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Subject	Petition for Rule Making

Message Body

Dear Honorable Stephen L. Johnson and Ms. Oge,

Attached is the Petition for Rule Making Seeking the Regulation of Greenhouse Gas Emissions from Ocean-Going Vessels. If you have any questions, please contact Susan L. Durbin, Deputy Attorney General at (916) 324-5475.

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BEFORE THE ADMINISTRATOR OF THE UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

PEOPLE OF THE STATE OF CALIFORNIA, ACTING BY AND THROUGH ATTORNEY GENERAL EDMUND G. BROWN JR., **Petitioner,** **v.** **HONORABLE STEPHEN JOHNSON,** **In his official capacity as Administrator, United States Environmental Protection Agency** **Defendant.**	**Docket No. _____**

PETITION FOR RULE MAKING SEEKING THE REGULATION OF GREENHOUSE GAS EMISSIONS FROM OCEAN-GOING VESSELS

The People of the State of California, acting by and through Edmund G. Brown Jr., California Attorney General, and pursuant to the Administrative Procedure Act, 5 U.S.C. 551 and the Clean Air Act, 42 U.S.C. § 7400, et seq. hereby petition the Administrator of the Environmental Protection Agency to undertake a rule making procedure under the Clean Air Act. Specifically, California petitions the Administrator to propose and adopt regulations setting emissions standards, expressed either as an emissions limitation or as work practices or other requirements, to control and limit the emissions of greenhouse gases[1/] from Category III ocean-going vessels, and to begin the process immediately. The Attorney General believes that EPA has authority to adopt such standards pursuant to Section 213, subdivision (a)(4) of the Clean Air Act, 42 U.S.C. 7547, subdivision (a)(4).

Petitioner, People of the State of California, brings this petition by and through California's chief law officer, Attorney General Edmund G. Brown Jr. The Attorney General is

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1. Greenhouse gases include carbon dioxide, methane, nitrous oxide, hydrofluorocarbons, perfluorocarbons, and sulfur hexaflouride.

specially charged by the California Government Code with protection of the state's environment and its natural resources. (Cal. Govt. Code § 12600, et seq.) As set forth below, California's environment and its residents are already suffering from the effects of global warming, and are projected to suffer much more acute effects as climate change becomes more severe. Attorney General Brown brings this petition to fulfill his responsibility to protect California's environment and natural resources. He asks EPA to adopt regulations to control greenhouse gas emissions from new vessels on the shortest possible time line, in order to reduce the contribution of this large and uncontrolled source category of greenhouse gas emissions to global warming and climate change.

I. CLIMATE CHANGE IS NOW OCCURRING, CAUSED IN SIGNIFICANT PART BY EMISSIONS OF GREENHOUSE GASES

A. Climate Change is Now Occurring

Climate change as a result of global warming may be the most important environmental issue now facing not only the United States, but the world. Greenhouse gases (primarily, carbon dioxide("CO_2"), methane and nitrous oxide) persist and mix in the atmosphere, so that emissions anywhere in the world impact the climate everywhere. The impacts on climate change from greenhouse gas emissions have been extensively studied and documented. (*See* Oreskes, Naomi, *The Scientific Consensus on Climate Change*, 306 Science 1686 (Dec. 3, 2004) [review of 928 peer- reviewed scientific papers concerning climate change published between 1993 and 2003, noting the scientific consensus on the reality of anthropogenic climate change]; J. Hansen, *et al.*, *Earth's Energy Imbalance: Confirmation and Implications,* Sciencexpress (April 28, 2004) (available at http://pubs.giss.nasa.gov/abstracts/2005/HansenNazarenkoR.html) [NASA and Department of Energy scientists state that emission of CO_2 and other heat-trapping gases have warmed the oceans and are leading to an energy imbalance that is causing, and will continue to cause, significant warming, increasing the urgency of reducing CO_2 emissions].)

The National Academy of Sciences (NAS) has expressed its expert opinion that the concentrations of carbon dioxide, the principal greenhouse gas, in the atmosphere have increased and continue to increase, due to human activity. (NAS, Climate Change Science (2001), Exec Summary p.2) The NAS cites the burning of fossil fuels as the "primary source" of anthropogenic carbon dioxide emissions. (*Id.*) The International Panel on Climate Change (IPCC) has expressed its expert opinion that the observed increase in global average temperatures since the mid-20th century "is very likely due to the observed increase in anthropogenic greenhouse gas concentrations." (IPCC Working Group II Fourth Assessment Report, Summary for Policymakers (2007), pp. 2-3.) It is the opinion of both the NAS and the IPCC that a

scientific consensus has formed that humans, largely through the ever-increasing burning of fossil fuels, are changing the world's climate.[2]

