



Port of Los Angeles

Sustainability Report

2011



Table of Contents

Executive Summary	4
Vision & Mission	6
1 Letter from Geraldine Knatz, Executive Director.....	7
Environmental Management Policy	8
2 Sustainability at America's Port™	9
A Global Leader Committed to Sustainability	9
Mayor Villaraigosa's Executive Directive No. 10	11
Continuing the Journey.....	12
Governance	14
Material Issues	14
3 Sustainability Related Programs.....	17
Clean Air Action Plan	18
Climate Action Planning	21
Water Resources Action Plan.....	25
Clean Marina Program	27
Tenant Stormwater Outreach Program	27
Sustainable Lease Agreements.....	28
Environmental Management System	29
Environmental Preferable Purchasing	30
Biological Resources Management Programs.....	31
Green Technology Development Programs	33
Green Design and Construction Programs.....	35
Community and Economic Development Programs	37
4 Performance Scorecards	43

List of Figures

Figure ES-1: Material Issues Scorecard	4
Figure ES-2: Sustainability Related Programs and Policies Addressing the Top Material Issues for the Port	5
Figure 1: Port of Los Angeles Stakeholders.....	13
Figure 2: Port of Los Angeles Sustainability Team	14
Figure 3: Sustainability Related Programs and Policies Addressing the Top Material Issues for the Port	16
Figure 4: Port of Los Angeles Job Clusters.....	37
Figure 5: Material Issues Scorecard	43
Figure 6: Programs Scorecard	44

Executive Summary

The Port of Los Angeles combines a grow green philosophy with the Triple Bottom Line approach to sustainability.

In June 2008, the Port of Los Angeles published the Sustainability Assessment and Plan Formulation, which surveyed and evaluated existing Port sustainability efforts. This 2011 Sustainability Report highlights major sustainability initiatives undertaken since 2008. Figure ES-2 (opposite page) compares 12 major sustainability related programs and policies to a “material issues” reporting framework that identifies the issues most important to the Port and its stakeholders for achieving sustainable operations. “Materiality” is the threshold at which an issue (sometimes referred to as an impact indicator) becomes sufficiently important that it should be reported.¹

The Port of Los Angeles combines a grow green philosophy with the Triple Bottom Line approach to sustainability. Through green growth, the Port is able to expand operations while aggressively reducing impacts to the environment and community. The Port of Los Angeles serves as an example of how a public agency can transform from taking a compliance approach to environmental issues to becoming a collaborator with industry, using a mix of regulatory and market-based approaches to facilitate the development and industry-wide adoption of best practices and cleaner technologies. The Port has contributed to an emerging industry-wide understanding of the externalities associated with the goods movement

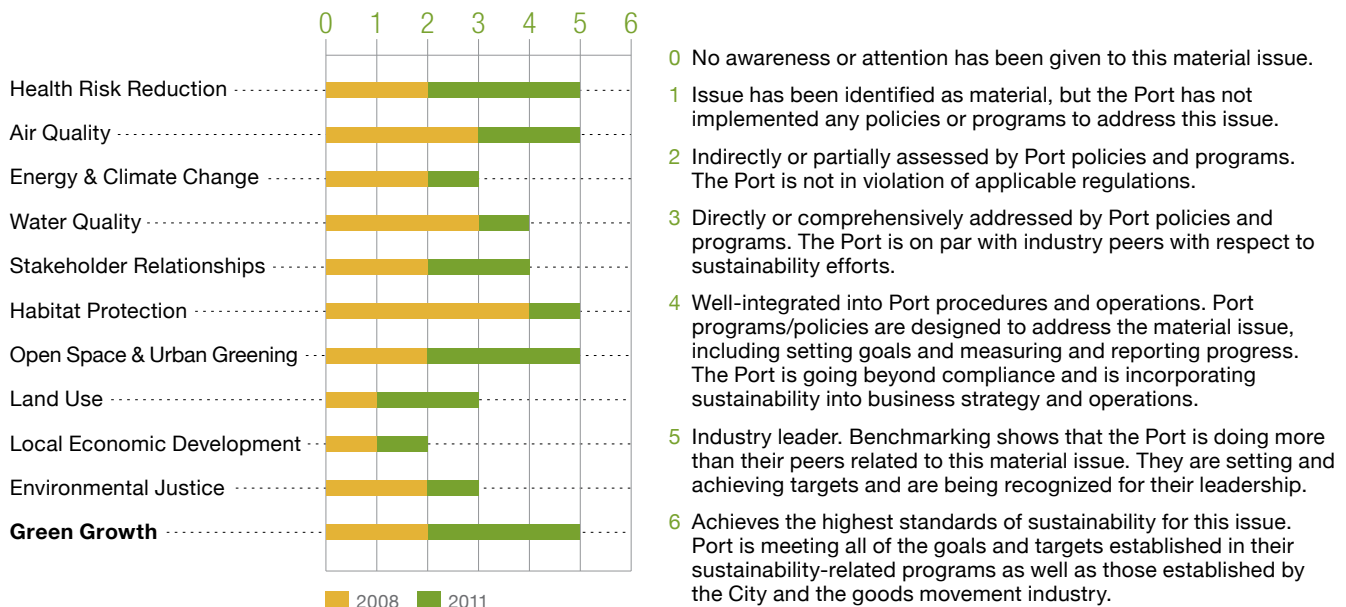
industry and the acceptance of green growth as an imperative for business operations.


This report includes scorecards that provide a qualitative measure of the progress the Port has made to address the material issues and implementation of the various sustainability related programs and policies (see Figure ES-1, below, and Section 4). As indicated by the scorecards, the Port is leading the industry in many aspects of sustainability, particularly in addressing material issues of most importance to stakeholders: Health Risk Reduction, Air Quality, Climate Change, Water Quality, Habitat Protection, and Open Space and Urban Greening. In general, the Port has made significant progress in developing sustainability related programs and policies that contribute to green growth.

In Section 1, the Port’s Executive Director, Geraldine Knatz, highlights many of the Port’s initiatives that contribute to its status as a world leader in port sustainability. Section 2 of the Sustainability Report provides an overview of the Port’s approach to sustainability, policy drivers, governance structure, and material issues reporting framework. Section 3 provides details related to objectives, goals, and progress of the sustainability related programs and policies. Section 4 presents the scorecards summarizing progress in program and policy implementation and the Port’s success in addressing the material issues related to sustainable operations.

¹ Global Reporting Initiative, Sustainability Reporting Guidelines, Version 3, 2000 - 2006.


Figure ES-1: Material Issues Scorecard



 **The Triple Bottom Line** refers to broadening the traditional bottom line perspective for evaluating business performances that is focused solely on financial performance to take into account the environmental and social impacts associated with business activities.

–John Elkington, co-founder of the UK-based consultancy SustainAbility

Figure ES-2: Sustainability Related Programs and Policies Addressing the Top Material Issues for the Port

 Sustainability Programs/Policies	Top Material Issues										
	Health Risk Reduction	Air Quality	Energy and Climate Change	Water Quality	Stakeholder Relationships	Habitat Protection	Open Space and Urban Greening	Land Use	Local Economic Development	Environmental Justice	Green Growth
Clean Air Action Plan (CAAP)	●	●	●		●					●	●
Climate Action Planning		●	●	●	●		●	●		●	●
Water Resources Action Plan (WRAP)	●			●	●	●			●	●	●
Clean Marina Program	●	●		●							●
Tenant Stormwater Outreach Program (TSOP)	●			●	●						●
Sustainable Lease Agreements	●	●	●	●	●	●		●			●
Environmental Management System (EMS)	●	●		●	●						●
Environmental Preferable Purchasing (EPP)	●	●	●	●							●
Biological Resources Management Programs				●		●	●				●
Green Technology Development Programs	●	●	●	●	●	●	●		●		●
Green Design and Construction Programs	●	●	●	●		●	●		●		●
Community and Economic Development Programs	●	●	●	●	●	●	●	●	●		●

- Direct benefit; Program designed to address issue
- Co-benefit of program



Vision & Mission

Vision:

To be North America's largest container port and the global model for sustainability.

Mission:

We are America's Port – a dynamic economic engine that facilitates the efficient movement of cargo and leads the global maritime industry in reliability, economic prosperity, environmental stewardship, and social responsibility.

-2011 Draft Strategic Plan



1 Letter from Geraldine Knatz, Executive Director

This sustainability report marks an important step in an ongoing dialogue with Port stakeholders regarding our progress in achieving green growth and becoming a global model for port sustainability.

In 2008, we prepared a preliminary report to the Mayor's Office explaining our approach to sustainability, highlighting our existing programs, and reporting on our progress toward meeting targets outlined in the Mayor's Executive Directive No. 10 related to sustainable practices. In this report, we describe some of our programs and their objectives in more detail, quantify our progress toward meeting specific goals, highlight our recent successes, and identify where we can improve. Specifically, we evaluate 12 of our primary sustainability-related programs against a reporting framework that identifies the material issues most important to the Port and its stakeholders.

