U.S., Canada near agreement to control pollutants from ships

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The five-story-tall engines on oceangoing vessels burn some of the dirtiest oil -- bottom-of-the-barrel bunker -- and churn out a substantial amount of the air pollution in American port cities, coastal communities along shipping lanes and places hundreds of miles inland.

Now the United States and Canada are nearing an international agreement to clean up the emissions of ships traveling within 200 nautical miles of shore. Scientists at the Environmental Protection Agency calculate that pollution controls will save the lives of 8,300 people each year and help more than 3 million avoid respiratory problems.

The biggest health benefits will be in deep-sea ports, but the EPA calculates that communities far inland also will benefit from cleaner air. The air in the Grand Canyon will be clearer. Acid rain will decrease.

The International Maritime Organization, the United Nations body that deals with marine pollution, is expected to approve an emission control area for most of the United States and Canada at its next meeting in March. The organization agreed in July that the plan met its guidelines.

"I think we're headed in a very positive direction," said John Kaltenstein, who oversees the marine program for the environmental group Friends of the Earth in California.

If the International Maritime Organization adopts the emission control

area, ships traveling in a vast region will have to use fuel with a lower sulfur content beginning in 2012, and the sulfur content would be reduced further in 2015. Beginning in 2016, new engines on vessels operating in the area also would have to use equipment that would reduce nitrogen oxide emissions by 80 percent.

The EPA plans to finalize a rule in December that would ban the sale of high-sulfur fuel in U.S. coastal and internal waters and would require the nitrogen oxide controls on new engines in U.S. ships, in line with the international proposal for a North American emission control area.

The engines of big ships emit large amounts of nitrogen oxides and sulfur oxides, which contribute to ground-level ozone, acid rain and particulate matter.

U.S. scientists say that air pollution from these substances causes premature deaths, worsens asthma and is associated with other respiratory and cardiovascular diseases. Ozone can irritate the respiratory system and limit lung function. Exposure to ozone is especially risky for children, elderly people and those with respiratory disorders such as asthma.

The EPA also classifies diesel exhaust from the engines as a likely carcinogen in humans.

Air quality advocates cheer the health benefits from tougher ship-emissions rules, but say that there's more to be done:

• The nitrogen oxide emissions reductions will apply only to new engines after 2016. The EPA is considering a voluntary program for existing vessels, but environmentalists question whether it would deliver results.

• The engine controls to reduce nitrogen oxide emissions and the strictest

clean-fuel requirements apply only to the emission control area proposed by the United States and Canada. It doesn't include Alaska's Aleutian Islands and the Arctic. It also excludes Puerto Rico and the Virgin Islands.

• Carbon dioxide and black carbon (soot), two of the main contributors to global warming, are left unregulated. Black carbon is a particular concern in the Arctic, because it settles on snow and ice, reducing their reflective quality and increasing warming.

The International Maritime Organization hasn't adopted any mandatory controls on greenhouse gas emissions at sea.

Byron Bunker, the EPA official who's responsible for regulations for heavy-duty engines, said that the biggest immediate reduction in pollution from the International Maritime Organization's expected action in March would be from the change in the sulfur content in fuel.

Ships probably will have to stop using residual fuel -- the byproduct of refining crude oil -- and start using distillate fuel, which burns more cleanly, Bunker said. Black carbon and other forms of particulate also would be reduced, he said.

Ships today account for about 17 percent of the air pollution from mobile sources in the United States, Bunker said. If oceangoing vessels weren't regulated and shipping increased as expected, they'd represent about half the mobile-source pollution by 2030.

The fuel changes start in 2012, and fuel would have to have still lower sulfur content in 2015, reducing sulfur oxides and particulate matter emissions by more than 85 percent.

"The health and welfare benefits we estimate are breathtaking," Bunker

said.

The EPA is studying whether to include the rest of Alaska and the Canadian Arctic in the emission control area. "Essentially, we don't have all our science done to make the compelling case," Bunker said.

The Alaska Wilderness League and other environmental groups asked the EPA to include Arctic Alaska for the sake of health and the environment. Ozone and black carbon are short-lived, but they warm the region where they're emitted. Reducing them would have immediate benefits, the group wrote in a letter to the EPA last spring. A recent report on Arctic marine shipping by the Arctic Council, an intergovernmental group, said that black carbon and nitrogen oxide could have regional effects on climate even in small amounts.

In the Arctic, "a large increase in shipping is projected, and we're just starting to see it," said Scott Highleyman, the international director of the Pew Charitable Trusts' Arctic program. Much will be regional transportation for oil, gas and mining, but in the future new international shipping lanes are expected to open in the summer as a result of global warming.

"The people living in the Arctic in Canada and Alaska deserve the same protection from air pollution as the rest of us, especially given the dramatic increase in shipping traffic that will result from the melting ice pack," Highleyman said.

The EPA proposed the emission control area instead of applying U.S. regulation to foreign ships, which make up about 90 percent of the total.

California decided not to wait for federal and international action and passed its own law that applies to U.S. and foreign vessels. Since July 1, all oceangoing vessels within 24 miles of the state's coast must use

cleaner fuel.

Organizations that represent the shipping industry support the international cleanup plan for zones such as the one the U.S. and Canada want to put in place and others in the Baltic Sea and North Sea, even though they'll pay more for fuel.

The EPA says the costs will be small compared with the health benefits. It estimates that the cost will amount to about a penny more for a pair of shoes. The shipping industry, on the other hand, says that fuel costs are hard to predict but could double.

"We've been saying for ages and ages that if you need to regulate shipping, because it's an international kind of industry, it needs to be done at the international level," said Kathy Metcalf of the Chamber of Shipping of America, a trade association that represents U.S. shipping companies.

The EPA may have underestimated the higher cost of clean fuel, but the shipping organization isn't challenging its scientific analysis, Metcalf said. "When it's put in terms of tens of thousands of lives and illness and disease, that's not something we're going to argue with."

Brian Wood-Thomas, who helped the EPA devise its marine emissions plan in the 1990s and negotiated the emissions agreements, left the agency last year to become the vice president for environmental policy at the World Shipping Council.

He said the council generally supported the international standards. Weaker standards wouldn't hold up, because some countries would be dissatisfied and impose stronger ones of their own, he said. "That leads to exactly the type of thing everybody in the industry sees as a nightmare."