Transportation and State, along with the Motor Fuel Industry, administer a tracking system for the federal excise tax on motor fuels and collect monthly information from terminal operators and bulk fuel carriers (pipeline, vessel and barge operators). See Internal Revenue Service, Excise Summary Terminal Activity Reporting System, <http://www.irs.gov/businesses/small/article/0,,id=177193,00.html> (last visited July 17, 2009). The Energy Information Administration also collects monthly data on the sales volumes for fifteen different liquid fuels at this point. See Energy Information Administration, Monthly Energy Review, <http://www.eia.doe.gov/emeu/mer/petro.html> (last visited July 17, 2009).

more comprehensive and effective system than anything EPA could promulgate under Section 202, or any other section of Title II.

Additionally, pursuing a regulatory cap-and-trade is the most efficient option considering Congress appears poised to legislate an economy-wide cap-and-trade system for GHG emissions. A regulatory cap-and-trade system for vehicle fuels would be an effective precursor and bridge to a legislative cap-and-trade system.

3. Fairness of an Auction and Distribution System

As soon as an emissions cap is put in place, the cost of fuels will rise, creating a price signal to conserve and switch to cleaner fuels. This effect will take place regardless of whether emissions permits are freely allocated to industry or auctioned off, because fuel manufacturers will account for the market value of the permits, not the purchase price. The following analogy paints a clear picture: “A ticket scalper is going to charge the same amount—the going black-market price—whether he’s selling a ticket that he found on the ground or a ticket that he bought. He’s just going to turn more of a profit if he found it on the ground.”⁵⁹

Therefore, auctioning off all emissions allowances is the best approach to implementing a cap-and-trade system for vehicle fuels. Consumers would lose in a permit give-away system, while fuel manufacturers would reap windfall profits. Without auctions, fuel prices rise but no revenue is generated with which lower- and middle-income Americans can be reimbursed for price increases.

When an emissions cap is put in place, many consumers are likely to see increases in their fuel prices as a consequence. But this will not affect everyone equally: lower- and middle-income households spend a larger percentage of their income on energy. Because they spend more of their income on energy, the effects of an emissions cap are felt most keenly at the bottom side of the income scale—the same groups that can least afford the cost. In order to avoid regressive effects from an emissions cap, all allowances should be auctioned off, and the funds raised from the auction should be returned directly to the American public. Any other use for the revenue will harm lower- and middle-income Americans.⁶⁰

By distributing all auction revenue to the American public on a per capita basis, studies show that most Americans immediately come out ahead under a cap-and-trade system.⁶¹ The increased price for fossil-fuel energy is offset by the revenues that are generated by the auction. Thus, a full auction with revenue distribution is the fairest design for cap-and-trade, ensuring that benefits and burdens are allocated appropriately. Recognizing the fairness of an auction and public distribution system, President Obama has voiced this policy preference.⁶²

⁵⁹ Rob Inglis, *The Power Industry's Prisoner's Dilemma*, THE NEW REPUBLIC: THE VINE, Mar. 23, 2009, available at <http://blogs.tnr.com/tnr/blogs/environmentandenergy/archive/2009/03/23/the-power-industry-prisoner-s-dilemma.aspx>.

⁶⁰ See *Protecting Lower-Income Families While Fighting Global Warming: Hearing Before H. Subcomm. on Income Security and Family Support*, 111th Cong. (2009) (statement of Terry M. Dinan, Senior Advisor, Congressional Budget Office).

⁶¹ See Dallas Burtraw et al., *The Incidence of U.S. Climate Policy: Where You Stand Depends on Where You Sit* 36 (Res. for the Future Discussion Paper No. 08-28, 2008), available at <http://www.rff.org/RFF/Documents/RFF-DP-08-28.pdf>. This is true even before individual Americans change their behavior to save energy, which for lower-income Americans might not be financially feasible right away. The regional disparities from a cap with revenue distribution are also not large. *Id.*

⁶² OFFICE OF MGMT. & BUDGET, WHITE HOUSE, A NEW ERA OF RESPONSIBILITY RENEWING AMERICA'S PROMISE 21 (2009), available at http://www.whitehouse.gov/omb/assets/fy2010_new_era/A_New_Era_of_Responsibility2.pdf. The President's budget proposed that, of the auction proceeds from a cap-and-trade system for GHGs, \$150 billion would be used to fund clean

C. Cap-and-Trade Is Compatible with EPA Regulations in the Pipeline

Despite the inefficiencies of command-and-control regulations, the language of Section 202 and other sections of the CAA will require EPA to adopt some type of mandatory limitations for emissions from transportation vehicles.⁶³ Fortunately, these statutory obligations to impose command-and-control regulations for mobile sources present neither a legal nor a practical impediment to an EPA-created regulatory cap-and-trade program for vehicles fuels.

As noted, now that EPA has proposed and will soon be finalizing its endangerment and contribution finding under Section 202 for motor vehicles, it is obligated to set some type of command-and-control emissions standard for GHG pollution from motor vehicles. Likewise, EPA has moved forward with regulations under Section 211(o) and the Energy Independence and Security Act of 2007 to strengthen renewable fuel standards. However, these new regulations will in no way dilute the strength of a cap-and-trade system as a regulatory method to reduce GHG emissions from the transportation sector as a whole.

In fact, command-and-control regulations can exist harmoniously with a cap-and-trade system. In the worst case, these command-and-control regulations could reduce the efficiency of the cap-and-trade system. However, these dual regimes, layered on top of each other, will combat GHG emissions far more effectively than were EPA to rely solely on command-and-control regulations without a cap-and-trade system. Although there will be some additional administrative burden on EPA, this burden is no more than what would be involved in any other type of regulatory regime.

Even with other regulatory measure in place, the cap-and-trade system would be the actual mechanism by which EPA would control GHG emissions. So long as the cap is set below business-as-usual emission levels, there will be a positive price for allowances. Any reduction in demand for allowances that may arise out of the GHG emissions standard or renewable fuel standard would be reflected in a decrease in price, but ultimately the quantity of allowances—and therefore the overall quantity of emissions—will remain the same. The regulations would not produce any incremental reduction in GHG emissions unless the cap was set too high.