B. The Environmental Effects of Climate Change Will Be Severe

The consequences of this climate change are predicted to be severe. The IPCC predicts with high or very high confidence that ice and frozen ground, lakes and rivers, the oceans, and the biological systems both in the earth's waters and on its land are already being affected. (IPCC, *op. cit.*, pp. 2-4.) Glaciers are melting at accelerated rates, plants are flowering earlier, the oceans are becoming more acidic, and animals are shifting their ranges, all in response to worldwide changes in the climate. As anthropogenic gases force greater climate change, drought-affected areas will likely increase in their extent, ice-bound water supplies will decrease or run off early, flooding will increase, the oceans will continue to acidify (harming coral-forming organisms), and an increasing number of plant and animal species will be at risk of extinction. (IPCC, *op. cit.*, pp. 7-8.) The greatest burdens of climate change and the floods, heat waves, droughts, shortages in food and water, and increased ranges for disease vectors that it will cause[3] will likely fall on those nations and populations least able to adapt or cope. Great human suffering will result.

C. Effects on California and Actions by California to Reduce Greenhouse Gas Emissions

In California, the state government has acknowledged the environmental impacts of greenhouse gas emissions on climate change. Governor Schwarzenegger, in his Executive Order S-3-05 issued on June 1, 2005, recognized the significance of the impacts of climate change on the State of California, noting that "California is particularly vulnerable to the impacts of climate change." The Order goes on to itemize a litany of the direct impacts that climate change and the

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2. See, also, the Brief of *Amici Curiae* Scientists filed in support of petitioners in *Massachusetts v. EPA*, USSC No. 05-1120, wherein a group of prominent and highly respected climate scientists expressed their expert opinion that the general causal link between anthropogenic greenhouse gas emissions and climate change is "*virtually certain.*" (Brief at p. A-8, emphasis in original.)

3. Insurers, who survive in business by predicting harms and risks, are increasingly predicting, and modifying their business practices to compensate for the costs of, global warming. See e.g., www.abi.org.uk/climate change; Peter H. Stone, Feeling Storm-Tossed, National Journal July 7, 2007.

increased temperatures resulting from the increased presence of greenhouse gases in the atmosphere, will have on the state:

- "[I]ncreased temperatures threaten to greatly reduce the Sierra snowpack, one of the State's primary sources of water;"

- "[I]ncreased temperatures also threaten to further exacerbate California's air quality problems and adversely impact human health by increasing heat stress and related deaths;"

- "[R]ising sea levels threaten California's 1,100 miles of valuable coastal real estate and natural habitats;" and

- "[T]he combined effects of an increase in temperatures and diminished water supply and quality threaten to alter micro-climates within the state, affect the abundance and distribution of pests and pathogens, and result in variations in crop quality and yield."
  Executive Order S-3-05, June 1, 2005.

The California legislature also recognized all of these severe impacts resulting from climate change, as well as a "projected doubling of catastrophic wildfires due to faster and more intense burning associated with drying vegetation." (Stats. 2002, ch, 200, Section 1, subd. (c)(4), enacting Health & Saf. Code § 43018.5.) The state is already suffering from increasing rates of wildfires and indications of drought. Further, we experience trends toward warmer winter and spring temperatures, less snow because warmer temperatures cause more precipitation to fall as rain instead, earlier spring snowmelt, and earlier spring flower blooms. (CalEPA, Climate Action Team Report to Governor Schwarzenegger and the Legislature (2006), pp. 19-20.) A decrease in vital water supplies[4], an increase in wildfires, threats to agricultural output in a state that leads the nation in production of fresh vegetables and specialty crops, a decrease in the tourism that depends on snowpack and healthy forests, more frequent and more intense heat waves and the ozone whose amount and effects they exacerbate – all these are serious threats to public health and welfare that have already begun to be felt in California and are expected to grow more and more serious throughout this century. California faces an immediate and growing

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4. This effect is not limited to California, but will extend over much of the Western United States. (National Academy of Sciences, Climate Change Sciences (2001), Exec. Sum. at 4.)

threat from global warming, and has an immediate and vital interest in the expeditious and effective control of all sources of greenhouse gases.

Most important, California has adopted the ground-breaking statute, California Global Warming Solutions Act of 2006, commonly known as AB 32. Carrying out AB 32 will reduce California's greenhouse gas emissions back to 1990 levels by AB 32 requires reduction of the state's GHG emissions to 1990 levels by 2020,[5] a time well within the 2030 planning horizon of the Regional Plan. This emissions cap is equal to a 25% reduction from current levels.[6] The bill directs that by June 30, 2007, the California Air Resources Board ("CARB") shall publish a list of discrete early action greenhouse gas emission reduction measures that will be implemented by 2010.[7] CARB must then adopt comprehensive regulations that will go into effect in 2012 to require the actions necessary to achieve the greenhouse gas emissions cap by 2020.[8] The legislation also encourages entities to voluntarily reduce greenhouse gas emissions prior to 2012 by offering credits for early voluntary reductions.[9]

As a coastal state, California is also concerned that the increased concentrations of nitrogen oxides are causing a rise in the acidification of the ocean, since the oceans are the "sink" into which about one-third of all NOx emissions are eventually deposited. Research indicates that the impacts of NOx emissions on ocean acidification can vary by area, and by the amount of NOx emissions in a given area.[10] Since nearly70% of all vessel emissions occur within 400 kilometers of land[11], the acidification effects of high vessel NOx emissions are likely to be most keenly felt off coastal states like California.

