



## WEST COAST COLLABORATIVE

Public-private partnership to reduce diesel emissions

The goal of the Collaborative is to leverage federal funds to strategically reduce emissions from the most polluting diesel sources in impacted communities. The Collaborative seeks to improve air quality and public health by targeting the highest polluting engines with the most cost effective control strategies.

## Cruise Liner Emissions Reduction Incentives Projects

### What is the Cruise Liner Emissions Reduction Incentives Project?

The Cruise Liner Emissions Reduction Incentives Project will enable the Port of San Francisco to provide monetary incentives for cruise ships to burn cleaner, lower-sulfur fuels while they are docked at the port. These subsidies reduce the cost of the lower-sulfur fuels for the cruise ship companies through lower overall fees while their ships are docked in San Francisco.

### Why is this project important?

Each day in the San Francisco Bay Area, oceangoing vessels emit approximately 7.6 tons of sulfur dioxide (SO<sub>2</sub>) and 1.2 tons of particulate matter (PM) into the air we breathe.<sup>1</sup> Although cruise ships account for only a very small percentage of marine vessel emissions at ports like San Francisco, categorically, marine vessels account for 43 per cent of the particulate matter (PM<sub>10</sub>) emissions from ports.<sup>2</sup> Huge vessels like cruise ships have multiple engines and run their auxiliary engines to provide onboard electricity while hotelled, or docked. This project seeks to reduce the SO<sub>2</sub> and PM<sub>10</sub> emissions from these auxiliary engines by burning cleaner fuels at the Port of San Francisco.

Sulfur oxides (SO<sub>x</sub>) are a major by-product of cruise ship engine emissions. Sulfur oxides are known contributors to acid rain, causing natural habitat destruction, polluting runoff water and affecting organisms. A number of epidemiological studies have shown associations between ambient sulfur dioxide (SO<sub>2</sub>) and rates of death and illness. In addition, SO<sub>2</sub> can be particularly harmful in exacerbating asthma attacks.

Particulate matter (PM) is the microscopic soot emitted by diesel engines. Recent long-term studies of children's health conducted in

<sup>1</sup> Bay Area Air Quality Management District estimate for oceangoing vessels as of August 8, 2005, base year 2002 at PM<sub>2.5</sub> level.

<sup>2</sup> Bailey, Diane. Plenys, Thomas. Solomon, Gina. Campbell, Todd R., Ruderman Feuer, Gail. Masters, Julie and Tonkonogy, Bella. (March 2004). "Harboring Pollution: the Dirty Truth about U.S. Ports." Natural Resources Defense Council. p. 3.

California have demonstrated that particle pollution may significantly reduce lung function growth in children. Public health authorities associate exposure to PM with an increased risk of premature death, greater number of hospital admissions for heart and lung disease, and amplified adverse respiratory symptoms such as asthma. CARB has declared diesel PM to be a toxic air contaminant and considers diesel PM to be one of the most significant components of cancer risk in the state.<sup>3</sup> Premature deaths linked to particulate matter are now at levels comparable to deaths from traffic accidents and second-hand smoke in California.<sup>4</sup>

### What are the estimated environmental benefits of this project?

The Cruise Liner Emissions Reduction Incentives Project will provide incentives for cruise ships to burn ultra-low sulfur diesel (ULSD) which is estimated to reduce sulfur oxide emissions by nearly 35 per cent as well as reduce particulate matter emissions by over 1,000 lbs per year.

Another anticipated benefit of the project is the stimulation of the low-sulfur fuels market in San Francisco, thus bringing the price of these fuels down for everyone.

### How is this project funded?

The West Coast Collaborative is providing the following support:

- 100,000 from EPA;
- \$100,000 cash from cruise lines visiting San Francisco, including Princess Cruise Lines;
- \$21,000 from the Port of San Francisco (in services);
- \$10,000 from San Francisco Cruise Terminal LLC (in services); and
- \$10,000 from Bluewater Network (in services).

### About the matching fund donors

Princess Cruises was founded in 1965 with a single ship cruising to Mexico and has grown to become one of the premiere cruise lines in the world, today carrying more than a million passengers each year to worldwide destinations. Princess makes its living on the oceans, and is committed to environmental practices which set a high

<sup>3</sup> *ibid*

<sup>4</sup> American Lung Association of California and Cal-EPA Air Resources Board. (January 2004). "Recent Research Findings: Health Effects of Particulate Matter and Ozone Air Pollution." Website accessed July 2005: <http://www.arb.ca.gov/research/health/fs/PM-03fs.pdf>

standard for excellence, responsibility, and marine environment preservation. Princess Cruises is part of Carnival Corporation, one of the largest vacation companies in the world.

**The Port of San Francisco** is an enterprise agency of the City and County of San Francisco, which oversees a broad range of maritime, commercial, and public-access facilities along the City's waterfront that are held in public trust for the people of California. The Port established the Cruise Terminal Environmental Advisory Committee (CTEAC) in 2003 as an advisory committee to the San Francisco Port Commission. Its purpose is to create an ongoing dialogue between the maritime industry, regulatory agencies, environmental organizations, organized labor, and community groups regarding cruise ship-related water and air quality issues.

**San Francisco Cruise Terminal LLC (SFCT)** is the developer of the Bryant Street Piers Cruise Terminal and Mixed-Use Development at Piers 30/32 and Seawall Lot 330. SFCT is part of Lend Lease, a leading real estate specialist, providing a range of project management, construction, development and investment management services. Lend Lease is committed to fostering environmental sustainability in their activities and developments.

**Bluewater Network**—a division of Friends of the Earth—is a non-profit organization dedicated to finding innovative solutions and

inspiring individuals to protect the earth's ecosystems and natural resources. Bluewater Network promotes policy changes in government and industry to reduce dependence on fossil fuels and eliminate other root causes of air and water pollution, global warming, and habitat destruction.

### What is the Collaborative?

The West Coast Collaborative is an ambitious partnership between leaders from federal, state, and local government, the private sector, and environmental groups committed to reducing diesel emissions along the West Coast. Partners come from all over Western North America, including California, Oregon, Washington, Alaska, Arizona, Idaho, Nevada, Hawaii, Canada and Mexico. The Collaborative is part of the National Clean Diesel Campaign ([www.epa.gov/cleandiesel](http://www.epa.gov/cleandiesel)).

### How can I find out more about the Collaborative?

For more information about the West Coast Collaborative, please contact Peter Murchie ([murchie.peter@epa.gov](mailto:murchie.peter@epa.gov), 503-326-6554) or visit our website at [www.westcoastcollaborative.org](http://www.westcoastcollaborative.org).