There are two potential scenarios for how command-and-control regulations might interact with the cap-and-trade system. In the first scenario, regulations could be set sufficiently low so that they do not impact behavior. For GHG emissions standards, if under the cap-and-trade system consumers respond by demanding vehicles that are even more efficient than what the new standards would require, then the regulations have no effect. Similar results could be expected for renewable fuels: if the market response to the cap-and-trade system is a switch to renewable fuels greater than the required level, the new standards would again not have an effect on the market.

In the second scenario, if the command-and-control regulations are set at a sufficiently strict level to influence behavior, they will nevertheless not reduce total emissions, but instead can only shift

energy technologies, and the balance would be “returned to the people, especially vulnerable families, communities, and businesses to help the transition to a clean energy economy.” *Id.*

⁶³ See CAA § 202(a)(1) (“The Administrator *shall* by regulation prescribe . . . standards applicable to the emission of any air pollutant from any class or classes of new motor vehicles or new motor vehicle engines, which in [her] judgment cause, or contribute to, air pollution which may reasonably be anticipated to endanger public health or welfare.”) (emphasis added). See also *id.* § 231 (using similar language mandating that EPA set emissions standards for aircraft engines once a positive endangerment finding is made). In contrast, Section 213, which applies to nonroad vehicles (including marine vessels), provides that EPA *may* set emissions standards for nonroad vehicles after it makes a positive endangerment finding.

how GHGs are emitted. If GHG emissions standards increase overall vehicle efficiency, individuals and businesses can be expected to respond by increasing total vehicle miles traveled. Additional costs imposed on new vehicles may also slow the rate at which old vehicles are replaced by new vehicles. In the context of renewable fuels, the standard would impose costs on the production of fuel and increase the percentage of renewable content. The only way that these regulations could reduce emissions is if they reduced gross demand for carbon allowances below the cap.

Further, in the case of GHG emissions standards, EPA has indicated that it plans to adopt standards similar to that of California and seventeen other states. In this way, EPA is not adding a new command-and-control regimes, but instead adopting an existing one with which parties must already comply.⁶⁴ For renewable fuels, there also may be additional justification for regulation, such as concerns about national security, that would justify switching to renewable fuels even outside the context of GHG regulations.

In addition, any administrative burden imposed by the existence of a cap-and-trade program alongside other regulatory regimes will be minimal. These types of dual regulations are promulgated by the federal government frequently. For example, EPA plans to develop GHG emissions standards for motor vehicles while the Department of Transportation has also been promulgating fuel efficiency standards for motor vehicles. Regulated parties simply comply with both.

Thus, EPA's proposed Title II command-and-control regulations will not dramatically reduce the efficiency of a cap-and-trade system under Section 211, or vice versa.

II. EPA has Authority under Sections 211 and 213 of the CAA to Regulate Vehicle Fuels through a Cap-and-Trade System

Not only does EPA have the legal bandwidth to institute a cap and trade system for vehicle fuels, but in some respects EPA is mandated to institute such a system. Under Section 211, EPA may issue regulations "prohibit[ing]" or "control[ing]" the sale, manufacture, or import of vehicle fuels once EPA makes an endangerment finding for those fuels. Given the scientific reality of climate change, EPA must make a positive endangerment finding for vehicle fuels. And, although the act of regulation is discretionary under Section 211, EPA will find it difficult to articulate a legally justifiable reason not to regulate vehicle fuels once it determines that GHG emissions from vehicle fuels endanger public welfare.

A. GHGs Emitted by Vehicle Fuels Endanger Public Welfare

Section 211(c)(1) of the CAA provides:

The Administrator *may*, from time to time on the basis of information obtained [from registration requirements] or other information available to [her], by regulation, control or prohibit the manufacture, introduction into commerce, offering for sale, or sale of any fuel or fuel additive for use in a motor vehicle, motor vehicle engine, or nonroad engine or nonroad vehicle *if, in the judgment of the Administrator, any fuel or fuel additive or any*

⁶⁴ On July 8, 2009, EPA allowed California to begin enforcing its motor vehicle GHG emissions standards by providing the state with a waiver until Title II of the CAA. EPA, California State Motor Vehicle Pollution Control Standards; Notice of Decision Granting a Waiver of Clean Air Act Preemption for California's 2009 and Subsequent Model Year Greenhouse Gas Emission Standards for New Motor Vehicles, 74 Fed. Reg. 32,744 (July 8, 2009). The other states that have adopted standards identical to California are now also able to enforce their standards.

*emission product of such fuel or fuel additive causes, or contributes, to air pollution or water pollution (including any degradation in the quality of groundwater) that may reasonably be anticipated to endanger the public health or welfare . . .*⁶⁵

Under this Section, if EPA makes the following findings, it may choose to regulate fuels or fuel additives used in motor vehicles or engines, or nonroad vehicles or engines:

- (1) There exists a fuel or fuel additive;
- (2) Such fuel or additive is used in a motor vehicle, motor vehicle engine, nonroad vehicle, or nonroad engine;
- (3) Such fuel or additive, or any emission product thereof, causes or contributes to air pollution or water pollution; and
- (4) Such pollution may reasonably be anticipated to endanger public health or welfare.

Factors One, Two, and Four

The first two factors are clearly met. The first is satisfied by any fuel or fuel additive, including but not limited to: petroleum, gasoline, residual fuel, diesel fuel, ethanol, biodiesel, natural gas, or fuel oils.⁶⁶ The second factor limits EPA's authority to fuels used in motor vehicles or engines or nonroad vehicles or engines. It does not limit EPA's authority to fuels or fuel additives used in "new" vehicles. The relevant category therefore includes, but is not limited to, any fuel or fuel additive used in existing or new: automobiles, light trucks, medium-duty trucks, heavy-duty trucks, buses, motorcycles, other passenger motor vehicles, trains, ships, all other marine vessels, construction equipment, riding lawn mowers, tractors, forklifts, harbor crafts, all other farm equipment, and lawn and garden equipment. Notably, EPA's authority under Section 211 does not extend to fuel used in airplanes. However, as discussed later, EPA has authority to work with the Federal Aviation Administration to issue regulations to include aircraft fuel in any broader cap-and-trade system established for fuels used in other vehicles.