The Port is now into its second century of operation. Since our founding in 1907, we have grown to become North America's busiest container port and a leader among ports in promoting cleaner technologies and reducing air emissions. With leadership comes responsibility, and we are firmly committed to international leadership in adopting sustainable practices while maintaining our role as a national economic engine. Though the Port has experienced the impacts of the global economic downturn, we have started to recover and are on a long-term growth trajectory. Our grow green philosophy enables us to expand operations in the most environmentally and socially responsible manner possible, and our accomplishments over the past few years demonstrate our commitment to sustainability.

With a global reach and local impacts, we engage with a diverse and complex array of stakeholders related to global commerce and the local community. To balance stakeholder interests, we have adopted the Triple Bottom Line approach to sustainability,

which puts equal emphasis on economic prosperity, environmental quality, and social responsibility.

Since 2008, the top material issues for the Port, which contribute to the overarching goal of growing while greening operations, include: human health risk reduction, air quality, green technology development, energy and climate change, water quality, open space, and local economic development. We have taken some large steps toward addressing each of these critical issues. In partnership with the Port of Long Beach, we published the San Pedro Bay Standards as part of the update to our Clean Air Action Plan, along with a comprehensive Water Resources Action Plan (WRAP) for the San Pedro Bay. Internationally, we have focused on collaborative efforts in addressing climate change and created a carbon footprinting guidance document and web-based carbon calculator to share with other ports. Locally, we approved our LA Waterfront redevelopment plans and created almost 50 new acres of public open space.

While we have reason to be encouraged by our accomplishments, we are well aware of the work that is still ahead of us. We will continue to define the Port's overall vision and principles with respect to sustainability, document existing efforts at the Port, and establish a comprehensive program to guide future action.

Sincerely,

Geraldine Knatz, Ph.D.



Environmental Management Policy

The Port of Los Angeles is committed to managing resources and conducting Port developments and operations in both an environmentally and fiscally responsible manner. The Port will strive to improve the quality of life and minimize the impacts of its development and operations on the environment and surrounding communities through the continuous improvement of its environmental performance and the implementation of pollution prevention measures, in a feasible and cost effective manner that is consistent with the Port's overall mission and goals, as well as with those of its customers and the community.



2 Sustainability at America's Port™

A Global Leader Committed to Sustainability

The Port of Los Angeles is the nation's busiest container port and part of the world's fifth largest container port complex. The Port has a strong commitment to developing innovative strategic and sustainable operations that benefit the economy as well as the quality of life for the region and the nation it serves. The Port's prominence on the world stage and its substantial local and regional impact bring with it responsibilities and expectations for the highest standard of sustainability leadership. Stepping up to the challenge, the Port of Los Angeles committed in its 2010 Strategic Plan to "be the greenest port in the world" through an initiative to "incorporate a sustainability ethic into all Port activities and communicate this ethic to employees, customers, and the community." The Port's vision for 2011 is to be the global model for port sustainability.

Global Trade Gateway

Located in the San Pedro Bay about 20 miles south of downtown Los Angeles in a regional marketplace of nearly 20 million consumers, approximately 22 percent of the nation's containerized cargo moves through the Port.

The positive economic effects of the Port of Los Angeles are felt throughout the United States. The Port and its users directly and indirectly generate roughly 3.3 million jobs nationwide – about one-third of which are held by Californians. One in every eight jobs in Southern California are linked to the Port. The Port of Los Angeles is responsible for approximately \$5.1 billion in annual state and local taxes and \$21.5 billion in taxes nationwide. All told, the value of trade through the Port of Los Angeles to the national economy is nearly \$250 billion a year.

Over the past twenty years, the Port of Los Angeles has added 800 acres to its already vast acreage, bringing its total footprint to 7,500 acres, with 270 berths served by 76 cranes in 27 cargo terminals along 43 miles of shoreline. Deepening of the Port's Main Channel to a controlled depth of 53 feet from its present 45 feet is in progress and on target for completion by 2013, which will further enable the Port to accommodate the largest of container ships in the future.

As a landlord port, the Port leases property to tenants who operate their own facilities, which range from recreational marinas, commercial and retail development, to break bulk cargo and container terminal operations. In 2006, the Port moved a record number of containers, totaling 8.5 million TEUs. This peak was on the tail end of exponential growth experienced over the last decade, where cargo volumes in 1997 had reached only 2.9 million TEUs. As cargo volumes are expected to continue to increase over the next twenty years, albeit at a slower pace, the Port has transformed its leasing practices to systemically improve port operations with the most aggressive environmental mitigations, best practices, and innovative technologies available in the industry.

Year	TEUs
2010	7.8 million
2009	6.7 million
2008	7.8 million
2007	8.4 million
2006	8.5 million
2005	7.5 million

1. TEUs = Twenty-foot equivalent units, a standardized maritime industry measurement used when counting cargo containers of varying length.

Source: Port of Los Angeles, TEU Statistics, <http://www.portoflosangeles.org/maritime/stats.asp>, accessed June 2, 2010.

Commitment to Sustainability


The Port of Los Angeles is recognized as a global leader in greening operations and transforming the port industry worldwide. The Port of Los Angeles combines a grow green philosophy with the Triple Bottom Line approach to sustainability. Through green growth, the Port is able to expand operations while aggressively reducing past and present impacts to the environment and community. The Port of Los Angeles serves as an example of how a public agency can transform from taking a compliance approach to environmental issues to becoming a collaborator with industry, using a mix of regulatory and market-based approaches to facilitate the development and industry-wide adoption of best practices and cleaner technologies. The Port has contributed to an emerging industry-wide understanding of the externalities associated with the goods movement industry and the acceptance of green growth as an imperative for business operations.

The Port of Los Angeles has faced the green growth challenge for many years, driven by the need to build infrastructure and expand operations while reducing cumulative impacts. A major node within the global goods movement system, many mobile emissions sources move through the Port, such as vessels, trucks, trains, and cargo-handling equipment. These sources had historically been unregulated, fueled by diesel that can create harmful public health impacts from DPM (diesel particulate matter) emissions. Located in a region with the poorest air quality in the nation and an increased risk of cancer, the Port has implemented many aggressive initiatives, such as the Clean Truck Program and Technology Advancement Program, which put America's Port™ on the forefront of sustainability in the port and maritime industries.

The Port's Vision, Mission, and Strategic Plan establish the Port's commitment to accommodate growth in global trade

while at the same time reducing the environmental and social impacts of Port operations.

Through a comprehensive approach to balancing environmental, social and economic impacts – known collectively as the Triple Bottom Line approach – the Port is able to identify the need for new initiatives and ways to modify existing operations to be more sustainable. The Port's commitment to sustainability is reflected in its Vision, Mission, and Strategic Plan and built on the foundation of its approach to environmental management, as reflected by the Environmental Management Policy adopted by the Board in 2005. These documents reflect the priorities of the Port and provide direction for Port activities.

 **The Triple Bottom Line** refers to broadening the traditional bottom line perspective for evaluating business performances that is focused solely on financial performance to take into account the environmental and social impacts associated with business activities.

–John Elkington, co-founder of the UK-based consultancy SustainAbility

To achieve sustainable green growth, the Port will maximize its social, economic, and environmental objectives to find mutually reinforcing solutions, recognizing their interdependencies. Likewise, the social, economic, and environmental impacts of Port actions are considered when assessing organizational performance.





Mayor Villaraigosa's Executive Directive No. 10

As a proprietary department of the City of Los Angeles, the Port is committed to assisting the City in meeting its sustainability goals. In 2007, Mayor Villaraigosa issued Executive Directive No. 10, Sustainable Practices in the City of Los Angeles. This Directive sets forth his vision to transform Los Angeles into the most sustainable large city in the country and includes goals in the areas of energy and water, procurement, contracting, waste diversion, nontoxic product selection, air quality, training, and public outreach.

In 2008, the Port evaluated its existing practices and submitted to the Mayor the Port of Los Angeles Sustainability Assessment and Plan Formulation, which outlined the extensive environmental and social programs already in place. Executive Directive No. 10 is an important driver of our sustainability programs and requires annual reporting. Since 2008, the Port has expanded its practices and programs and continues to identify areas for improvement.



To ensure successful implementation of the Mission and Environmental Management Policy, the Port maintains a variety of sustainability-related programs that:

1. Ensure policies are communicated to Port staff, customers, and the community;
2. Ensure compliance with all applicable environmental laws and regulations;
3. Ensure environmental considerations include feasible and cost effective options for exceeding applicable regulatory requirements;
4. Define and establish environmental objectives, targets, and best management practices and monitor performance;
5. Ensure the Port maintains a Customer Outreach Program to address common environmental issues; and
6. Fulfill the responsibilities of each generation as trustee of the environment for succeeding generations through environmental awareness and communication with employees, customers, regulatory agencies, and neighboring communities.

