



# San Pedro Bay Ports Clean Air Action Plan

## DRAFT CLEAN AIR ACTION PLAN UPDATE Frequently Asked Questions

### **1. What is the San Pedro Bay Clean Air Action Plan?**

The original San Pedro Bay Ports Clean Air Action Plan (CAAP) was developed in 2006 by the ports of Long Beach and Los Angeles, in cooperation with the U.S. Environmental Protection Agency (EPA), California Air Resources Board (CARB) and South Coast Air Quality Management District (SCAQMD), to define implementation strategies to meet shared air quality improvement goals. The plan includes measures for achieving emission reductions from various port air pollution sources including vessels, locomotives, trucks and cargo-handling equipment over the five years following the plan's approval in November 2006.

The ports recognize that their ability to accommodate the projected growth in trade and to provide modern facilities to the businesses conducting that trade will depend upon their ability to address adverse environmental impacts (and, in particular, air quality impacts) that result from the goods movement industry. The ports are committed to expeditiously and constantly reducing the public health risk associated with port-related mobile sources. The CAAP outlines the ports' strategies to meet that goal.

### **2. What is the purpose of the CAAP?**

The CAAP is a planning document designed to assist the ports with developing and implementing measures and strategies necessary to reduce air emissions and health risks associated with port operations, while allowing port development, and the job creation and economic activity associated with that development, to continue. The CAAP is a planning document developed voluntarily by the ports of Long Beach and Los Angeles.

### **3. What emissions sources and strategies are covered in the CAAP?**

The CAAP includes strategies to reduce emissions from port-related mobile source operations – such as trucks, locomotives, ships, harbor craft, cranes and yard equipment. Strategies include modernizing the fleets, retrofitting with exhaust after-treatment controls, and using cleaner fuels. The CAAP also includes strategies to reduce emissions from ships through participation in the Vessel Speed Reduction program, lower-sulfur fuels, shore power, and cleaner engine technologies. In addition, the ports will continue to support development of additional

emissions-reduction technologies for all five source categories through the joint Technology Advancement Program.

#### **4. What has changed in this Update compared to the original CAAP?**

The focus areas of the Draft CAAP Update remain the same as the original CAAP. The Update includes information on the ports' overall progress in implementing the original CAAP strategies, as well as updated information on details of the implementation of specific strategies. For example, the description in measure HDV-1 (Heavy-Duty Vehicle-1) has been updated to include information on each port's Clean Trucks Program, which together are more aggressive than the truck programs outlined in the original CAAP. In addition, modifications to a few of the measures have been made to reflect changes in federal and state regulations which affect port source categories. The most significant addition to the Draft CAAP Update is the development of the San Pedro Bay Standards which establish long-term goals for emissions and health-risk reductions for the overall two-port complex. Finally, the Draft CAAP Update identifies milestone dates and forecasts potential emissions reductions and budget commitments for the next five years, through the end of 2013.

#### **5. Are the ports on track with achieving the 45% emissions reduction expected in the original CAAP?**

Yes. In fact, the reductions in port-related emissions that are expected to be achieved by 2011 exceed the estimates in the original CAAP. These greater emissions reductions are due in large part to the more aggressive Clean Trucks Programs adopted by each port, CARB's Vessel Fuel Regulation for cargo ships which was supported by the ports, and lower cargo throughput than was originally anticipated.

Progress moving forward will be measured against the ports' longer term goals identified in the San Pedro Bay Standards, which identify the reductions in port-related emissions, compared to a 2005 baseline that the ports will seek to achieve by the milestone dates of 2014, 2020 and 2023. On an annual basis, progress can be monitored through each port's annual emissions inventory, which will include a comparison of annual emissions to the 2005 baseline.

#### **6. Why doesn't the CAAP target reductions in greenhouse gases?**

The CAAP is focused on the strategies needed to meet the ports' regional air quality and health-risk reduction goals. While not a focus of the CAAP, greenhouse gases (GHGs) are an important consideration when evaluating emissions from mobile sources, due to their potential global effect. It is important to note that many of the emissions-reduction strategies in the CAAP will result in co-benefits, reducing the targeted emissions of DPM, NOx and SOx, while also reducing GHG emissions. These potential GHG benefits have been identified in each CAAP measure, where applicable. Further, each port is working with its respective city to develop GHG-reduction plans, to identify strategies for further reductions in GHG emissions from port

administration and tenant operations. Lastly, statewide GHG reductions are expected to be achieved through the California Global Warming Solutions Act of 2006 (AB32), which requires CARB to develop regulations and market mechanisms to implement a cap on GHG emissions to reduce statewide GHG emissions to 1990 levels by 2020. The ports will continue to work collaboratively with CARB on this effort, as appropriate. In addition, the ports have been reporting GHG emissions associated with port operations in their annual emissions inventories since 2006.