In response to the threat, California is taking ground-breaking steps to reduce its own contribution to global warming through very aggressive regulations to reduce greenhouse gas emissions. The Governor recently issued Executive Order S-01-07, establishing a

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5. Health & Safety Code § 38550.

6. 9/27/2006 Press Release from the Office of the Governor, available at http://gov.ca.gov/index.php?/print-version/press-release/4111.

7. Health & Safety Code § 38560.5.

8. Health & Safety Code § 38562.

9. Health & Safety Code §§ 38562(b)(3), 38563.

10. Doney, Scott C. et al. (2007), Couplings Between Changes in the Climate System and Biogeochemistry at 544. In Climate Change 2007: The Physical Science Basis, Working Group I to the Fourth Assessment Report of the IPCC.

11. Henningsen, Study of Greenhouse Gas Emissions From Ships, Final Report to the International Maritime Organization (2000), p. 49, citing Corbett (1999).

groundbreaking Low Carbon Fuel Standard (LCFS) for transportation fuels sold in California. By 2020 the standard will reduce the carbon intensity of California's passenger vehicle fuels by at least 10 percent. The California Air Resources Board (CARB) is currently considering or actively working on such additional "early action" greenhouse gas reduction measures as reduction of refrigerant losses from motor vehicle air conditioning systems, increased methane capture from landfills, cooler auto paints, and tire inflation requirements for motorists. (CARB, Proposed Early Actions to Mitigate Climate Change in California (2007).) California is taking responsibility for reducing its own contribution to greenhouse gas emissions, and is continuing its historic role as a leader in air pollution control in the U.S.

California is taking action to reduce emissions of greenhouse gas emissions from sources for which it is responsible. It now petitions the Administrator to take action nationally to regulate greenhouse gas emissions from ocean-going vessels, believing that national controls will be most effective and within EPA's authority to control. Accordingly, California submits this petition to the EPA Administrator to enact controls on greenhouse gas emissions from ocean-going vessels.

II. GREENHOUSE GAS EMISSIONS FROM OCEAN-GOING VESSELS

Ocean-going vessels of over 100 tons are estimated to emit up to 3% of the total world inventory of greenhouse gas emissions. (International Council on Clean Transportation (ICCT), Air Pollution and Greenhouse Gas Emissions from Ocean-going Ships: Impacts, Mitigation Options and Opportunities for Managing Growth (2007), p.26.[12]) This is more than the emissions attributable to almost any individual nation in the world; only the U.S., Russia, China, Japan, India and Germany emit more than the world's ocean-going vessel fleet.[13] We note that the Supreme Court, in *Massachusetts v. EPA*, __ U.S. __; 127 S. Ct. 1438, 1458 (2007), found that the contribution of the U.S. transportation sector to worldwide greenhouse gas emissions, which is about 6% of the world's greenhouse gas inventory, was by itself "enormous" and "a meaningful contribution to greenhouse gas concentrations." Judged by the standards of *Massachusetts v. EPA*, a source category that is, by itself, equal to the emissions of all but a handful of nations (and greater than all emissions from California), and that emits about 3% of

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12. The actual emissions may be even higher, since many estimates are derived from sales figures for marine bunker fuel worldwide, and a recent study indicates that such sales are underreported. (ICCT, *op.cit.*, p. 27-28.)

13. United Nations, Department of Economic and Social Affairs, Statistics Division, *Carbon Dioxide Emissions, Thousands of Metric Tons, available at* http://mdgs.un.org/unsd/mdg/SeriesDetail.aspx?srid=749 (August 1, 2007); based on 2004 data from Carbon Dioxide Information Analysis Center, *available at* http://cdiac.ornl.gov/trends/emis/tre_tp20.htm.""

the world's greenhouse gas inventory (equal to about half the U.S. transportation sector's "enormous" emissions), is a source that it is vital to regulate.