The Port has set new international standards of best practices for the maritime industry. This effort has required strong

leadership, interactive cross-functional project teams, a robust policy toolbox, and reporting mechanisms, which in turn have contributed to an organizational culture based on innovation, policy feedback loops, and green technologies. The Port's approach to sustainability is reflected in how the Port interacts with customers, the community, regulators, and other ports. Specifically, the Port takes more of an active role in education, advocacy, and outreach, monitoring its own performance and that of its tenants. The Port is active with funding and initiating research and pilot projects, reporting data and outcomes, and creating recognition programs for tenants and technology innovators. Much of this work is done through collaborative partnerships within the goods movement industry.

Continuing the Journey

The Port has learned much from the experiences of the last few years, celebrating successes and learning from failures for future innovations. The Port's commitment to continuous improvement means that each new project is an opportunity to do better—by minimizing environmental impacts while delivering economic and social benefit to the community.

As the Port moves forward with \$1.2 billion in planned capital development investments through 2015, the construction program is back in full swing, and direction from the Board is to "build it green" and achieve methodical green growth in the years ahead. A comprehensive Sustainability Plan that coordinates goals, metrics, and future investments in the various Port sustainability initiatives will be helpful in the future to Port policymakers and stakeholders.

Drivers

The Port's decision to set aggressive sustainability goals and policies has been influenced by a wide range of internal and external drivers. These include:

- Pressure to reduce health risk and air quality impacts of operations
- Responding to key stakeholder demands for improved environmental and social performance

- Creating sufficient political and public confidence that the Port can grow in a responsible way
- Mayor Villaraigosa's Executive Directive No. 10
- Technology-forcing San Pedro Bay Standards
- Cost savings and economic benefits
- Need for increased transparency
- Maintaining leadership as a Green Port
- Opportunities for innovation and local economic development

Stakeholders

Ongoing dialogue with Port stakeholders is required to ensure the successful implementation of sustainability initiatives and the constant refinement of the Port's understanding of how Port operations impact others. As previously noted, responding to key stakeholder demands for improved environmental

Figure 1: Port of Los Angeles Stakeholders



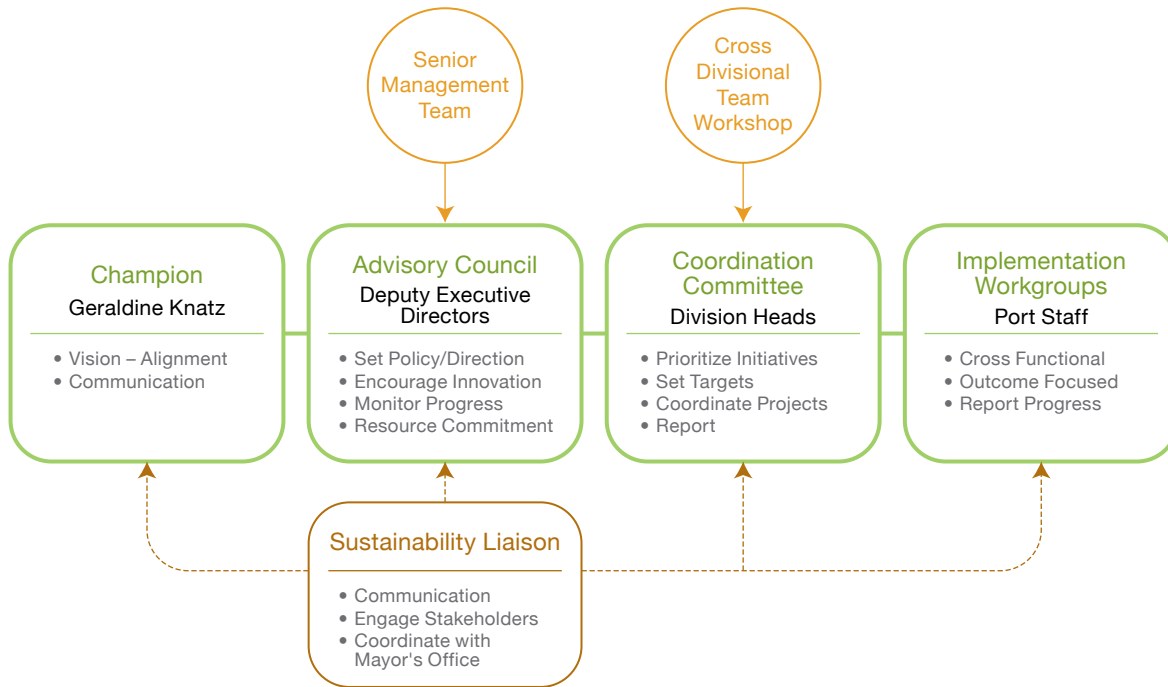


Figure 2: Port of Los Angeles Sustainability Team

and social performance is one of the Port’s key drivers. As such, the Port’s broad-reaching efforts rely upon stakeholder engagement and increased transparency. The issues that matter most to Port stakeholders are the material issues that inform the Port’s sustainability strategy and influence the development of Port programs and policies.

The Port’s primary stakeholders and their respective key interests are depicted in Figure 1 on the preceding page.

Governance

Governance refers to the management structure that organizations establish in order to facilitate their sustainability goals. Governance includes providing leadership, establishing the commitment of the organization’s leaders to sustainability goals, and defining the workgroup structure through which sustainability initiatives will be implemented and enforced. The Port’s internal sustainability governance structure consists of the Sustainability Team (see Figure 2), comprised of five main components:

- **Champion:** The champion is responsible for providing a bold vision and for ensuring that the organization is properly aligned to achieve the desired outcomes. Geraldine Knatz, Executive Director, serves as the Champion for the Port’s Sustainability Program.
- **Advisory Council:** This council comprises four Deputy Executive Directors from the Port’s senior management and is responsible for providing policy direction. They encourage innovation, monitor progress, and ensure that the appropriate resources

are being allocated to sustainability efforts. Currently, the four Deputy Executive Directors serving on the Advisory Council are Mike Christensen, Kathryn McDermott, John Holmes, and Molly Campbell.

- **Coordination Committee:** This committee consists of the Directors from the various Port divisions and serves to prioritize sustainability initiatives, set targets, and coordinate and implement applicable projects. The committee regularly reports their progress to the Champion, Advisory Council, and Sustainability Liaison.
- **Implementation Workgroups:** The Implementation Workgroups support the Coordination Committee and are cross-functional and outcome focused. They have the task of evaluating priorities, programs, and gaps for implementing specific sustainability initiatives, and making recommendations to the Coordination Committee for appropriate actions, timelines, or needed resources.
- **Sustainability Liaison:** The Sustainability Liaison reviews departmental policies and programs, leads development and administration of the future comprehensive Sustainability Plan, ensures the engagement of stakeholders, and coordinates with the Mayor’s Office and other City departments. The Sustainability Liaison also facilitates communication among the members of the Port Sustainability Team, provides leadership, and reports on progress towards sustainability goals by creating an Annual Sustainability Report. Jan Green Rebstock currently serves as the Port’s Sustainability Liaison.

Material Issues

The Port has identified the “material issues” most important to achieving sustainable operations. “Materiality” is the threshold at which an issue (sometimes referred to as an impact indicator) becomes sufficiently important to stakeholders that it should be reported.²

Through its interactions with stakeholders the Port has identified a range of material issues related to economic, environmental, and social impacts of Port operations. The following factors were considered in determining material issues: the Port’s overall mission and competitive strategy; key organizational values, policies, strategies, operational management systems, goals and targets; stakeholder concerns; and topics and future challenges for the Port and goods movement industry. Definition of the material issues most pertinent to the Port informed the development of the programs that would promote overall sustainability goals and contribute to the Port’s overarching material issue, growing and greening the Port’s core businesses simultaneously.

Ultimately, the Port’s material issues align with the concerns of Port stakeholders. Through stakeholder engagement and consideration of future challenges, the Port has gained a firm understanding of the material issues. The Port accepts its responsibility to minimize construction and operational impacts related to public health risk, air quality, climate change, water quality, and aquatic habitats. The Port has a responsibility to customers to move cargo efficiently and reliably, use available land for water-dependent uses in the most efficient manner

² Material Issue determination was based on protocols listed in the Global Reporting Initiative’s Sustainability G3 Reporting Guidelines (Version 3.0).



Material Issues:

Health Risk Reduction

Air Quality

Energy and Climate Change

Water Quality

Stakeholder Relationships

Habitat Protection

Open Space and Urban Greening

Land Use

Local Economic Development

Environmental Justice

Green Growth

possible, and to contribute jobs and economic vitality to the community and regional economy. Other challenges are less obvious, and new issues will continue to emerge as the Port continues the journey on the path to sustainability.