**7. Significant emissions reductions have been achieved. Is the CAAP still necessary?**

Significant progress has been made over the past several years and the majority of the strategies contained within the original CAAP have been implemented and are beginning to achieve results. However, additional work is needed to meet the goals now established by the San Pedro Bay Standards for emissions and health-risk reduction from port operations. The Draft CAAP Update continues to provide a planning framework for how the ports intend to move forward to achieve these long-term goals.

**8. What are the potential costs to industry with the Draft CAAP Update?**

The Draft CAAP Update does not identify any areas of significant new costs above those already identified in the original CAAP. The costs of further investment by the goods-movement industry will vary, depending on the sector and the current level of compliance with CAAP goals. These investments in a greener port complex facilitate approvals of future port development that will continue to make the complex economically vibrant. Not only will the CAAP allow the ports to build facilities to accommodate the expected increase in trade, it also helps the ports' efforts to redevelop and improve their facilities to better serve businesses' needs. Meanwhile, the CAAP strategies call for purchases of cleaner equipment, use of cleaner-burning fuels, retrofits of existing equipment, and operational changes, all of which increase initial and/or long-term costs for port operations. Most of these requirements however are already underway due to implementation of programs at the ports since the original CAAP or due to regulatory requirements that have been implemented over the past several years. The Draft CAAP Update calls for continued implementation of the existing strategies, but, again, does not identify any areas of significant new costs above those already identified in the original CAAP.

**9. Are the ports working cooperatively with the air quality regulatory agencies?**

The ports have worked closely with representatives of the U.S. Environmental Protection Agency (EPA Region 9), California Air Resources Board (CARB), and the South Coast Air Quality Management District (SCAQMD) since the creation of the original 2006 CAAP to develop the scope and the breadth of the plan. The ports have continued to collaborate with the agencies for the past two years during development of the Draft CAAP Update. Meeting the goals identified in the CAAP will require a continued cooperative effort. As stated by CARB in their

2006 Emission Reduction Plan for Ports and Goods Movement in California, “no single entity can solve this problem in isolation.” The ports will continue to work closely with the air quality resource agencies to ensure the CAAP goals are achieved.

#### **10. What are the San Pedro Bay Standards?**

The San Pedro Bay Standards establish the ports’ long-term emissions-reduction and health risk-reduction goals for the ports of Long Beach and Los Angeles. These goals go beyond the five-year planning horizon of the CAAP document to identify goals for reductions from port-related operations that will assist the region in achieving compliance with the particulate matter (PM<sub>2.5</sub>) and ozone ambient air quality standards by the 2014 and 2023 deadlines, and to significantly reduce health risk to the port region and the local communities by 2020. These goals were developed with extensive input from the local, state and federal air quality regulatory agencies.

#### **11. What effect will the current lower growth forecast have on the CAAP and the Standards?**

The emissions forecasting that was conducted in the Draft CAAP Update, including the forecasting used to establish the San Pedro Bay Standards, was based on the 2007 cargo forecast which predicted very high levels of growth. Capacity at the ports’ container terminals was expected to be reached around 2023. Recent changes in the global economy have resulted in a much lower level of growth. The most recent port cargo forecast completed in 2009 predicts that growth may occur much more slowly than the previous estimates. Based upon these recent estimates, capacity at the ports’ container terminals now isn’t expected to be reached until around 2035. The emissions forecast in the Draft CAAP Update, which uses the 2007 cargo forecast, provides a conservative estimate of the emissions reductions that can be achieved. If growth is less than predicted by this conservative forecast, emissions reductions and therefore health-risk reductions will be greater than the estimates identified in the Draft CAAP Update.

#### **12. Why weren’t construction emissions included in the Standards?**

Emissions from construction activities are not included in the original CAAP. Construction emissions are small compared to port operational emissions (e.g. approximately 1 to 3% of total recent project emissions), and are of short duration in nature. Construction emissions are also project-specific and are not considered to be a part of typical port operations associated with the movement of cargo. Construction emissions are evaluated by each port under their CEQA evaluation process, when more information about the particular development project and anticipated construction activity is known. While not the focus of the CAAP, as identified in Section 4, each port has developed best management practices for construction activities to address and minimize construction-related air quality impacts from such activities, and adherence to these practices is required in all project bid specifications.