Further, vessels emit greenhouse gases in an amount totally disproportionate to their numbers. Marine sources emit between 12 and 21% of the total greenhouse gases emitted by the worldwide transportation sector. (ICCT, *op. cit.*, p.29.) There are only about 90,000 vessels[14] in the world's cargo fleet, compared with the hundreds of millions of other vehicles and engines that make up the worldwide transportation sector.[15] Vessels form one of the world's most polluting source categories, per unit of fuel consumed. (*Id.*[16]) They are subject to only the most rudimentary emissions controls for a limited set of conventional pollutants[17], and no controls whatever for greenhouse gas emissions.

The contribution to global warming attributable to ship emissions is not limited to carbon dioxide emissions. Vessels also emit nitrogen oxides (NOx), and NOx by itself contributes to global warming; vessel NOx emissions may, overall, have as strong a climate-forcing effect as vessel CO2 emissions. (ICCT, *op. cit.*, p. 34.) Vessels are a large source of NOx, emitting about 5-6 times more NOx than aircraft annually worldwide. (Marintek, Study of Greenhouse Gas Emissions from Ships, Final Report to the IMO (2000), p. 59.) In addition, those NOx emissions contribute to the formation of ozone, which is also a powerful climate-change forcing gas. Vessels also emit black carbon, which may have a climate-change potential up to twice that of CO2. (ICCT, *op. cit.* at 34, citing Hansen and Nazarenko (2004).)

Further, because of the growth of growth in global shipping, vessel emissions will continue to increase their contribution to global warming unless measures are taken. Action should be taken with all possible speed, given the increase in immediately to reduce those emissions. (ICCT, *op. cit.*, p. 36.) National action by EPA, applicable to all vessels calling at U.S. ports has great potential for greenhouse gas emissions reduction.

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14. Source: ICCT, *op. cit.*, p. 20, citing Corbet, et al. (1999).

15. For example, there were about 450 million cars on the road worldwide as of 2001. ("Automobile." World Book Encyclopedia, 2001.)

16. The shipping industry bases its claim that it is environmentally friendly on a per-ton of cargo carried analysis, which tends to minimize the proportionally out-sized contribution of ocean-going vessels to global greenhouse gas emissions.

17. See 68 *Fed. Reg.* 9746, *et seq.* (February 28, 2003.)

III. LEGAL BASIS FOR ACTION BY EPA

A. EPA Has Previously, and Repeatedly, Found That Vessel Emissions Contribute Significantly to Air Pollution Which May Reasonably Be Anticipated to Endanger Public Health or Welfare. It Has Authority to Regulate Vessel Greenhouse Gas Emissions.

In Section 213, subdivision (a)(1) of the Clean Air Act, 42 U.S.C. section 7547, subdivision (a)(1), Congress ordered EPA to undertake a study of the pollutant emissions of nonroad vehicles and engines "to determine if such emissions cause, or significantly contribute to, air pollution which may reasonably be anticipated to endanger public health or welfare." Under Section 213, subdivision (a)(3), if EPA makes a finding that emissions of carbon monoxide, oxides of nitrogen, or volatile organic compounds from nonroad sources make a significant contribution to ozone *or* carbon monoxide in more than one area that has failed to attain the NAAQS, it must to adopt emissions standards for such nonroad sources for those pollutants by twelve months after completion of the study.

EPA did do such a study in 1991[18], and made the finding that emissions of NOx, volatile organic compounds, and carbon monoxide from nonroad engines and vehicles do contribute significantly to ozone and carbon monoxide concentrations in more than one nonattainment area. (59 Fed. Reg. 31306 (June 17, 1994.) EPA has also made a determination "that commercial and recreational marine diesel engines rated over 37 kW cause or contribute to such pollution." (64 Fed. Reg. at 73301 (December 29, 1999); see, also, 63 Fed. Reg. 68508 (December 11, 1998).) Based on those findings, EPA has adopted a series of regulations of various nonroad sources, including marine vessels and engines. (E.g., 64 Fed. Reg. 73300 (December 29, 1999), 66 Fed. Reg. 51098 (October 5, 2001).)

Importantly, EPA also made a finding that emissions from nonroad vehicles and engines "significantly contribute to regional haze and visibility impairment in federal Class I areas and where people live, work, and recreate." (67 Fed. Reg. 68244 (November 8, 2002).) It then proposed regulations to reduce that contribution. (*Id.*) Section 213, subdivision (a) mandates control of nonroad sources found by EPA to contribute significantly to pollution that may endanger public health *or welfare*. (Emphasis added.) In 42 U.S.C. 7602, subdivision (h), Congress defined "welfare" broadly, to include "effects on soils, water, crops, vegetation, man-made materials, animals, wildlife, weather, visibility, and climate," among other things. EPA's finding that nonroad emissions contribute to regional haze, and its subsequent (correct) conclusion that Section 213 authorizes EPA to regulate nonroad source emissions to reduce that contribution shows that EPA interprets Section 213 (again, correctly) as authorizing regulation of nonroad emissions for purposes other than attainment of the NAAQS; presumably, federal Class

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18. "Nonroad Engine and Vehicle Emission Study", EPA, EPA No. 460/3-91-02 (Nov. 1991).

l areas are in attainment for some or all of the pollutants that were regulated in the November 8, 2002, rule making.