Sustainability Requires Collaboration


Some recent examples of where the Port has collaboratively engaged with stakeholders to address material issues include:

- Implementation and refinement of the award-winning Clean Truck Program in partnership with the Port of Long Beach, shipping terminal operators, trucking companies and manufacturers, truck drivers, other industry stakeholders, and regulatory agencies;
- Updating the landmark San Pedro Bay Ports Clean Air Action Plan (CAAP) in 2010 to include the Baywide Health Risk Standards, which provide long-term health risk reduction goals to direct sustained efforts at reducing cumulative residential health risk from port operations. The work was achieved by working closely with the Port of Long Beach, governmental agencies, and industry partners;
- Development and adoption of a joint Water Resources Action Plan (WRAP) with the Port of Long Beach, in cooperation with the U.S. Environmental Protection Agency and other regulatory agencies;
- Approval of seven major capital improvement projects that reflect the Port’s green growth approach, with construction contracts and sustainable lease agreements that implement the CAAP and the WRAP and reflect extensive mitigation measures that reduce environmental impacts to the greatest extent feasible. Working with tenants and contractors, the Port is currently designing and implementing a related performance monitoring and reporting program;
- Launching PortTech LA, a green technology business incubator, through work with the San Pedro and Wilmington Chambers of Commerce, the City of Los Angeles, the Los Angeles County Small Business Administration, entrepreneurs, and port tenants. This program helps commercialize technologies that assist the Port in achieving green growth and contributes to local economic development by bringing green manufacturing facilities and jobs to communities close to the Port; and
- Collaborating internationally to share best practices and green technologies with other ports. These efforts include outreach through the Association of American Port Authorities (AAPA) and the International Association of Ports and Harbors (IAPH) on the development of our air emissions inventories; spearheading the formation of the World Port Climate Initiative (WPCI); participating in international climate change discussions through the Clinton Climate Initiative and the Pacific Ports Collaborative; drafting a carbon footprinting guidance document and calculator for ports; and leading the effort at the International Standards Organization (ISO) to standardize the ship to shore connection for Alternative Maritime Power (AMP) technology.

Programs and Material Issues

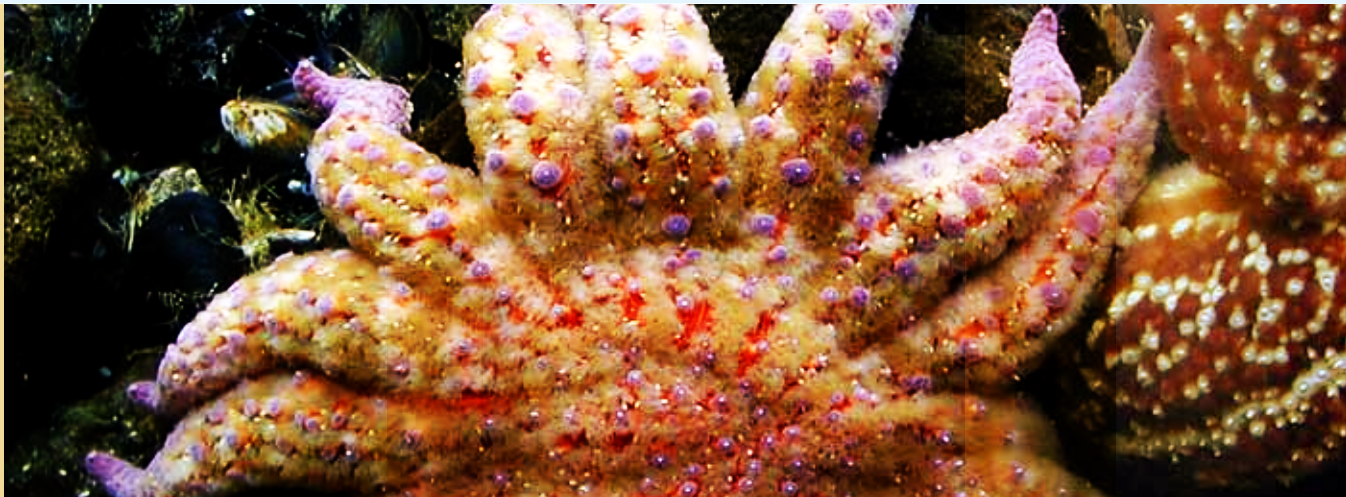
The relationship between the Port’s major sustainability related programs and the top material issues is summarized by the following figure.

Figure 3: Sustainability Related Programs and Policies Addressing the Top Material Issues for the Port



Sustainability Programs/Policies	Top Material Issues										
	Health Risk Reduction	Air Quality	Energy and Climate Change	Water Quality	Stakeholder Relationships	Habitat Protection	Open Space and Urban Greening	Land Use	Local Economic Development	Environmental Justice	Green Growth
Clean Air Action Plan (CAAP)	●	●	●		●					●	●
Climate Action Planning		●	●	●	●		●	●		●	●
Water Resources Action Plan (WRAP)	●			●	●	●			●	●	●
Clean Marina Program	●	●		●							●
Tenant Stormwater Outreach Program (TSOP)	●			●	●						●
Sustainable Lease Agreements	●	●	●	●	●	●		●			●
Environmental Management System (EMS)	●	●		●	●						●
Environmental Preferable Purchasing (EPP)	●	●	●	●							●
Biological Resources Management Programs				●		●	●				●
Green Technology Development Programs	●	●	●	●	●	●	●		●		●
Green Design and Construction Programs	●	●	●	●		●	●		●		●
Community and Economic Development Programs	●	●	●	●	●	●	●	●	●		●

- Direct benefit; Program designed to address issue
- Co-benefit of program



3 Sustainability Related Programs

The Port has developed a wide variety of policies and programs that address the material issues most important to Port sustainability. This section highlights the major programs that address the material issues, with a discussion of goals, targets, supporting measures and progress to date. As shown in Figure 3, these programs address multiple material issues to various degrees, both directly and indirectly. For example our Clean Air Action Plan (CAAP) is designed primarily to reduce port-related emissions and health risks associated with criteria air pollutants, yet there are indirect benefits for Climate Change and Environmental Justice.





San Pedro Bay Ports Clean Air Action Plan

The Port is located in an air basin that has not achieved the clean air standards in the past, as identified under the federal Clean Air Act (CAA). The Port recognizes that its ability to accommodate the projected growth in trade will depend upon its ability to aggressively reduce cumulative air emissions from port operations. Since 2001, the Port of Los Angeles has been working jointly with the Port of Long Beach, the U.S. Environmental Protection Agency, California Air Resources Board, South Coast Air Quality Management District, and industry partners toward solutions to reduce emissions from port related operations.

In November 2006, the ports of Los Angeles and Long Beach adopted the *San Pedro Bay Ports Clean Air Action Plan* (CAAP) to reduce port-related emissions from trucks, ships, harbor craft, locomotives and cargo handling equipment. The CAAP consists of wide-reaching measures that have significantly reduced air emissions and health risks while allowing for the

development of much-needed port expansion and improved infrastructure projects. The CAAP has significantly redefined what port authorities can do to ensure that surrounding communities are not adversely impacted by port-related operations and that cumulative impacts are reduced. A living document, the CAAP will be updated over time to focus the Port's vision of becoming a zero emissions port. Since 2006, the Port has served as a model for other ports around the world, sharing best practices for emissions inventories, incentive programs, mitigation strategies, and the advancement of green technologies.

In November 2010, the San Pedro Bay Ports adopted the 2010 Update to the Clean Air Action Plan (CAAP Update). The Port's policy map for the next five years, the CAAP Update builds on the efforts initiated in 2006, and sets technology-forcing performance standards that meet future air quality and health risk goals. The CAAP Update documents the achievements of the CAAP programs through 2010.

Emissions Reduction Standards established by the 2010 CAAP Update commit the Port to the reduction goals listed in Table 1, which are consistent with what is needed to achieve regional air quality goals. In addition, Health Risk Reduction Standards have been established to be consistent with the Los Angeles Regional Water Quality Control Board's Exposure Reduction Program (ERP).

Material Issues These Policies Address:

- Health Risk Reduction
- Air Quality
- Energy and Climate Change
- Stakeholder Relationships
- Environmental Justice
- Green Growth

Table 1:
2010 CAAP Update Air Emission Reduction Standards

	2014 ^a	2023 ^a
Diesel Particulate Matter (DPM)	72%	77%
Nitrogen Oxides (NO _x)	22%	59%
Sulfur Oxides (SO _x)	93%	92%

^a Measured against a 2005 baseline.

Progress and Initiatives

Since adoption of the CAAP in 2006, the Port has implemented numerous programs designed to help achieve these ambitious air quality improvement targets. Major program achievements include:

- Clean Truck Program.** The Clean Truck Program (CTP) has accelerated the replacement of older, high polluting trucks with newer, cleaner trucks through the use of a concessions system, grants, and financial incentives. In 2008, the oldest trucks (pre-1989) were banned from Port property, and in 2009 the Port initiated the Truck Environmental Fee for all non-exempt trucks. By the first anniversary of the CTP, over half of all truck trips were made by trucks that meet the 2007 USEPA on-road standards and by 2010, over 90 percent of cargo was being moved by trucks meeting these standards. The CTP achieved 80 percent emissions reductions from all trucks serving both San Pedro Bay ports in 2010, two years ahead of the original program goal set forth in the 2006 CAAP.