Before turning to the third factor, the fourth point is easily resolved by EPA's "Proposed Endangerment and Cause or Contribute Findings for Greenhouse Gases Under Section 202(a) of the Clean Air Act," issued in April 2009.⁶⁷ EPA has indicated that it plans to finalize that proposal in the near future. The proposal defines the term "air pollution" as the elevated and collective atmospheric concentrations of all six main greenhouse pollutants. It also makes a finding that the air pollution created by the six major GHGs is reasonably anticipated to endanger both public health and welfare.⁶⁸

⁶⁵ CAA § 211(c)(1) (emphasis added).

⁶⁶ If necessary, EPA has discretion to group one or more of such fuels together for purposes of the endangerment and contribution findings.

⁶⁷ EPA Proposed Endangerment Finding, 74 Fed. Reg. at 18,886.

⁶⁸ *See id.* at 18,898-904 (detailing effects on public welfare and health).

GHG pollution is clearly “reasonably . . . anticipated” to endanger public welfare. The CAA defines effects on “public welfare” broadly as including:

[E]ffects on soils, water, crops, vegetation, man-made materials, animals, wildlife, weather, visibility, and *climate*, damage to and deterioration of property, and hazards to transportation, as well as effects on economic values and on personal comfort and well-being.⁶⁹

The science of global warming and its effects on public welfare are widely accepted, and have been recognized by the Supreme Court.⁷⁰ GHG pollution leads to increased global average temperatures, and most of the United States is expected to experience an increase in average temperature. Rising average temperatures are already affecting public welfare by shrinking glaciers, thawing permafrost, contributing to later freezing and earlier break-up of ice on rivers and lakes, lengthening growing seasons, shifting plant and animal ranges, and causing trees to flower earlier. Global warming is expected to inflict harm on water resources, rangelands and forests, non-tidal wetlands, fisheries, and bird populations. Global warming will also have effects on human welfare by harming food production, nutritional health, weather patterns, sea levels, and water quality and quantity.⁷¹ As mentioned, EPA’s Proposed Endangerment Finding and IPI’s *The Road Ahead* provide more details on how GHG pollution endangers public welfare.⁷²

The CAA does not clearly define “public health,” and EPA may have more latitude in determining whether greenhouse gas pollution affects public health in addition to public welfare.⁷³ Regardless of whether EPA decides to make an endangerment finding for public health, GHGs clearly endanger at least public welfare, and so factor four of Section 211’s endangerment finding is satisfied.

Factor Three

The only remaining factor under Section 211 is whether GHG emissions from fuel used in motor or nonroad vehicles and engines “cause” or “contribute” to GHG pollution. Section 211 sets a precautionary standard for this determination and gives discretion to the EPA Administrator.⁷⁴ The use of the language “in [the Administrator’s] judgment” serves to “emphasize the necessarily judgmental element” involved in predicting risks and causation.⁷⁵

The word “contribute” does not imply that the source has to be a large, major, or sole contributor to the air pollution, but only that it supplies part of the pollution. In *Bluewater Network v. EPA*, the D.C. Circuit Court of Appeals interpreted this word in the context of another CAA provision

⁶⁹ CAA § 302(h) (emphasis added).

⁷⁰ *Massachusetts v. EPA*, 549 U.S. at 521-26.

⁷¹ EPA Proposed Endangerment Finding, 74 Fed. Reg. at 18,998-904; IPCC 2007 Report, *supra* note 8, at 30-33, 48-54.

⁷² EPA Proposed Endangerment Finding, 74 Fed. Reg. at 18,902-03; IPI, *THE ROAD AHEAD*, *supra* note 1, at 23-24.

⁷³ For more details on the consequences of EPA making an endangerment finding for public health in addition to public welfare, see IPI, *THE ROAD AHEAD*, *supra* note 1, at 23-24. See also Comments from IPI, to Lisa P. Jackson, Administrator, EPA (June 22, 2009) (commenting on Proposed Endangerment and Cause or Contribute Findings for Greenhouse Gases Under Section 202(a) of the Clean Air Act, 74 Fed. Reg. 18886 (Apr. 24, 2009), Docket ID No. EPA-HQ-OAR-2009-0171. In particular, such a determination may have implications down the road if GHGs are eventually regulated as criteria pollutants under Title I of the CAA.

⁷⁴ See, e.g., H.R. REP. NO. 95-294, at 49-50 (1970).

⁷⁵ *Id.* at 50; see EPA Proposed Endangerment Finding, 74 Fed. Reg. at 18,890.

pertaining to mobile sources.⁷⁶ The court looked at the “ordinary meaning” of the word in dictionary definitions, and held that “‘contribute’ means simply ‘to have a share in any act or effect.’”⁷⁷ The court noted that “[s]tanding alone, the term has no inherent connotation as to the magnitude or importance of the relevant ‘share’ in the effect.”⁷⁸

In its Proposed Endangerment Finding under Section 202, EPA adds that “any finding of a ‘contribution’ requires some threshold to be met; a truly trivial or *de minimis* ‘contribution’ might not count as such.”⁷⁹ The proposal also notes that a “logical starting point for any contribution analysis is a comparison of the emissions of the air pollutant from the [specific source] category to the total, global emissions of the six greenhouse gases.”⁸⁰ The Administrator should consider “the totality of the circumstances (e.g., the air pollutant, the air pollution, the nature of the endangerment, the type of source category, the number of sources in the source category, and the number and type of other source categories that may emit the air pollutant).”⁸¹

Although there is no bright-line rule, EPA’s historic application is instructive. In the past, EPA has typically compared the percent of emissions from a regulated mobile source to the total mobile source emission for that air pollutant.⁸² EPA has also looked at the percent of emissions from the source in comparison to the total amount of air pollution in a specific regional area.⁸³ EPA has found sources responsible for as little as 9%, 4%, 3%, and 1.2% of pollution to be “contributors.”⁸⁴

Following this historical application of the test and the plain meaning of the word “contribute,” EPA can—and must—find that GHGs emitted by fuels when used in motor and nonroad vehicles and engines contribute to GHG pollution. Although aircraft fuels cannot be included in this endangerment determination, it accounts for only 11% of the transportation sector’s GHG emissions—leaving the large majority of the transportation sector’s emission coming from non-aircraft sources. Nonroad and motor vehicles account for 33% of total U.S. GHG emissions,⁸⁵ and

⁷⁶ 370 F.3d 1, 13-15 (D.C. Cir. 2004) (analyzing what constitutes “contribution” versus “significant contribution” in the context of Section 213 which governs nonroad vehicles).