Petitioner California believes that Section 213, subdivision (a)(4)'s grant of authority for EPA to regulate nonroad emissions extends to control of greenhouse gases, since they contribute significantly to changes in climate, one of the factors Congress included in the definition of "welfare." In addition, as discussed earlier in this petition, global warming will contribute to serious, lasting, and very adverse effects on climate in many parts of the U.S., including California. These reasonably foreseeable adverse effects on climate place emissions of greenhouse gases squarely within the ambit of Section 213, subdivision (a)(4), and authorize regulation. In addition, global warming will cause adverse effects on water supplies, vegetation, wildlife, and many other factors Congress included in the definition of "welfare." Given the range and severity of effects on "welfare" to which greenhouse gas emissions from vessels can be reasonably anticipated to contribute, regulatory control of greenhouse gas emissions from vessels is fully within EPA's authority.

B. Section 213 (a)(4)'s Language is Remarkably Similar to the Language Construed by the Supreme Court in *Massachusetts v. EPA*, and Should be Interpreted by EPA as Applying to Greenhouse Gas Emissions.

It is useful here to compare the language in Section 202 that the Supreme Court construed earlier this year in *Massachusetts v. EPA*, __ U.S. __; 127 S.Ct. 1438 (2007), with the language of Section 213. Section 202 provides, in pertinent part:

> The [EPA] Administrator shall by regulation prescribe (and from time to time revise) in accordance with the provisions of this section, standards applicable to the emission of any air pollutant from any class or classes or new motor vehicles or new motor vehicle engines, which in his [*sic*] judgment cause, or contribute to, *air pollution which may reasonably be anticipated to endanger public health or welfare.*

(Emphasis added.) In this case, the Supreme Court read the term "any pollutant" in Section 202 as "sweeping" in its definition by Congress, and fully broad enough to encompass not only the traditional, criteria pollutants[19] such as ozone and particulate matter, but "all airborne compounds of whatever stripe," and certainly broad enough to cover greenhouse gases as well, if they endanger public health or welfare. (127 S.Ct. at 1460.)

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19. "Criteria" pollutants are so named because a document setting out the criteria for setting ambient standards for these pollutants must be prepared for EPA before EPA sets such standards. (CAA, section 108(a)(2); 42 U.S.. section 7408(a)(2).)

Section 213 of the CAA contains substantially similar language to Section 202 (emphasis added:

> If the Administrator determines that any emissions not referred to in paragraph (2) from new nonroad engines or vehicles significantly contribute to *air pollution which may reasonably be anticipated to endanger public health or welfare*, the Administrator may promulgate (and from time to time revise) such regulations as the Administrator deems appropriate containing standards applicable to emissions from those classes or categories of new nonroad engines and new nonroad vehicles (other than locomotives or engines used in locomotives) which in the Administrator's judgment cause, or contribute to, such air pollution . . . .

These sections' primary substantive difference is that Section 202 is mandatory and Section 213 is permissive. As in Section 202, Section 213 authorizes EPA to adopt emissions control regulations for emissions from nonroad engines and vehicles if those emissions are reasonably anticipated to endanger public health or welfare. As this petition has shown, they are. The broad interpretation of what is a "pollutant" employed by the Supreme Court in *Massachusetts v. EPA* should also apply with equal force here. Greenhouse gases, while not criteria pollutants (except for ozone and some forms of NOx)[20], are nonetheless "pollutants" under the Clean Air Act's "sweeping" definition, and the Administrator has authority to regulate them under Section 213 as much as under Section 202.

EPA has not yet made a finding that greenhouse gas emissions from vessels "cause, or significantly contribute to, air pollution which may reasonably be anticipated to endanger public health or welfare." However, California believes that EPA can and should make that finding on an expedited basis. We presume that EPA is already carrying out research to comply with the Supreme Court's interpretation of EPA's duties under Section 202, as set out in *Massachusetts v. EPA*. That research will inevitably show that greenhouse gas emissions from motor vehicles pose a danger to public health and welfare; on that basis, EPA could and should make a finding that the same types of emissions from ocean-going vessels pose a similar danger, as it has done in the past with criteria pollutant emissions.

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20. Greenhouse gases do contribute indirectly – and potentially substantially -- to nonattainment of the ozone NAAQS, since the hotter weather to which they contribute helps to form more ozone.