**13. Why didn't the ports analyze morbidity and mortality as part of the HRA used to develop the Standards?**

The ports developed the Baywide Health Risk Assessment (BWHRA) Tool in order to inform the development of the Standards. The Health Risk Reduction Standard required a metric that would readily support the evaluation of progress towards achieving the Standard. The Ports chose to focus on cancer risk from DPM because DPM is the dominant contributor to air toxic cancer risk in the South Coast Air Basin and because reductions in DPM would be expected to reduce non-cancer effects associated with both DPM and PM. DPM was also selected as the basis of the Health Risk Reduction Standard because DPM cancer risk has been established by both state and local air agencies as an accepted metric for characterizing public health risk from exposure to diesel exhaust, providing both a technical and regulatory precedent. There are currently no such precedents for mortality and morbidity.

Further, morbidity and mortality analyses are based on exposure to fine particulate matter (PM2.5). Nearly 100% of PM2.5 from port-related operations comes from DPM. Thus, the DPM reductions from strategies that are implemented to achieve the Health Risk Standard should also result in commensurate reductions in morbidity and mortality.

**14. What is the difference between the Health Risk Reduction Standard and the risk reduction calculated by the Ports' Baywide Health Risk Assessment (BWHRA) Tool?**

The modeling results from the BWHRA Tool indicate that between 2005 and 2020, population-weighted average risk will decrease 74% throughout the ports' region and 72% in communities within 2 kilometers (1.2 miles) of the ports' boundaries and major goods movement corridors through implementation of presently feasible and available CAAP measures and existing emissions control regulations. In order to close the gap and reach the goal of 85% reduction in health risk, the ports will seek to identify new technologies and develop new measures. It is expected that technological improvements and regulatory actions will make feasible and available, within the timeframes of the Health Risk Reduction Standard, additional CAAP measures whose implementation along with emissions control regulations would achieve the Standard's goal. Such additional CAAP measures can only emerge if there are concerted efforts by the ports, regulatory agencies, and industry stakeholders to develop them. It must be emphasized that federal, state, and local air quality agencies will also play an essential role by identifying and pursuing future regulatory measures that will reduce emissions above and beyond currently allowable levels. The ports commit to work with our partner agencies to help ensure their success on the regulatory front. As these technological improvements and regulatory measures emerge, future updates of the CAAP will be revised to incorporate the new measures, and these new measures will be required in the ports' future leases and project approvals.

**15. How will success of the Health Risk Reduction Standard be tracked and evaluated? What will the Ports do if they determine they are not achieving the CAAP Health Risk Reduction Standard?**

The ports will periodically evaluate progress towards achieving the Health Risk and Emission Reduction Standards, as part of the CAAP updates, and will report the results to the public and to the Harbor Commissions of each port. These updates will reflect changes to emissions attributable to new projects, adoption of new regulations, implementation of newly feasible and available emissions control technologies, plus other benefits that result from the ports' actions to reduce emissions/exposure and efficiency improvements. At the time of the CAAP update, the necessity of these updates will be determined based upon continuing dialogue between the ports and their regulatory partners. Because the rate of development of regulations, technology, and other factors cannot be predicted, and because the quantitative assessment of progress towards the Standards requires significant resources, assessment updates will be conducted when one or more of the following elements are identified, and whose implementation could significantly enhance reductions in emissions and in risk:

- Significant new feasible technologies become available
- Important new regulations are adopted
- A major new project is approved which has substantial changes in the operations of a tenant from the operations evaluated in the emissions forecast and BWHRA Tool, with respect to the type, number, or distribution of sources, and these changes will have a significant effect on the overall ports-wide emissions forecasting and health-risk assessment results

Additionally, since reduction of health risk is highly correlated with the reduction of DPM emissions, the ports plan to use reduction in DPM mass emissions as reported in their annual emission inventories as a surrogate for tracking achievement of the Health Risk Reduction Standard. If it is determined that the ports are not on track to achieve the Standard, as appropriate, port staff will present to their respective Boards potential additional control strategies or technology development opportunities that focus on those sources with the greatest residual risk.