⁷⁷ *Id.* at 13 (citing WEBSTER’S NEW INT’L DICTIONARY 496 (3d ed. 1993); OXFORD ENGLISH DICTIONARY 849 (2d ed. 1989)).

⁷⁸ *Id.*

⁷⁹ EPA Proposed Endangerment Finding, 74 Fed. Reg. at 18,892.

⁸⁰ *Id.* at 18,906.

⁸¹ *Id.* at 18,892.

⁸² *See, e.g.*, Control of Air Pollution from New Motor Vehicles: Heavy-Duty Engine and Vehicle Standards and Highway Diesel Fuel Sulfur Control Requirements; Final Rule, 66 Fed. Reg. 5001, 5006-07 (codified at 40 C.F.R. pts. 69, 80, and 86) (Jan. 18, 2001) (estimating that heavy-duty trucks and buses account for 28% of nitrogen oxides emissions and 20% of particulate matter emissions from mobile sources, and concluding this is a contribution to the air pollution).

⁸³ *See, e.g.*, Control of Emissions From Nonroad Large Spark-Ignition Engines, and Recreational Engines (Marine and Land-Based); Final Rule, 67 Fed. Reg. 68,242, 68,245 (Nov. 8, 2002) (to be codified at 40 C.F.R. pts. 89, 90, 91, 94, 1048, 1051, 1065, 1068) (“Within national parks, emissions from snowmobiles in particular contribute to ambient concentrations of fine PM, a leading cause of visibility impairment.”).

⁸⁴ *See, e.g., id.* (“Nationwide, [spark-ignition] engines and vehicles are a significant source of mobile source air pollution. As described below, of all mobile source emissions in 2000 they accounted for about 9 percent of HC emissions, 4 percent of CO emissions, 3 percent of NO_x emissions, and 2 percent of direct PM emissions. The emissions from Large SI engines contributed 2 to 3 percent of the HC, NO_x, and CO emissions from mobile sources in 2000. Recreational vehicles by themselves account for about 6 percent of national mobile source HC emissions and about 2 percent of national mobile source CO emissions.”); *id.* at 68,248 (finding snowmobiles “contributed” the pollution in a nonattainment area by contributing 1.2% of the total daily CO inventory in that area for 2001).

⁸⁵ As mentioned above, aircraft constitutes 3% of U.S. GHG emissions and the transportation sector as a whole accounts for 36% of U.S. GHG emissions. *See* text accompanying *supra* notes 15, 20. This leaves non-aircraft transportation sources (i.e. motor and nonroad vehicles) accounting for 33% of U.S. GHG emissions.

about 7% of the world's GHG emissions.⁸⁶ And, the fuels used in these sources account for 99% of the sources' emissions. Clearly, fuels used in these sources are a contributor to GHG air pollution.

Moreover, the Supreme Court, in *Massachusetts v. EPA*, held that the contribution of the U.S. transportation sector to worldwide GHG emissions was "enormous" and "a meaningful contribution to greenhouse gas concentrations."⁸⁷ Judged by this standard, a source category, such as fuel used in motor and nonroad vehicles and engines, that accounts for 89% of all U.S. transportation sector emissions, should be considered a contributor to the air pollution.

Thus, not only is it fully within EPA's discretion to make positive endangerment and contribution findings under Section 211 for fuels used in motor and nonroad vehicles and engines, but it actually appears that EPA has no other choice but to make this determination once it addresses the question.

B. EPA Has Authority Under Section 211 to Create a Cap-and-Trade System for Vehicle Fuels

As explained above, EPA may choose to regulate once the necessary determinations are made under Section 211. Regulation is not mandatory. However, EPA must articulate a justifiable reason if it chooses not to regulate; but EPA will not be able to do so. Once the agency chooses to regulate, EPA's authority is quite broad under Section 211—and definitely broad enough to allow the creation of a cap-and-trade system for motor and nonroad vehicle fuels, as well as aircraft fuels.

1. EPA Cannot Articulate a Justifiable Reason Not to Regulate

Under administrative law principles, EPA is obligated to respond to this petition within a reasonable time and in a reasonable manner.⁸⁸ Although regulation under Section 211 is not mandatory if EPA makes a positive endangerment finding, EPA must either choose to regulate or else articulate a sound reason not to regulate.

The mere existence of some discretion on the part of EPA, suggested by the word "may" in Section 211, does not dilute EPA's obligation to follow statutory criteria and explain its decisions in reasoned terms.⁸⁹ The Supreme Court's language in *Massachusetts v. EPA* could be read to prevent EPA from relying on policy considerations to refuse to regulate even when EPA is granted discretion. There, the Supreme Court held that EPA could not use policy justifications for refusing to make an endangerment finding under Section 202.⁹⁰ The Court ruled that EPA had not provided a reasoned explanation grounded in the statute for its refusal to consider regulation and, therefore, had acted arbitrarily and capriciously in violation of the Administrative Procedure Act.⁹¹

⁸⁶ As mentioned above, the U.S. transportation sector accounts for 8% of the world's GHG emissions. Aircraft accounts for 11% of U.S. transportation emissions. See text accompanying *supra* notes 15, 20. Thus, non-aircraft sources account for 89% of transportation emissions and therefore 7% of global GHG emissions.

⁸⁷ 549 U.S. at 524-25.

⁸⁸ See cases cited in *supra* note 39.

⁸⁹ *Bennett v. Spear*, 520 U.S. 154, 172 (1997) ("[I]t is rudimentary administrative law that discretion as to the substance of the ultimate decision does not confer discretion to ignore the required procedures of decisionmaking."); see also *Env't Defense Fund v. Thomas*, 870 F.2d 892, 898-99 (2d Cir. 1989); *New York v. Thomas*, 613 F. Supp. 1472 (D.D.C. 1985).

⁹⁰ 549 U.S. at 533.

⁹¹ *Id.* at 534.

Although the decision did not speak to whether EPA could use policy justifications for refusing to regulate *after* it makes an endangerment finding, given that the CAA grants EPA a clear mandate “to protect and enhance” the country’s air quality,⁹² it will be difficult for EPA to articulate a coherent reason for choosing not to regulate a source that contributes so significantly to the endangerment of public welfare.