C. The Administrator's Discretion to Regulate Vessel Emissions Must Be Exercised in Light of the Structure and Purposes of the Clean Air Act

We recognize that Section 231, subdivision (a)(4) gives the Administrator the authority to regulate nonroad engines, but does not give him an unqualified mandate to do so. However, the discretion granted to the Administrator can and must be exercised only in light of the overall structure and purposes of the Clean Air Act, as the Supreme Court made clear in *Massachusetts v. EPA*.

In *Bluewater Network v. EPA*, 372 F.3d 404, 406 (D.C. Cir. 2004), a case dealing with emissions from vessels, the District of Columbia Circuit recognized those purposes:

> In 1970, the Congress enacted the Clean Air Act "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."

That case occurred in the context of emissions standards aimed at achieving the NAAQS, but those purposes of the Act have long been recognized and held to be fundamental to the Act in other contexts. (See, e.g., *Sierra Club v. Ruckelshaus*, 344 F.Supp. 253, 255 (D.D.C. 1972), *aff'd by an equally divided court*, 412 U.S. 541 (1973).) In *Lead Industries Assn., Inc. v. EPA*, 647 F.2d 1130, 1153 (D.C. Cir. 1980), the court cited the legislative history of the Act, noting:

> This goal [to protect and enhance air quality in order to promote public health, welfare, and productive capacity] was reaffirmed in the 1977 Amendments. For example, the House Report accompanying the Amendments states that one of its purposes is "[t]o emphasize the preventive or precautionary nature of the act, i.e., to assure that regulatory action can effectively prevent harm before it occurs; to emphasize the predominant value of protection of public health[.]" H.R. Rep. No. 95-294, 95th Cong., 1st Sess. 49 (1977).

Preventing harm to public health and welfare, and protecting the air resources of the nation and the world are the purposes California seeks to forward by this petition, and we believe that they must inform and constrain the Administrator's exercise of discretion here. As the court further held in *Lead Industries*,

> Congress provided that the Administrator is to use his judgment in setting air quality standards precisely to permit him to act in the face of uncertainty. And as we read the statutory provisions and the legislative history, Congress *directed* the Administrator to err on the side of caution in making the necessary decisions.

(647 F.2d at 1155, emphasis added.) We believe that this same standard applies to the Administrator's exercise of discretion in adopting emissions standards for greenhouse gases from vessels and vessel engines. As the Supreme Court observed in *Massachusetts v. EPA*, "EPA does not dispute the existence of a causal connection between man-made greenhouse gas emissions and global warming." (127 S.Ct.1458.) As this petition has shown, vessels and vessel engines are a more significant source of greenhouse gas emissions than most sovereign nations in the world, contributing about 3% of the world's greenhouse gases. It is therefore incumbent on EPA to exercise its discretion in a way consistent with the Clean Air Act. It must regulate, or produce well supported reasons, reasons that are consistent with the statute and its precautionary and health-protective purposes, as to why it refuses to regulate this large, almost completely uncontrolled source of greenhouse gas emissions. We believe that the reasoning of the *Massachusetts v. EPA* decision has set clear and narrow limits on the kinds of reasons EPA may advance for declining to regulate significant sources of greenhouse gases. Reasons such as the existence of voluntary greenhouse gas reduction programs, or foreign policy considerations, are not grounded in the Clean Air Act's purposes, and are therefore not acceptable reasons for declining to regulate.

Based on the scientific consensus of opinion as to the causal connection between greenhouse gas emissions and global warming, and the magnitude of the danger to public health and welfare posed by global warming – which is potentially catastrophic – we believe that EPA is constrained to exercise its discretion under Section 213, subdivision (a)(4) to adopt stringent emissions standards for greenhouse gas emissions from vessels and vessel engines, and to do so with all possible speed. EPA has the authority, and it is imperative that it use that authority as quickly as possible to carry out the Clean Air Act's purposes of protecting health and welfare.

IV. INTERNATIONAL LAW IS NOT A BAR TO REGULATION OF GREENHOUSE GASES BY EPA

It is clear that EPA has authority to adopt the regulations petitioner seeks as to U.S.-flagged vessels.[21] As to foreign-flagged vessels, in its 2003 rule making regarding vessel emissions of criteria pollutants, EPA explicitly declined to decide, or to give any opinion, as to whether the Clean Air Act gives it the authority to impose emissions standards on foreign-flagged vessels. (68 Fed. Reg. at 9750.) EPA has expressed the hope that the International Maritime Organization would adopt "more stringent consensus international [emissions] standards," making it unnecessary for the U.S. to adopt its own, more stringent standards. However, as discussed above, the *Massachusetts v. EPA* opinion explicitly disallows those types of foreign policy as legal grounds for not carrying out EPA's mandatory duties under Section 202 of the Clean Air Act. (*Id.*, 127 S.Ct. at 1462 "[W]hile the President has broad authority in foreign affairs, the authority does not extend to the refusal to execute domestic laws.") We believe that the Court's reasoning also applies to EPA's discretionary duties under Section 213.