Through the CTP, the Port has adopted tariffs that gradually limit access to all but the cleanest vehicles in order to reach the goal of zero or near-zero emission of on- and off-road trucks. Approximately 75 to 80 percent of Port throughput is still “drayed” – loaded onto trucks that carry containers via local roads and highways to various destinations. To mitigate emissions from drayage trucks, the tariff is based on a progressive ban of the oldest trucks. In 2010, all pre-1993 trucks and non-retrofitted 1994-2003 trucks were banned from Port drayage service. The next truck tariff milestones will be January 1, 2012, when all trucks must meet the 2007 federal on-road engine standard.

As of May 2011, over 10,000 2007-compliant trucks have enrolled in the CTP. The program has been honored with the U.S. Environmental Protection Agency’s 2009 Environmental Justice Achievement Award and the 2010 Federal Maritime Commission Chairman’s Earth Day Award for innovation and environmental leadership.
- Low Sulfur Fuel Incentive Program.** In July 2008, the Port implemented an incentive program aimed at accelerating cargo vessel operators’ use of cleaner-burning fuel when arriving and departing in the San Pedro Bay. The Port earmarked \$8.6 million dollars to pay vessel operators to use low-sulfur fuel (0.2 percent) in their main engines within 20 or 40 nautical miles (nm) of the Port. Participating ships were required to slow to 12 knots within the participation zone and use 0.2 percent low sulfur fuel in their auxiliary engines while at berth. During the

program, approximately 15 percent of all calls at the San Pedro Bay Ports used low sulfur fuels in their main engines for arrivals and departures. In July 2009, the program sunsetted when the California Air Resources Board (CARB) implemented vessel fuel regulations requiring low sulfur fuel use in main and auxiliary engines, and boilers out to 24 nm.

- Vessel Speed Reduction Incentive Program.** In 2008, the Port approved a Vessel Speed Reduction Incentive Program, providing dockage credit incentive to vessels to slow to 12 knots within 20 nautical miles of the Port. Reducing vessel transit speeds improves fuel economy and reduces ship emissions. The compliance rate to within 20 nm of the Port for 2009 and 2010 has been approximately 90 percent. The Port has since expanded the incentive program to 40 nautical miles.
- Alternative Maritime Power.** Alternative Maritime Power (AMP) infrastructure, which allows ships to use shore power while at berth, is operational at three Port container terminals and the World Ports Cruise Terminal. The Cruise terminal uses Mobile Amp technology, which allows for a variety of cruise ship configurations.
- Cargo Handling Equipment Standards.** The cargo handling performance standards established in the CAAP have been effective strategies for reducing emissions from cargo equipment. For example, POLA’s Air Quality Mitigation Incentive Program approved grant funding to replace or repower 334 vehicles or engines resulting in a reduction of 5 and 107 tons per year of Diesel Particulate Matter (DPM) and Nitrogen Oxides (NO_x), respectively.
- Harbor Craft Control Measures.** Performance standards in the CAAP for early replacement of harbor craft engines with engines meeting cleaner standards have been effective in reducing emissions from harbor craft. Also, POLA’s Air Quality Mitigation Incentive Program approved over \$11.8 million in grant funding to repower 69 main and auxiliary marine engines, resulting in reductions of over 16 and 456 tons per year of DPM and NO_x, respectively. For example, the Foss Maritime Green Assist Hybrid Tug completed its first year of operation, and emissions testing is expected to show a 44 percent reduction in emissions and fuel consumption.
- Railroad Locomotive Control Measures.** Engine modernization for the rail switch operations in the Port complex was successfully completed with the upgrade of 16 locomotives to Tier 2 engine standards. Six additional GenSet locomotives that meet the more stringent Tier 3 standards were also added to the Port’s switching fleet.
- Technology Advancement Program (TAP).** This program was initiated in 2007 to promote the air quality goals identified in the CAAP. Please refer to the Green Technology Development section for a detailed discussion.
- San Pedro Bay Ports CAAP Air Quality Excellence Awards.** Port customers are integral to the success of the CAAP and the Ports’ ability to meet CAAP emission reduction goals. Since 2008, the CAAP Air Quality Excellence Awards (CAAP Awards) Program has provided the Ports with a mechanism to recognize these customers for their efforts to go beyond basic CAAP requirements and goals.



**Port of Los Angeles
Air Quality Report Card:
2005-2009**

PRIMARY POLLUTANTS DEFINED

DPM = Diesel Particulate Matter
 NOx = Oxides of Nitrogen
 SOx = Oxides of Sulfur
 PM_{2.5} = Particulate Matter less than 2.5 microns in diameter
 PM₁₀ = Particulate Matter less than 10 microns in diameter
 CO₂ = Carbon Dioxide (A Green House Gas contributor)

OVERALL EMISSIONS REDUCTIONS CY 2005-2009

Pollutant	CY 2005-2009	
	%	tons
DPM	-52%	507
PM _{2.5}	-52%	472
PM ₁₀	-52%	551
NOx	-33%	5,568
SOx	-56%	3,120

EMISSIONS PER 10,000 TEU HANDLED

Pollutant	CY 2005-2009	
	%	tons
DPM	-47%	0.61
PM _{2.5}	-47%	0.56
PM ₁₀	-47%	0.66
NOx	-26%	5.8
SOx	-51%	3.82

OCEAN-GOING VESSEL EMISSIONS REDUCTIONS

Pollutant	CY 2005-2009	
	%	tons
DPM	-51%	256
PM _{2.5}	-51%	240
PM ₁₀	-51%	300
NOx	-27%	1,491
SOx	-55%	2,973

HEAVY-DUTY VEHICLE/CLEAN TRUCK EMISSIONS REDUCTIONS

Pollutant	CY 2005-2009	
	%	tons
DPM	-64%	203
PM _{2.5}	-64%	187
PM ₁₀	-64%	203
NOx	-38%	2,557
SOx	-90%	43

HARBOR CRAFT EMISSIONS REDUCTIONS

Pollutant	CY 2005-2009	
	%	tons
DPM	0%	0
PM _{2.5}	0%	0
PM ₁₀	0%	0
NOx	-4%	56
SOx	-90%	5

RAIL EMISSIONS REDUCTIONS

Pollutant	CY 2005-2009	
	%	tons
DPM	-50%	29
PM _{2.5}	-51%	27
PM ₁₀	-50%	29
NOx	-45%	772
SOx	-93%	91

CARGO-HANDLING EQUIPMENT EMISSIONS REDUCTIONS

Pollutant	CY 2005-2009	
	%	tons
DPM	-44%	20
PM _{2.5}	-43%	17
PM ₁₀	-43%	20
NOx	-48%	694
SOx	-84%	8

CO₂ EQUIVALENT REDUCTIONS BY SOURCE TYPE

Source Type	CY 2005-2009	
	%	metric tons
Ocean-Going Vessels	-24%	74,724
Harbor Craft	-2%	1,164
Cargo Handling Equipment	-5%	6,125
Rail	-32%	26,744
Heavy-Duty Vehicles	-13%	67,170
TOTAL		175,927

INVESTING IN CLEANER AIR (PARTIAL LIST)

Funded Projects	POLA Dollars Committed To Date	Emission Reductions (%)
Clean Truck Program	\$110,000,000	70% PM, 50% NOx
Balqon All-Electric Drayage Truck	\$5,400,000	100% reduction in tailpipe emissions
Foss Hybrid Green Assist™ Tug	\$800,000	44% PM, 44% NOx, 20-30% fuel savings
Applied Control Technologies Inc. (ACTI)	\$150,000	98% PM, 95% NOx
CNG Drayage Truck	\$115,000	83% NOx

2010-06-02 7:29 AM

✿ The Port exceeded the original 45% emissions reduction goal in the 2006 CAAP

In 2010, the Port published its Air Quality Report Card: 2005-2009, which highlights the progress that the Port has achieved toward emission reduction targets. The Report Card shows that the Port has reduced overall emissions, specifically DPM, by 50 percent since 2005. The Port has met 2014 NOx reduction goals and is on track to meet 2014 Sulfur Oxides (SOx) and DPM reduction goals.

The 2010 CAAP Update includes three new elements:

- **San Pedro Bay Standards.** These standards consist of a Health Risk Reduction Standard and an Emissions Reduction Standard, which together demonstrate the Port's commitment to significantly reduce the air quality impacts of Port operations. The Health Risk Reduction Standard aims to reduce the population-weighted residential cancer risk of port-related DPM emissions by 85 percent by 2020 in highly impacted communities located proximate to port sources and through the residential areas in the port region.
- **New and updated control measures.** These new measures reflect regulations or programs that have gone into effect since the 2006 CAAP was developed. One new measure seeks to maximize early introduction and preferential deployment of vessels to the San Pedro Bay ports with cleaner/newer and retrofitted engines meeting International Maritime Organization (IMO) standard for Emission Control Areas.
- **CAAP Progress Tracking.** On-going CAAP progress and effectiveness will be measured using Emissions Inventories (EIs) against the new San Pedro Bay Standards to ensure Port progress towards long term goals. For example, Port-wide EIs will quantify GHGs by source category and this data will be used to identify and prioritize measures.