Thus, EPA is required to regulate fuels used in motor and nonroad vehicles if so requested.

2. Section 211 Allows EPA to Regulate a Cap-and-Trade System

EPA should swiftly act to implement a vehicle fuels trading program under Section 211. Instituting such a program is well within EPA’s discretion, and EPA could likely get the program up and running quickly. EPA will be able to cover essentially all mobile source emissions under an effective and efficient cap-and-trade program.

Once EPA makes an endangerment and contribution finding for one or more types of fuel, Section 211(c)(1) confers on EPA “broad discretion”⁹³ to “control or prohibit the manufacture, introduction into commerce, offering for sale, or sale of any fuel or fuel additive for use in a motor vehicle, motor vehicle engine, or nonroad engine or nonroad vehicle.” The use of the word “control” is notable because it is not explicitly defined in the CAA and, thus, is open to EPA’s reasonable statutory interpretation. Moreover, that particular word has been historically employed by Congress when granting EPA explicit authority to use economic incentives as regulatory tools.⁹⁴ For example, when Section 157(b) (now Section 615) of the CAA was created in 1977, Congress clearly expressed that it “does not wish to tie the Administrator’s hands or confer an authority which is cumbersome or unduly difficult to use, administer, or enforce.”⁹⁵ Congress went on to explain that the term “control” may include design standards, work practice standards, *prohibitions and/or such other measures as may be necessary* to assure protection for health and environment.⁹⁶ EPA interpreted the term “control” broadly, and in 1988 EPA promulgated regulations under Section 157(b) developing a tradable system of allowances for ozone-depleting substances that affect the stratosphere.⁹⁷

By using the same word (“control”) in Section 211, Congress presumably intended to grant EPA a similarly broad scope of authority over the manufacture and sale of vehicle fuels. Indeed, in 1976 when Congress commented on the general lack of economic incentives created by the CAA, Section 211 was the one principal exception cited: “Section 211 authorizes the Administrator to establish [economic] penalties.”⁹⁸

⁹² CAA § 101, 42 U.S.C. § 7401(b) (“The purposes of this subchapter are—(1) to protect and enhance the quality of the Nation’s air resources so as to promote the public health and welfare and the productive capacity of its population . . .); *id.* § 7401(c) (“A primary goal of this chapter is to encourage or otherwise promote reasonable Federal, State, and local governmental actions, consistent with the provisions of this chapter, for pollution prevention.”).

⁹³ *Union Oil Co. of California v. EPA.*, 821 F.2d 678, 680 (D.C. Cir. 1987).

⁹⁴ See IPI, *THE ROAD AHEAD*, *supra* note 1, at ch. 4, for more examples.

⁹⁵ H.R. Rep. No. 101-294 (1977).

⁹⁶ *Id.*

⁹⁷ Protection of Stratospheric Ozone, 53 Fed. Reg. 30,566 (Aug. 12, 1988) (codified at 40 C.F.R. pt. 82).

⁹⁸ H.R. Rep. 95-1175 (1976) (discussing Section 211(d) which allows for penalties for violations of regulations under Section 211(c)).

EPA has previously instituted trading programs under Section 211(c)—but trading for credits, not allowances or permits. For example, in 1985 EPA issued regulations setting increasingly stringent standards for the lead content of gasoline.⁹⁹ To provide refiners and importers with flexibility during the initial phase-down period, EPA allowed companies to generate “credits” by producing gasoline with lower lead content than the standard required. These credits could then be “banked” for use at a later time as the lead content standards became stricter, or else traded to another company.¹⁰⁰ That company could then use the credits to cover the lead content of its own fuel. Gasoline importers and refiners brought a number of challenges to this regulation, but they never argued that EPA had exceeded its authority under Section 211(c) in creating a trading program.¹⁰¹ As another more recent example, in 2000 EPA issued the Tier 2 Vehicle and Gasoline Sulfur Program, which set increasingly stringent sulfur content standards for gasoline and allowed a similar trading system for credits.¹⁰²

Although these previous programs did not technically involve a “cap” or “permits” for emissions, the total lead and sulfur content of the fuel sold by each refinery was limited by a standard. A cap system would similarly limit the total GHG content of fuels sold by each refinery, based on the number of emissions permits held. Such a system is consistent with EPA’s past practices and with Congress’s instructions to EPA to “control” the sale of fuel.¹⁰³

3. Section 211 Allows EPA to Auction Permits

As explained above, EPA should auction allowances in a regulatory cap-and-trade system to avoid windfall corporate profits that would otherwise result from the free distribution of allowances to current emitters. Under existing constitutional doctrine and under the language of Section 211, EPA has authority to auction GHG permits, and the agency would not be forced to give those allowances away for free to polluters.

While only Congress has the power to impose taxes on the population, an auction of allowances by EPA does not run afoul of the constitutional designation of the taxation power because an auction of allowances is not a tax—its purpose is not to raise revenue, but instead to affect behavior. Courts have differentiated between illegal regulatory *taxes* versus permissible regulatory *fees*.¹⁰⁴ Under the U.S. Constitution, only Congress has the power to levy taxes,¹⁰⁵ which are generally defined to include payments imposed on many citizens to raise money for a public purpose. In contrast,

⁹⁹ EPA, Regulation of Fuel and Fuel Additives; Gasoline Lead Content; Final rule, 50 Fed. Reg. 9,386 (Mar. 7, 1985); EPA, Regulation of Fuels and Fuel Additives; Banking of Lead Rights; Final rule, 50 Fed. Reg. 13,118 (Apr. 1, 1985); *see also Union Oil Co.*, 821 F.2d at 679. This program was codified at 40 C.F.R. pt. 80, but is no longer in effect.

¹⁰⁰ *See Union Oil Co.*, 821 F.2d at 679-82.

¹⁰¹ *See, e.g., id.* at 681 (“[P]etitioners do not challenge the lead content standards promulgated separately, nor do they challenge the banking scheme as a whole. Rather, they argue only that the state standard limitation on banking unfairly discriminates against California gasoline sellers.”); *see also United States v. Coastal Refining and Marketing, Inc.*, 911 F.2d 1036 (5th Cir. 1990) (upholding fine imposed on regulated entity in violation of the program).