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21. Many vessels that fly foreign flags may be owned by U.S. companies.

Under the United Nations Convention of Law of the Sea (UNCLOS), each nation retains full control over its internal waters, and over waters up to three nautical miles offshore.[22] Within its own ports, the U.S. can insist on vessels meeting emissions standards for greenhouse gases, and it can also require such compliance as a condition for entry into territorial waters. The U.S. has always reserved jurisdiction to the fullest extent authorized by UNCLOS. Presidential Proclamation 7219,[23] affirmed that the territorial seas of the U.S. extend out to twelve miles from the coast, as allowed by UNCLOS. (UNCLOS 1982, Arts. 8-11.)

Although foreign-flagged ships are allowed the right of "innocent passage" through territorial waters, passage that causes pollution is not considered to be innocent. That the U.S. can and does enforce pollution standards in its territorial waters can be seen by the fact that the National Park Service has imposed air pollutant emissions controls on cruise ships, including foreign-flagged cruise ships (the vast majority of such ships are foreign-flagged), that sail off the coast from Glacier Bay National Park, in Alaska. It adopted and enforces these pollution control standards to protect and preserve the natural resources of the Park.[24] Similarly, EPA can impose and enforce greenhouse gas emissions standards to protect the nation's natural resources, and the health of its people, from the effects of global warming, just as it already imposes some minimal controls on NOx emissions on ocean-going vessels.

It is clear that EPA has authority to regulate vessel emissions in U.S. waters, and EPA currently exercises that authority. However, even if emissions standards for greenhouse gas emissions from vessels were somehow regarded as operating outside U.S. territory, well established law holds that U.S. laws can operate beyond the U.S.'s borders, called extra-territorial operation of laws, when the conduct being regulated affects the U.S., and where Congress intended such extra-territorial application. (*EEOC v. Arabian American Oil Co.*, 499 U.S. 244 (1991) (*"Aramco").)* We believe that such extra-territorial application of the Clean Air Act is both permissible and essential in this case. Standards for control of emissions of greenhouse gases from vessels, to be effective, must apply to all vessels that sail in U.S. waters or dock in U.S. ports. Since about 95% of those vessels are foreign-flagged vessels, it is imperative that the regulations EPA adopt apply both to U.S.-flagged and foreign-flagged vessels. California believes that the Clean Air Act gives EPA this authority. The standards we ask EPA to adopt present a situation analogous to the one analyzed by the Supreme Court in *Spector, et al. v. Norwegian Cruiseline, Ltd.*, 545 U.S. 119 (2005). In that case, the Supreme Court held that the Americans with Disabilities Act (ADA) could be applied to foreign-flagged cruise ships that sailed from U.S. ports and actively advertised to U.S. citizens, so long as the

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22. See Daniel Bodansky, Protecting the Marine Environment from Vessel-Source Pollution: UNCLOS III and Beyond, 18 Ecology Law Quarterly 719, 745 (1991).

23. 64 Fed. Reg. 48701 (August 2, 1999), reprinted at 43 U.S.C. 1331 (1995).

24. Regulations found at 36 C.F.R. § 13.65(b)(4). See also, 61 Fed. Reg. 27008, at 27011, containing recognition that cruise ships were overwhelmingly foreign-flagged.

ADA-required accommodations for the disabled passengers did not require major, permanent modification to the ships involved. The Court had little difficulty in finding that Congress intended the ADA to apply to foreign-flagged vessels:

> It is reasonable to presume Congress intends no interference with matters that are primarily of concern only to the ship and the foreign state [*132] in which it is registered. It is also reasonable, however, to presume Congress does intend its statutes to apply to entities in United States territory that serve, employ, or otherwise affect American citizens, or that affect the peace and tranquility of the United States, even if those entities happen to be foreign-flag ships.

(545 U.S. at 132.) As in the *Norwegian Cruiselines* case, there can be little argument that the EPA has numerous options which could decrease these significant greenhouse gas emissions from vessels without requiring major, permanent modification to the ships involved. This petition lists many potential options at page 13.

Clearly, global warming does affect the health, well-being, and tranquility of American citizens, through its impact on their climate, weather, air quality, water supplies, agriculture, coastlines, and many other areas. The Clean Air Act's mandates for protection of harm to the public health and welfare from air pollution are certainly as broad as, if not broader than, the goals of the ADA cited in *Norwegian Cruiselines*, and we believe that Congress' intent was also that the Clean Air Act have extra-territorial application where necessary to achieve the Act's health-protective purposes. Here, where limitation of greenhouse gas emissions standards to U.S.-flagged ships would exclude about 95% of the vessels that call at U.S. ports from regulation, the purposes of the Act can only be served by application of these standards to foreign-flagged ships, even if that application is considered extra-territorial.