Moving forward, the Port is planning the following initiatives under the CAAP:

- Expand Alternative Maritime Power: The Port plans to install AMP infrastructure at 14 additional cargo berths by 2014.
- Continued exploration of zero-emission technologies for goods movement.
- Continued development of a fleet of on- and off-road zero emissions trucks under the Technology Advancement Program (TAP) and PortTech LA.
- Early introduction and preferred deployment of ocean going vessels that meet stringent NOx and SOx emissions standards.
- Through the TAP, focus on reducing DPM and NOx emissions from the existing fleet of vessels.

 **2010 CAAP GOAL:**
Reduce DPM emissions by
85% by 2020

Climate Action Planning

As an important player in global trade, the Port must face its responsibility to reduce greenhouse gas (GHG) emissions. Addressing the impacts of energy usage and climate change is at the heart of any sustainability journey, and the Port has been active on many fronts related to this effort, as described below. Initiatives are grouped according to those focused on Port-controlled activities (Departmental Efforts), and those reaching beyond the confines of San Pedro Bay to affect activities and operations that occur well beyond southern California (Global and National Outreach).

Material Issues These Policies Address:

- Air Quality
- Energy and Climate Change
- Water Quality
- Stakeholder Relationships
- Open Space and Urban Greening
- Land Use
- Environmental Justice
- Green Growth

Departmental Efforts

In May 2007, the City of Los Angeles adopted *Green LA: An Action Plan to Lead the Nation in Fighting Global Warming*. The goal of Green LA is to reduce carbon dioxide (CO₂) emissions 35 percent below 1990 levels by 2030, by increasing the generation of renewable energy, improving energy conservation and efficiency, and changing transportation and land use patterns to reduce dependence on automobiles. Green LA directed the Port to develop an individual Climate Action Plan, consistent with the goals of Green LA, to explore opportunities to reduce GHG emissions from municipal operations. The Plan, along with various subprograms occurring as part of the plan, addresses activities occurring within Port boundaries.

Climate Action Plan

The Climate Action Plan (CAP) for municipally controlled services, prepared by the Port's Environmental Management Division and submitted to the Mayor's office in December 2007, outlines the specific actions that the Port has taken and future plans to reduce the effects Port operations have on global climate change. Consistent with Green LA, the CAP sets the goal of reducing GHG emissions 35 percent below 1990 levels by 2030, and 80 percent below 1990 levels by 2050. The CAP focuses on three areas:

GHG Inventory

The Port annually inventories GHG emissions from the stationary and mobile sources under Harbor Department operational control and reports the results to The Climate Registry (TCR), (formerly the California Climate Action Registry (CCAR)). The



GHG inventory requires assessment of both direct emissions (coming from sources that are owned or controlled by the Port) and indirect emissions associated with electricity use (where the emissions are a consequence of Port consumption, but are produced by sources owned or controlled by the third party power generator). The Port's annual inventory has been verified by an independent CCAR-approved organization since 2007. The Port is a founding member of the CCAR and has earned the status of *Climate Action Leader*.

Reduction Measures

The CAP provides emissions reduction measures for 11 categories: Green Buildings, Green Power, Water Conservation, Tree Planting, Alternative Fuel City Vehicles, Recycling, Commuter Services, Red Car, Brownfield Remediation and Creation of Open Space, Green Purchase Requirements, and Community Outreach. Each measure description includes a ranking (high, medium, or low) of GHG reduction potential and target dates for implementation or completion. Measures apply to municipally owned properties.

Next Steps

The Port describes specific measures to be implemented by the Harbor Department to reduce its "carbon footprint," including optimization of current efforts as well as new programs.

The CAP addresses tenant operations and incorporates elements of the CAAP that focus on the reduction of criteria pollutants and DPM but have the co-benefit potential to reduce GHG emissions. These strategies include: Ocean-Going Vessel

(OGV) Speed Reduction Program; Reduction of At-Berth OGV Emissions; Development of Performance Standards for Harbor Craft; Pacific Harbor Line (PHL) Rail Switch Engine Modification; Modification of Existing Class 1 Railroad Operations; and Requirements for New and Redeveloped Rail Yards.

Progress and Initiatives

The Port has made progress on a variety of actions that will result in a reduction of GHG emissions. Some highlights include:

- Purchase of 25 percent of the Port's power (approximately 20 million kilowatts) from renewable energy sources
- Construction of 1MW of solar panels on the roof of the World Port's Cruise Terminal
- Implementation of Green Building Policy, Pending LEED Gold Certification for several buildings, and a Port Building Survey to identify priority retrofits
- Creating approximately 50 acres of open space through redevelopment of the LA Waterfront
- Expansion of Recycling Services at Harbor Department and for Tenants
- Expansion of Carpool Program
- Approval of Port-wide Green Purchasing Policy
- Implementation of green technology pilot projects for electric and hybrid drayage trucks, tugboats, and cargo-handling equipment

Recognizing the urgent need for continued action to reduce GHG emissions, the Port has set ambitious goals for the near future. Future plans include drafting a revised CAP with a



larger scope and quantifiable goals, and continuing to move Port operations toward hybridization and electrification and away from diesel as much as possible.

Expanded GHG Emissions Inventory

In addition to the GHG inventory submitted on an annual basis to TCR (which captures sources under Port control), the Port annually generates an Expanded GHG Emissions Inventory to capture emissions from non-Port activities. Since 2006, the Port has expanded its annual GHG inventory geographically beyond the South Coast Air Basin (SoCAB) boundaries (over 130 nautical miles out to sea) to encompass emissions from ocean-going vessels, heavy-duty vehicles, and rail locomotives that are directly associated with the goods moved through the Port. The geographically expanded inventory applies to: (1) Ships –from last port, to Port of Los Angeles, to next port; (2) Trains – from Port of Los Angeles to major distribution centers many of which are in the Midwest; and (3) Trucks –travel within a 600 mile radius of the Port.

To better understand emissions associated with Port-wide activities, the Port has also expanded its GHG emissions inventory to include indirect GHG emissions associated with tenant operations, harbor craft, and cargo handling equipment. These emissions are generated by sources not owned or controlled by the Port, but occur as a result of Port activities. These emissions are not reported to TCR.

Climate Adaptation Study

The Port is participating in a climate adaptation study conducted by the RAND Corporation that analyzes the impacts

on the Port related to climate change, including sea level rise and storm surges. The final product of this study will be a practical guide on how the Port can address and prepare for the effects of climate change in their facility plan and the financial impacts of climate change on Port operations. A draft report is expected in 2011.

Renewable Energy Program

The Port has committed to construct 10 megawatts (MW) of solar energy on Port facilities by 2013. The 10MW photovoltaic system is projected to offset approximately 17,000 metric tons of carbon dioxide equivalent (CO₂e) emissions annually.

To educate others about this effort, in 2008 the Port held a Solar Photovoltaic Workshop for vendors, POLA tenants, selected LADWP customers, and other interested entities including the Port of Long Beach, Los Angeles Unified School District, and Bank of America. Twenty-one vendors participated with booths. Information on the LADWP Solar Incentive Credit Program was also made available.

Progress and Initiatives

In 2010, the Port finished construction of a 1 MW photovoltaic system at the Inner Harbor Cruise Terminal. The remainder of the 10 MW photovoltaic system is in the planning stages and is targeted for completion by end of 2013. The Port is continuing discussions with tenants to find the best locations to integrate these systems within Port facilities.

Because it is not feasible for the Port to meet 100 percent of its energy needs through on-site power generation, in 2008



the Port finalized a Power Purchase Agreement with the Los Angeles Department of Water and Power (LADWP) to purchase renewable power. In 2009, 25 percent of the Port's purchased electricity came from renewable sources.

Global and National Outreach

As an industry leader, the Port of Los Angeles recognizes the need to collaborate with other agencies and organizations to address global climate change and promote GHG emissions reductions. A sample of the groups and programs in which the Port participates and provides leadership is provided below.

World Ports Climate Initiative

The Port of Los Angeles was an integral part of the Large Cities Climate Leadership Group, where 40 of the world's leading cities (C40) and the Clinton Foundation Climate Initiative have shared strategies for confronting climate change. The Port was also a founding member of the C12 Group, consisting of 12 major world ports within C40 that met to discuss climate change in regard to port operations. In July 2008, a group of 55 ports from all over the world adopted the C40 World Ports Climate Declaration, a commitment to work together to reduce the threat of global climate change. This group is now known as the World Ports Climate Initiative (WPCI).

WPCI's member ports (59 as of May 2011) have committed to reducing their GHG emissions and supporting WPCI's mission, which includes: raising awareness in the port and maritime community of need for action; initiating studies, strategies and actions to reduce GHG emissions and improve air quality; providing a platform for the maritime port sector for the exchange of information thereon; and disseminating information on the effects of climate change on the maritime port environment and measures for its mitigation.