¹⁰² EPA, Control of Air Pollution From New Motor Vehicles: Tier 2 Motor Vehicle Emissions Standards and Gasoline Sulfur Control Requirements, 65 Fed. Reg. 6,698 (Feb. 10, 2000) (codified at 40 C.F.R. Parts 80, 85, and 86).

¹⁰³ Some might argue that the CAA prevents the use of cap-and-trade as a regulatory option under sections like Section 211, because that option is specifically listed as a statutory option elsewhere in the statute. However, as explained in great detail in *The Road Ahead*, this negative inference argument fails in the context of a provision such as Section 211, which confers incredibly broad regulatory authority on EPA. *See* IPI, *THE ROAD AHEAD*, *supra* note 1, at 64-67.

¹⁰⁴ *See, e.g., Nat’l Cable Television Ass’n v. United States*, 415 U.S. 336, 340 (1974).

¹⁰⁵ U.S. CONST. art. I, § 8.

agencies may have statutory or inherent authority to create regulatory fees,¹⁰⁶ which include payments made voluntarily by some individuals for a service provided by the agency, in order to defray the expenses of that service.¹⁰⁷ An auction of emissions permits would not fit neatly into either category, but some might argue it resembles a tax: it will likely affect a large number of citizens, it could be considered involuntary, and the funds generated will exceed EPA's administrative expenses.

However, an auction of emissions credits is not a tax because the purpose of the auction is not to raise revenue. Neither is it truly a regulatory fee, intended only to cover EPA's expenses.¹⁰⁸ Rather, the auction is simply regulation: the fee "serve[s] regulatory purposes directly by . . . deliberately discouraging particular conduct by making it more expensive."¹⁰⁹ Whether explicitly or implicitly authorized by Congress, an emissions auction poses no constitutional problems.¹¹⁰

Turning specifically to Section 211, it contains no language that prohibits the institution of an auction. While previous regulations under Section 211 have not involved an auction, they have involved limited trading mechanisms. Given the broad language, statutory structure, and legislative history, Section 211 is more than broad enough to allow the institution of a cap-and-trade system, complete with an auction, for fuel sold for use in motor vehicles and nonroad vehicles.

C. EPA and FAA have Authority to Include Aircraft Fuels in a Cap-and-Trade System

Notably, Section 211 does not include fuels used in aircraft. Instead, the Federal Aviation Act delegates the ability to regulate jet fuel to the Federal Aviation Administration (FAA). Section 601(e) of that Act provides that FAA "shall prescribe":

(1) standards for the composition or chemical or physical properties of an aircraft fuel or fuel additive to control or eliminate aircraft emissions the Administrator of the Environmental Protection Agency decides under Section 231 of the Clean Air Act (42 U.S.C. 7571) endanger the public health or welfare; and

(2) regulations providing for carrying out and enforcing those standards.¹¹¹

As denoted by the word "shall," FAA must regulate aircraft fuel once EPA makes a positive endangerment finding for aircraft engines under Section 231 of the CAA. That endangerment finding involves the EPA Administrator determining that an "air pollutant from any class or classes

¹⁰⁶ See Independent Offices Appropriation Act, 31 U.S.C. § 9701 (2008) (authorizing agencies to collect certain regulatory fees); *Nat'l Cable*, 415 U.S. at 343.

¹⁰⁷ See *Thomas v. Network Solutions Inc.*, 2 F. Supp. 2d 22, 29 (D.D.C. 1998).

¹⁰⁸ Therefore, the auction will not be constrained by the limitations of the Independent Offices Appropriation Act, 31 U.S.C. § 9701. Cf. *Nat'l Cable*, 415 U.S. at 343.

¹⁰⁹ See *San Juan Cellular Telephone Co. v. Public Serv. Comm'n of Puerto Rico*, 967 F.2d 683, 685 (1st Cir. 1992) (citing *South Carolina ex rel. Tindal v. Block*, 717 F.2d 874, 887 (4th Cir. 1983), *cert. denied*, 465 U.S. 1080, (1984)).

¹¹⁰ See Memorandum from Douglas Kmiec, Asst. Attorney General, Office of Legal Counsel, to Alan Raul, General Counsel, White House Office of Management and Budget (May 15, 1989) (discussing constitutionality of implicit authority for an auction, including the non-delegation doctrine).

¹¹¹ 49 U.S.C. § 44714.

of aircraft engines[] in [her] judgment causes or contributes to, air pollution which may reasonably be anticipated to endanger public health or welfare.”¹¹²

EPA can easily make this positive endangerment finding, and, as with vehicle fuels, must make this finding if requested. As explained, the science of global warming and its effects on public welfare are widely accepted, and have been recognized by the scientific community, the internationally community, and the Supreme Court.¹¹³ EPA’s April 2009 Proposed Endangerment Finding already made a positive endangerment finding for GHG emissions.¹¹⁴

Only the contribution factor remains. Aircraft clearly contribute to GHG air pollution—primarily through fuel combustion in their engines. Section 231 applies to both new and existing aircraft engines. Aircraft contribute approximately 11% of U.S. transportation sector emissions, and 3% of total United States GHG emissions—mainly in the form of carbon dioxide.¹¹⁵ And, GHG emissions from aircraft are expected to increase 60% over current levels by 2025.¹¹⁶ Given this level of pollution, EPA could not rationally justify a negative endangerment finding for aircraft engines.

Once EPA makes the endangerment finding under Section 231, FAA must then set standards for aircraft fuels. FAA has authority under the Federal Aviation Act to promulgate standards to bring aircraft fuels into EPA’s 211 fuels trading scheme. Aircraft fuels’ carbon content and potential to emit GHGs are “chemical or physical properties of an aircraft fuel.” A standard for such properties that would “control” dangerous emissions could include a requirement that all aircraft fuels sold in the United States be covered by sufficient emissions permits, and FAA could incorporate that system into EPA’s fuels trading program. As an alternative, FAA will easily be able to use the broad authority granted by the phrase “regulations providing for carrying out and enforcing” to accomplish the same goal.¹¹⁷ Either way, FAA has the authority to bring fuels used in aircraft into EPA’s fuel trading system and the agencies are authorized to work together to do so.