In short, California believes that EPA has sufficient authority under the Clean Air Act, and the U.S. has sufficient authority under international law, to impose greenhouse gas emissions standards within the twelve-mile limit, and on both U.S.- flagged and foreign-flagged vessels.

V. TECHNOLOGY IS AVAILABLE TO REDUCE GREENHOUSE GAS EMISSIONS FROM VESSELS

A wide range of technology is available to reduce greenhouse gas emissions from vessels. In "Study of Greenhouse Gas Emissions From Ships: Final Report to the IMO," the authors lay out a variety of physical controls and operational protocols that can reduce greenhouse gas emissions, some through NOx reduction ((NO2 is a greenhouse gas), others through reducing fuel consumption[25]. Among these are:

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25. All references here are to Chapter 5 of that report.

- Use of marine diesel fuel oil instead of bunker fuel: NOx reductions of 4-5%

- Other NOx reduction techniques, such as selective catalytic reduction and exhaust gas recirculation: NOx reduction up to 95%

- Optimal machinery operation: 2-12% fuel savings, depending on engine speed

- Speed reduction: variable fuel savings, depending on reduction[26]

- Optimal operating parameters, such as optimal trim, minimum ballast, propeller pitch, and optimal rudder: 1-5% fuel savings

- Improved fleet deployment planning: 5-15%

- Connection to shore-side power (cold-ironing): substantial fuel savings, depending on size of engine and time in port.

Other greenhouse gas emissions reduction techniques are available. In addition, Congress intended the Clean Air Act to be a technology-forcing statute – as held in *Train* v. *Natural Resources Defense Council*, 421 U.S. 60 (1975) – and EPA can and should consider control measures that force the development of new technology. Here, because vessels and vessel engines are almost completely uncontrolled, the opportunities for emissions reduction are wide-open and very substantial.

RELIEF REQUESTED

Petitioner People of the State of California, respectfully request that the Administrator:

(1) Make a finding that carbon dioxide emissions from new marine engines and vessels significantly contribute to air pollution which may reasonably be anticipated to endanger public health and welfare;

(2) Propose and adopt regulations specifying emissions standards for carbon dioxide emissions from marine engines and vessels pursuant to Section 213, subdivision (a)(4) of the Clean Air Act, 42 U.S.C. § 7547, subdivision (a)(4), such standards to take the form either of emissions limitations or of work or operational practices; and

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26. The Ports of Los Angeles and Long Beach are now carrying out a voluntary speed reduction plan, and their experience will be useful to EPA in designing regulations for this measure. The plan limits vessels to 12-knots from a point 20 miles off-shore to the harbor. Information available at http://www.polb.com/environment/air_quality/emissions.asp.

(3) Propose and adopt such regulations, e.g., regulations specifying fuel content or type, as are necessary to carry out the emissions limitations adopted pursuant to the requests above.

We request that the Administrator take initial action within six months of receipt of this petition.

Dated: October 3, 2007

Respectfully submitted,

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By

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DECLARATION OF SERVICE BY CERTIFIED MAIL

Case Name: People of the State of California, Acting By and Through Attorney General Edmund G. Brown Jr., v. Honorable Stephen Johnson, In His Official Capacity As Administrator, United States Environmental Protection Agency

No.:

I declare:

I am employed in the Office of the Attorney General, which is the office of a member of the California State Bar at which member's direction this service is made. I am 18 years of age or older and not a party to this matter. I am familiar with the business practice at the Office of the Attorney General for collection and processing of correspondence for mailing with the United States Postal Service. In accordance with that practice, correspondence placed in the internal mail collection system at the Office of the Attorney General is deposited with the United States Postal Service that same day in the ordinary course of business.

On October32, 2007, I served the attached **PETITION FOR RULE MAKING SEEKING THE REGULATION OF GREENHOUSE GAS EMISSIONS FROM OCEAN-GOING VESSELS** by placing a true copy thereof enclosed in a sealed envelope as certified mail with postage thereon fully prepaid and return receipt requested, in the internal mail collection system at the Office of the Attorney General at 1300 I Street, Suite 125, P.O. Box 944255, Sacramento, CA 94244-2550, addressed as follows:

Hon. Stephen L. Johnson, Administrator
United States Environmental Protection Agency
Ariel Rios Building
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Washington, D.C. 20460

Margo T. Oge
U.S. Environmental Protection Agency
Office of Transportation and Air Quality
1200 Pennsylvania Avenue, NW
Mail Code 6401A
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I declare under penalty of perjury under the law of the State of California the foregoing is true and correct and that this declaration was executed on October 3, 2007, at Sacramento, California.

Bessie Wong
Declarant

Bessie Wong
Signature

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