It is important to emphasize that the ports are making a commitment to achieve the San Pedro Bay Standards. The Standards will push the ports to continue seeking additional emissions-reduction strategies until air quality impacts and health risks to the local communities have been adequately minimized. This has already been evidenced by the ports' decisions to adopt more stringent Clean Trucks Programs than originally anticipated in the 2006 CAAP; to implement the Vessel Main Engine Fuel Incentive Program to accelerate and expand CAAP measures; and to pursue the Technology Advancement Program, which will lead to greater emission-reduction options in the future. That said, however, the San Pedro Bay Standards are not regulatory thresholds and do not place a cap on the ports' growth. In addition, for the goals to be achieved, it will take a coordinated effort between the ports, regulatory agencies and the industry.

**16. If a new technology becomes available, how will you ensure that it is used on existing projects?**

The ports need to move forward with near-term projects that address demand for modern marine terminals, subject to the existing requirements of the CAAP. Implementation of existing CAAP measures will dramatically reduce emissions in the near-term based upon the current suite of available emissions reduction strategies. Environmental analysis of each proposed port project will also include a review of newly feasible and available project-related emissions control technologies, if any, that if imposed on the proposed project, would contribute to achievement of the 85% risk reduction goal of the Health Risk Reduction Standard and the emissions-reduction goals of the Emission Reduction Standards.

In addition, each new lease approved by the ports has a technology review provision. At five-year (POLB) or seven-year (POLA) intervals, the port and lessee will conduct a comprehensive review of feasible and cost-effective new technologies. If the technologies are determined by the Port to be feasible in terms of cost, technical and operational feasibility, the tenant shall work with the Port to implement such technologies.

**17. Why do you use 2020 for the health-risk standard and 2023 for the emission-reduction standard?**

2020 is the target year for achieving the Health Risk Reduction Standard because it generally aligns with CARB's statewide goal of reducing DPM-related health risk from the goods movement industry by 85% below 2000 levels by 2020.

2014 and 2023 are the target years for achieving the Emissions Reduction Standard to coordinate with the federal ambient air quality standards attainment years for the SoCAB, which are achievement of the federal particulate matter less than 2.5  $\mu\text{m}$  (PM<sub>2.5</sub>) standard by 2014 and attainment of the federal 8-hour ozone (O<sub>3</sub>) standard by 2023.

**18. Why is there no intermediate-year risk reduction target?**

Similar to CARB's Emission Reduction Plan, the Health Risk Reduction Standard does not contain an interim year target. However, DPM reductions are highly correlated with health-risk reductions and, as shown in the Emission Reduction Standard, a significant reduction in DPM emissions, and therefore health risk, is targeted for 2014. In addition, the annual emissions inventories conducted by each port will report on reductions in DPM. Accordingly, continued reductions are assumed to produce a concomitant reduction in health risk.

**19. How do you determine if a project is consistent with the San Pedro Bay Standards?**

In order for a project to be consistent with the San Pedro Bay Standards (i.e. Emissions Reduction and Health Risk Reduction Standards), the project must meet the Source-Specific Performance Standards and the Project-Specific Standards contained in the CAAP as well as adopted regulations.

Further, if there are any new and feasible measures available that could be imposed on the project to assist with achievement of the San Pedro Bay Standards those measures would be included in the project.

A project that does not meet the two requirements above will be deemed inconsistent with the Standard and not approvable unless an equivalent amount of emissions from the project could be captured elsewhere by the ports.

**20. What is the difference between individual cancer risk and population-weighted average risk? Why did you calculate risk two different ways, and then only use the population-weighted average risk for the health risk Standard?**

The calculation of individual risk is based on modeled concentrations of DPM at each of many receptor points throughout the modeling domain times a toxicity or unit risk factor developed by the California Office of Environmental Health Hazard Assessment. To calculate population-weighted average risk, the calculated risk at each receptor point is multiplied by the approximate population in the vicinity of that receptor point (based on census data). Population-weighted risk for a domain is calculated by summing all of the (receptor-risk x population) values, and dividing by the domain-wide population.

Population-weighted average cancer risk describes the average cancer risk to the population within a specific area, in this case, the ports' region. It is the means of expressing cancer risk that was also used in the MATES II and MATES III reports (SCAQMD, 2002 and SCAQMD, 2008). By accounting for average risks to a specific population base, it provides a more accurate representation of risk in populated (residential) areas compared to non-residential areas that are also present in the BWHRA Tool model domain.