As federal agencies often have overlapping or related jurisdiction, joint rulemakings are a common form of regulation. In fact, as mentioned previously, EPA is currently undertaking a joint rulemaking with the Department of Transportation to promulgate regulations to reduce GHG emissions from new motor vehicles. Similarly, EPA can easily work with FAA to promulgate a joint rulemaking to bring fuels used in aircraft into a larger cap-and-trade system for other vehicle fuels.

¹¹² CAA § 231(a)(2)(A)

¹¹³ See sources cited *supra* notes 8, 9, 10.

¹¹⁴ EPA Proposed Endangerment Finding, 74 Fed. Reg. 18,886.

¹¹⁵ FAA EMISSIONS REPORT, *supra* note 20, at 10; EPA GHG INVENTORY, *supra* note 13, at 3-13; EPA 2008 ANPR, 73 Fed. Reg. at 44,435.

¹¹⁶ FAA EMISSIONS REPORT, *supra* note 20, at 10.

¹¹⁷ FAA must regulate under Section (a) before regulating under Section (b). If the authority granted in Section(a) did not allow FAA to institute a permitting program for aircraft fuel, FAA could simply issuing typical fuel content standards to meet the obligation under that Section. As explained in *The Road Ahead* a command-and-control style low-carbon fuel standard would not impede a cap-and-trade system for vehicle fuel; in fact, it would be desirable because it would to target fuel bought internationally and burned by foreign aircraft within U.S. borders. IPI, *THE ROAD AHEAD*, *supra* note 1, at 98-100. As another alternative, FAA could exercise its enforcement discretion under the provision and allow regulated parties to satisfy a more traditional command-and-control style regulation of jet fuel composition by voluntarily participating in EPA’s cap-and-trade system. Either way, FAA and EPA have broad latitude to work together under their respective authorizing statutes to integrate aircraft fuel into a comprehensive cap-and-trade system.

D. EPA Should Distribute Auction Proceeds If Possible

As explained above, the fairest method to allocate auction revenue is a per capita distribution. If EPA can find a legally permissible avenue by which to distribute these proceeds, it should do so.

As soon as an emissions cap is put in place on vehicle fuels, the cost of fuels will rise, creating a price signal across the economy to save fuel and move to cleaner fuels. This effect will take place regardless of how permits are distributed, because fuel manufactureres and importers will account for the market value of the permits, not the purchase price. Consumers would lose in a permit give-away system, and fuel companies would reap windfall profits. Without auctions, fuel prices rise but no revenue is generated with which lower- and middle-income Americans can be reimbursed for fuel price increases. By distributing all auction revenue to the American public on a per capita basis, most Americans immediately come out ahead under a cap-and-trade system.¹¹⁸

Unfortunately, EPA is not legally permitted to distribute auction proceeds to the public if the agency directly collects the auction revenue.¹¹⁹ EPA should explore all legal options that may allow auction proceeds to be distributed per capita. For example, other cap-and-trade schemes proposed in the past under various sections of the CAA have included partnerships with state governments, which may allow the state governments to administer auctions and then distribute proceeds per capita to their residents.¹²⁰

If EPA cannot partner with states or find another way to distribute proceeds, it should administer the auction itself and deposit proceeds into the general Treasury of the United States, after keeping enough to cover administrative expenses.¹²¹ EPA should then encourage Congress to direct the funds from the Treasury back to the American public.

E. EPA Is Obligated to Reduce GHG Emissions Through the Most Rational and Efficient Option

Under the Administrative Procedure Act, EPA is required to act reasonably and rationally, including engaging in reasoned decisionmaking. Under relevant executive orders, EPA is further required to find the most efficient regulatory approach to a public policy issue. A cap-and-trade system is the most rational and efficient solution to the problem of rising GHG emissions from the transportation sector.

The Administrative Procedure Act prohibits agency action that is “arbitrary, capricious, an abuse of discretion, or otherwise not in accordance with the law.”¹²² The “touchstone” of this requirement is

¹¹⁸ See Dallas Burtraw et al., *supra* note 61; at 36.

¹¹⁹ See Miscellaneous Receipts Act, 31 U.S.C. § 3302 (2008).

¹²⁰ See, e.g., North Carolina to Reduce Interstate Transport of Fine Particulate Matter and Ozone; Federal Implementation Plans To Reduce Interstate Transport of Fine Particulate Matter and Ozone; Revisions to the Clean Air Interstate Rule; Revisions to the Acid Rain Program, 71 Fed. Reg. 25,328, 25,328 (Apr. 28, 2006).

¹²¹ See IOAA, 31 U.S.C. § 9701(a) (“It is the sense of Congress that each service or thing of value provided by an agency (except a mixed-ownership Government corporation) to a person (except a person on official business of the United States Government) is to be self-sustaining to the extent possible.”).

¹²² 5 U.S.C. § 706(2)(A). As the Supreme Court has noted, “courts enforce this principle [of reasoned decisionmaking] with regularity when they set aside agency regulations which, though well within the agencies’ scope of authority, are not supported by the reasons that the agencies adduce.” *Allentown Mack Sales & Serv., Inc. v. NLRB*, 522 U.S. 359, 374 (1998).

reasoned decisionmaking.¹²³ Reasoned decisionmaking promotes sound results,¹²⁴ and involves a logical, rational, and analytic process.¹²⁵

For government agencies, cost-benefit analysis is both a tool to help maximize the net benefits of regulation and a process to ensure decisions are based on reasoned analysis.¹²⁶ Recognizing the value of reasoned and efficient regulation, Executive Order 12,866, which remains in effect, instructs federal agencies that when “choosing among alternative regulatory approaches, agencies *should select those approaches that maximize net benefits* (including potential economic, environmental, public health and safety, and other advantages; distributive impacts; and equity), unless a statute requires another regulatory approach.”¹²⁷ Agencies are directed to assess all costs and benefits of available regulatory alternatives, and to include “both quantifiable measures (to the fullest extent that these can be usefully estimated) and qualitative measures of costs and benefits that are difficult to quantify, but nevertheless essential to consider.”¹²⁸

Furthermore, Section 211 of the CAA mandates that when setting standards under that section, EPA *must* consider “all relevant medical and scientific evidence available . . . including consideration of other technologically or economically feasible means of achieving emission standards under section [202].”¹²⁹ As explained, a cap-and-trade system for vehicle fuels is the most economically feasible means of achieving GHG reductions in the transportation sector. Any alternative action EPA may take under 202 would be far less effective.