The Port of Los Angeles has led the WPCI since its inception, with Port of Los Angeles Director Geraldine Knatz serving as chair. As well as providing leadership to the WPCI, the Port has contributed to WPCI's success in many ways, including:

- **Communications:** The Port developed and continues to maintain the WPCI website, WPCI's primary mechanism for communicating progress to the public.
- **Carbon Footprinting Work Group:** In 2009, the Port of Los Angeles, with assistance from other global ports, drafted and released the *Carbon Footprinting for Ports Guidance Document*. This document serves as a reference for ports looking to develop or improve their GHG emissions inventories. Guidance is provided for determining inventory boundaries, estimating emissions, tracking emission trends, and identifying where ports can focus efforts to reduce their emissions.
- **Tool Box for Port Clean Air Programs:** Since 2009 the Port has led development of the International Association of Ports and Harbors (IAPH) Air Quality and Greenhouse Gas Tool Box. The purpose of this Tool Box is to provide ports, members of the IAPH, and others, quick access to the tools needed to start the planning process for addressing port-related air quality and climate change issues. The Tool Box complements and supports the WPCI website by providing a resource for GHG case studies and emission reduction strategies.

Progress and Initiatives

The Port will continue to play an active role in the WPCI, including development and release of a web-based carbon calculator for port facilities, which was completed in May 2011. The calculator will help ports make investment decisions and policy choices. Future versions of the calculator may include other elements of the supply chain.



Water Resources Action Plan

The Port recognizes its responsibility to maintain and protect the quality of the water in San Pedro Bay. Individually and in cooperation with various stakeholder groups, the Port has developed plans and initiatives to maintain and improve water quality. In August 2009, the Ports of Los Angeles and Long Beach jointly adopted a Water Resources Action Plan (WRAP) that addresses both water and related sediment quality issues in Los Angeles and Long Beach harbors (western San Pedro Bay). The plan has two main driving forces: 1) the Ports' need to achieve their broad mission to protect and improve water and sediment quality, and 2) the Total Maximum Daily Loads (TMDLs) for harbor waters and sediments set by the Los Angeles Regional Water Quality Control Board (LARWQCB) and EPA.

Material Issues These Policies Address:

- Health Risk Reduction
- Water Quality
- Stakeholder Relationships
- Habitat Protection
- Local Economic Development
- Environmental Justice
- Green Growth

The WRAP addresses water and sediment quality within the boundaries of the harbor districts rather than the entire extent of San Pedro Bay. This boundary was deemed appropriate because recent modeling has shown that with the exception of the portion of Long Beach Harbor east of Pier H, the waters of the harbors are largely separate hydrodynamically from the rest of San Pedro Bay. The exception to this geographic scope is land that the Ports own outside their harbor districts, where the Ports have an obligation to comply with relevant storm water permits.

The WRAP focuses on controlling input from four main sources of pollution: **1) Landside Sources, 2) On-Water**

Sources, 3) Sediments, and 4) Watershed Sources. The WRAP includes control measures and an implementation schedule for each of these four source types. As control measures are developed and implemented, staff of the two Ports will report progress to their Boards. Annual progress reports are provided.

Proposed Landside Control Measures

These include enhancing housekeeping best management practices (BMPs) in maintenance and fueling areas, cargo handling areas, and other port-operated facilities; developing a port-wide guidance manual for design of new and redeveloped facilities; evaluating the need for structural BMPs for key discharges and targeted pollutants at existing facilities; and enhancing and expanding litter control programs.

Proposed On-Water Control Measures

These measures include developing a guidance manual for on-water activities; developing a port policy and standards for maintenance, in-kind replacement, and eventual phasing out of exposed treated pilings from in-water applications; and developing BMPs and Port standards for zinc-based cathodic protection of port structures and vessels.

Proposed Sediment Control Measures

These measures include developing sediment management policy/guidance establishing priorities for removal, disposal, and management of sediments with clear decision-making framework; and developing a sediment management policy that establishes priorities for managing legacy contaminated sediments and hot spots.

Watershed Control Measures

These measures include employing all available means to support efforts to reduce upstream pollutant loadings that adversely affect harbor water and sediment quality.

Progress and Initiatives

Completion and finalization of the WRAP in August 2009 was a major accomplishment for the Port in their efforts to improve and protect the water quality of San Pedro Bay. A progress report was provided in 2010, which highlighted pro-



gram advancements in the first year of implementation. Major program accomplishments to date include:

- Compiling existing water quality and sediment data and collecting additional information to fill data gaps, to create water quality and sediment baseline databases for use in WRAP implementation, CEQA/NEPA document preparation, and the harbor-wide hydrodynamic and water quality models;
- Expanding and implementing Tenant Outreach Program (discussed later in this section) to help identify housekeeping and structural BMPs needed within the Port;
- Identifying and prioritizing orphan sites within the Port area that need stormwater/dust controls;
- Ensuring that remote Port-owned sites were in compliance with applicable stormwater permits;
- Completing and distributing a vessel guidance manual outlining allowable and prohibited vessel maintenance activities and discharges;
- Developing and evaluating BMPs for piling use in the harbor;
- Actively participating in development of the Dominguez Channel and Greater Los Angeles and Long Beach Harbor Waters Toxic Pollutants Total Maximum Daily Load (Harbor Toxics TMDL);
- Developing sediment management guidance for routine dredging operations and for legacy contaminated sediments (key elements of this guidance were incorporated into the Harbor Toxics TMDL);
- Executing an agreement to advance technology for ballast water treatment; installation of a full-scale pilot system began on the APL England this past summer;
- Conducting stormwater sampling to collect information about upstream drainage and possible sources;
- Participating in the planning and execution of a regional water quality survey effort involving dozens of agencies, as well as enhanced Port-wide water quality monitoring;
- Ongoing participation in various watershed activities and supporting efforts to reduce upstream pollutant loadings into the harbor.

Cabrillo Beach Water Quality Improvement Study

The Port is one of the few industrial ports in the world that also has a swimming beach. Inner Cabrillo Beach provides calm water for families with small children. However, the beach has a persistent bacteria problem very close to the shoreline. The Port has taken an aggressive approach to investigate and remedy the problem. Studies conducted by the Port to locate sources of the bacteria found leaking local sanitary sewers and an abandoned sewer outfall, stormwater drainage across the beach, and local bird and animal sources, such as feral cats and raccoons. Eelgrass beds near the beach were found to contribute to low water circulation in the area, as well as to harbor bacteria.

To date, the Port has spent approximately \$19 million and completed the following work:

- Diverted dry weather flow to the sanitary sewer system
- Repaired and replaced storm drains and sewer systems
- Removed/capped abandoned outfalls
- Prepared a Beach Management Plan
- Replaced all beach sand in the inner beach
- Removed a rock groin to improve water circulation
- Installed and expanded bird exclusion structures to control bacteria sources

The Port will continue to work with regulatory agencies and other City agencies in order to achieve compliance with the established TMDL for bacteria at Inner Cabrillo Beach.



Clean Marina Program

To help the recreational marinas within the Harbor do their part to protect water and air quality, the Port has developed the Clean Marina Program (CMP). The program advocates that marina operators and boaters use best management practices (BMPs) contained in the *2010 Clean Marina Program Guidebook*. The BMPs include environmentally friendly alternatives to some common boating practices that may cause pollution or contaminate the environment. The program also includes several innovative clean water and air measures. The CMP features both voluntary components and measures required through Port leases, the California Environmental Quality Act (CEQA), or established federal, state, and local regulations.

Material Issues These Policies Address:

- Health Risk Reduction
- Air Quality
- Water Quality
- Green Growth

Progress and Initiatives

The Port worked with the Clean Marinas California Program to produce the *2010 Clean Marina Program Guidebook*, intended to introduce marina managers, marina staff, and marina patrons to the CMP and to guide marina managers through the Clean Marina certification process.

Other accomplishments under the CMP include the provision of educational materials to all 17 marinas within the Port of LA, which focused on five different high impact activities and which BMP's to employ. The Port also began development of the Clean Marina Engine Exchange Program for recreational vessels, designating a staff member from the Environmental Management Division as a marina liaison to assist in implementing and sustaining the CMP.

Stormwater Update!

Sustainable design measures incorporated into the newly constructed (June 2011) Wilmington Waterfront Park also improve water quality through stormwater management. Over 5,000 linear feet of subsurface stone French drains have been constructed along walkways, planter beds, and low points in the landscape of the 30 acre park. The French drains promote the infiltration of stormwater back into the ground rather than piping it out to the city storm drainage system. Many of the walkways and plazas are sloped toward grass swales or planter beds, which both filter stormwater runoff and slow the rate at which it leaves the site. Parking areas have subsurface sand filtration chambers installed to remove oils and suspend sediment from the runoff so it is not discharged to the ocean.

Tenant Stormwater Outreach Program

As part of ongoing stormwater management activities and implementation of the WRAP, the Harbor Department Environmental Management Division has established a Tenant Stormwater Outreach Program (TSOP) to provide stormwater guidance to Port tenants. Many of these facilities must comply with the National Pollutant Discharge Elimination System (NPDES) General Industrial Activities Stormwater Permit (also known as the Industrial Permit) issued to them by the State Water Resources Control Board. The Industrial Permit applies to certain industrial activities specified in the permit, which can potentially pollute stormwater.