As explained above, instituting a cap-and-trade system on vehicle fuels is the most rational and efficient method to reduce GHG emission from the transportation sector as it will impose the least amount of costs, while maximizing the benefits. Market-based regulatory mechanisms let the market identify the most cost-efficient way to reduce overall emissions and do not restrict the options of individual sources, while also allowing more transparency and less complexity than command-and-control systems.

¹²³ See JUDGE HARRY T. EDWARDS AND LINDA A ELLIOT, *FEDERAL COURTS STANDARDS OF REVIEW* 167 (2007)

¹²⁴ *Allentown Mack Sales & Serv., Inc. v. NLRB*, 522 U.S. 359, 375 (1998),

¹²⁵ See *Dopico v. Goldschmidt*, 687 F.2d 644, 654 (2d Cir. 1982).

¹²⁶ See Susan E. Dudley, Administrator, Office of Info. and Regulatory Affairs, *Cost-Benefit of Regulations: Lessons Learned, Future Challenges*, Address at the Searle Center at Northwestern University School of Law (Oct. 11, 2007) (“[R]egulations should be based on an analysis of the costs and benefits of all available alternatives, and . . . agencies should select the regulatory approach that maximizes net benefits to society”), available at http://www.whitehouse.gov/omb/legislative_testimony_oira_dudley_101107/.

¹²⁷ Exec. Order No. 12,866 § 1(a), 58 Fed. Reg. 51,735 (1993) (emphasis added).

¹²⁸ *Id.* § 1(a). Under Executive Order 12,866 federal agencies are required to provide “an assessment of the potential costs and benefits of the regulatory action,” i.e. perform a cost-benefit analysis, for any rulemaking classified as a “significant regulatory action.” *Id.* § 6(3)(B). The Order classifies a rule as a “significant regulatory action” if it is “likely to result in” any of a number of specified effects, including: an annual effect on the economy of \$100 million or more; an adverse material effect on the economy, a sector of the economy, productivity, competition, jobs, the environment, public health or safety, or governments or communities; or raising novel legal or policy issues. *Id.* § 3(f).

Recognizing the large impacts of making an endangerment finding for GHG emissions and the future regulations such a finding would trigger, EPA’s has classified its Proposed Endangerment Finding as a significant regulatory action. EPA Proposed Endangerment Finding, 74 Fed. Reg. at 18,909. EPA would find it difficult to classify any regulation of GHG emission (from motor vehicles, from the transportation sector, or from any sector) as non-significant given this definition. Thus EPA is obligated to perform a comprehensive cost-benefit analysis in support of any GHG regulation, and to then to consider and choose the most cost-benefit justified approach. And cap-and-trade is the most efficient and cost-justified approach.

¹²⁹ CAA § 211(c)(2)(A).

Economists nearly unanimously agree that the most efficient way to reduce GHGs is to give individual polluters maximum flexibility while still insisting on tight economy-wide emissions reductions. A cap-and-trade method is the most effective mechanism for actually limiting the amount of GHG pollution released into the atmosphere. No other tool is able to deliver the same predictable reductions in GHGs.

Even Congress has recognized this economic reality as evidenced by recent legislative proposals. If Congress eventually acts on climate change, the legislation is highly likely to include a comprehensive cap-and-trade program, which would cover vehicle fuels. This makes EPA's choice of a cap-and-trade system for fuel even more efficient and rational, since such regulation could facilitate a smooth transition to meet future requirements. Instituting a regulatory cap-and-trade system for vehicle fuels will involve less administrative costs than creating command-and-control regulations that will later need to be dismantled if Congress acts.

Furthermore, a cap-and-trade system for all vehicles fuels under Section 211 will be allow a far more comprehensives strategy to reduce GHG pollution from mobile sources as compared to separate regulations for different types of mobile sources.

Given the mandate of the Executive Order and general principles of sound administrative decisionmaking, EPA should endeavor to find regulatory options that maximize the benefits of GHG reductions while minimizing the costs imposed. A cap-and-trade system for vehicle fuels is the optimal method to reduce GHG emissions that meets those criteria.

CONCLUSION

Based on the foregoing, Petitioner respectfully requests that, pursuant to Sections 211 and 231 of the Clean Air Act, the EPA Administrator:¹³⁰

- (1) Make a finding under Section 211 that greenhouse gas emissions from fuels used in motor and nonroad vehicles and engines cause or contribute to air pollution that may reasonably be anticipated to endanger public welfare;
- (2) Propose a cap-and-trade system with an auction mechanism to control greenhouse gas emissions from fuels used in mobile sources under the authority of Section 211;
- (3) Make a finding under Section 231 that greenhouse gas emissions from aircraft engines cause or contribute to air pollution that may reasonably be anticipated to endanger public welfare;
- (4) Propose a joint rulemaking with the Federal Aviation Administration to incorporate fuels used in aircraft into the cap-and-trade system under Section 211; and
- (5) Finalize regulations on both proposals within 90 days of the issuance of such proposed standards.

As required by law, EPA must give this Petition prompt consideration. Additionally, under the Administrative Procedure Act, agency action is defined to include "the whole or part of an agency

¹³⁰ Rulemaking undertaken pursuant to this Petition must comply with the requirements contained in Section 307(d) of the Clean Air Act. 42 U.S.C. § 7607(d).

rule, order, license, sanction, relief, or the equivalent denial thereof, or failure to act.”¹³¹ Therefore, Petitioner requests a substantive response to this Petition within 180 calendar days.¹³² In the absence of an affirmative response, Petitioner will consider litigation in order to achieve the agency actions requested.¹³³

Respectfully Submitted,



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¹³¹ 5 U.S.C. 551(13)

¹³² Petitioner believes that a response period of 180 days is reasonable under the APA. *Cf.* 42 U.S.C. § 7604(a) (requiring notice of 180 days prior to commence of an action for unreasonable delay); 21 C.F.R. § 10.30(e)(2)(1998) (“[T]he [FDA] Commissioner shall furnish a response to each petitioner within 180 days of receipt of the petition.”).

¹³³ Petitioner asserts that through the filing of this Petition it has complied with citizen suit notice requirements established in Section 304 of the Clean Air Act. 42 U.S.C. § 7604.

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