Material Issues These Policies Address:

- Health Risk Reduction
- Water Quality
- Stakeholder Relationships
- Green Growth

Progress and Initiatives

Through the TOP program, the Port has made significant progress toward educating Port tenants on stormwater issues. Major program accomplishments to date include:

- Distributing stormwater BMP handouts to tenants;
- Visiting tenants to suggest/discuss specific actions for stormwater pollution prevention; information gained during these visits was reported back to the appropriate Port divisions to enhance tenant oversight:
 - 37 tenants visited in 2008-2009
 - 96 tenants visited in 2010
- Collecting data, developing and updating a Port tenant database to better track Port tenants activities and best management practices;
- Increasing Port staff awareness of stormwater polluting activities through outreach efforts in the Port newsletter, intradivisional meetings, and City training protocols on stormwater pollution prevention.

Observations from the tenant site visits have been compiled, and letters detailing both positive observations and site specific recommendations for improvement have been sent to all tenants. In general, these letters request that tenants reevaluate, improve, or change some of their operational practices to lessen their impact to stormwater and ensure their compliance with stormwater regulations. Additionally, this program will retain all the information gathered from the site visit in a tenant database. This record will be used to prioritize 2011 TSOP site visits, continue to track each tenant's Industrial Permit compliance (if applicable), and identify facility improvements needed to meet stormwater regulations.



Sustainable Lease Agreements

The Port's leases contain among the most environmentally responsible policies of any port worldwide. As a landlord port, the Port leases property to tenants who then operate their own facilities under agreed conditions. The Port Leasing Policy, established on February 1, 2006, requires that all new and renewed leases include applicable Port environmental requirements including, but not limited to: air emission controls, such as CAAP measures; water, stormwater and sediment quality; trash management and recycling; lighting and noise control and facility appearance; hazardous material management requirements; facility restoration and decommissioning requirements; energy audits on terminal buildings to identify energy savings measures; and California Environmental Quality Act (CEQA) mitigation measures and reporting requirements.

Progress and Initiatives

The Port approved a 30-year sustainable lease agreement with the TraPac Container Terminal in 2008. This lease includes aggressive environmental requirements addressing vessel and landside emissions reductions, terminal design and equipment. Some of these requirements include CAAP implementation measures, GHG emissions reduction requirements, a LEED Gold Certified Green Building, and best management practices for stormwater runoff. The TraPac Environmental Impact Report, drafted as part of the new lease approval, in-

Material Issues These Policies Address:

- Health Risk Reduction
- Air Quality
- Energy and Climate Change
- Water Quality
- Stakeholder Relationships
- Habitat Protection
- Land Use
- Green Growth

cluded over 100 mitigation measures that TraPac and the Port must implement to reduce environmental impacts resulting from construction activities and expanded terminal operations. The \$274 million capital project includes constructing 4,600 linear feet of wharf, installing new cranes, road and gate improvements, and construction of a new on-dock rail facility.

Also undergoing expansion is the China Shipping Terminal, which completed a major construction phase in April 2011. The \$121 million construction project doubled the existing terminal's size to 142 acres with backland development. Additional berths are included. Like TraPac, future operations must comply with CAAP and other sustainability measures.

Several lease renewals for container terminal, rail, and other land uses are anticipated for Board consideration in late 2011 and 2012. Measures from the 2010 CAAP Update will apply to these projects.



Environmental Management System

Implementing an Environmental Management System (EMS) is akin to catching a fast (emission free) train on the journey to sustainability. The basic actions of setting priorities and metrics for environmental improvement allow the Port to better evaluate its operations in conjunction with fiscal and social bottom lines.

As such, the Port’s EMS is an umbrella program that encourages continuous improvement in environmental performance, including aspects such as source reduction, recycling, non-toxic product selection, and best management practices. The Port’s Construction and Maintenance Division implemented an EMS in 2003. The Construction and Maintenance Division includes craft services such as plumbing, painting, mechanical repair, electrical repair, and pile driving. In September 2007, the Port’s EMS received ISO 14001 certification, the international gold standard. The Port of Los Angeles was the first west coast port to achieve ISO certification, and they are the

only port in the United States that has ISO certification for 15 categories, whereas most U.S. ports have achieved ISO certification for only one or two categories.

The overall goal of the Port’s EMS is to drive systematic and continual environmental improvements through the use of a Plan-Do-Check-Act model where current and planned practices are evaluated based on their potential environmental impact. Improvements are being achieved through an innova-

We did it again! In 2010, we recertified ISO 14001.



- Material Issues These Policies Address:**
- Health Risk Reduction
 - Air Quality
 - Water Quality
 - Stakeholder Relationships
 - Green Growth

3 Sustainability Related Programs

tive education and communication program that incorporates all levels of staff into the environmental management process. Employees are engaged with the system on a daily basis, creating a sense of ownership and accountability.

Progress and Initiatives

The Port has achieved measurable improvements in recycling, hazardous waste streams, increased pollution prevention activities, and improved environmental awareness and compliance. Some highlights include:

- Diversion of 36 percent of office waste from landfill disposal;
- Recycling over 133 tons of wood waste in 2009;
- Improved pesticide spraying procedures;
- Sorting of illegally dumped materials for recyclables before disposal;
- Improved catch basin inspections to prevent debris pollution;
- Better control of welding and grinding waste; and
- Reduction of SB14 Hazardous Waste Streams within the Construction and Maintenance Division to below the reporting threshold of 26,400 pounds.

In 2010, EMS initiatives focused on clarifying air quality requirements, addressing marine ways and the boat repair area, looking at the environmental impacts of creosote treated piles, minimizing hazardous waste, and addressing chemical purchasing. The Port also conducted storm drain stenciling to build awareness that storm drains lead directly to the Harbor. In the future, the Port plans to expand the EMS program to other Port divisions.

The Port has continued to hold quarterly team meetings and annual third party audits. As a result of continued diligence, in November 2010 the Construction and Maintenance Division EMS Program was successfully independently recertified to ISO14001. Worldwide, only a handful of ports have achieved ISO 14001 certification. The recent recertification verifies that the EMS has been successfully maintained and is driving improvements.

Environmental Preferable Purchasing

In March 2008, the Harbor Commission adopted an Environmentally Preferable Purchasing (EPP) Policy to govern portwide purchasing practices. The EPP Policy implements a process for establishing a baseline for all current purchases, researching environmentally preferable products to replace current items, and evaluating new products using various criteria. The Policy incorporates many existing standards such as Energy Star, Power Smart, and the Forest Stewardship Council (FSC) sustainable wood standards.

Adherence to this Policy often leads to difficult decisions, where product choice requires prioritization of environmental preferences. The Policy requires consideration of natural resource conservation, energy conservation, minimization of

Material Issues These Policies Address:

- Health Risk Reduction
- Air Quality
- Energy and Climate Change
- Water Quality
- Green Growth

water and air pollution, elimination of toxins, and use of recycled materials. For instance, the preferred product may be one that places a higher priority on air quality impact rather water quality impact. In some cases a product made with recycled content has a greater air quality impact than one that is made from new materials. And, of course, all decisions will continue to be made within the context of regulations governing procurement, including low bid when appropriate. However, the Port believes that asking the question is the first step and, no matter the ultimate choice, awareness of the impact of the choices is a positive impact in and of itself.

Progress and Initiatives

- Adoption of the EPP Policy in March 2008.
- Creation of an EPP "Green Team", which meets monthly and consists of members of the Contracts and Purchasing Division (including its Director); the Environmental Management Division; the Construction and Maintenance Division; the Risk Management Division; and the Engineering Division. The EPP Green Team conducted an evaluation of green cleaning products and office supplies for use at the Construction and Maintenance Division and Port-wide. They have also incorporated LEED purchasing criteria to help ensure that the Port purchases sustainable materials that meet LEED certification requirements.
- Establishment of a Memorandum of Understanding with the Los Angeles Department of Water and Power for the construction of a pipeline to provide recycled water for the landscaping of all waterfront development projects, including the Wilmington Waterfront Buffer project and the San Pedro 22nd Street Park.
- Selection of a printer that uses FSC-approved printing supplies (paper, ink, etc) for all of the Port's major production jobs

Moving forward, the Port's efforts surrounding EPP will focus on implementing the EPP Policy beyond the Construction & Maintenance Division into other Port departments, and applying EPP to the Construction and Maintenance Division's policies concerning chemical purchasing for Warehousing.



Biological Resources Management Programs

The Port recognizes its role in the long-term stewardship of marine biological communities in San Pedro Bay. The Port has historically undertaken efforts to protect and enhance biological resources, including initiation of various habitat restoration projects, California least tern nesting habitat protection effort, and periodic biological resources baseline studies for Los Angeles and harbor (the most recent one in 2008).

Material Issues These Policies Address:

- Water Quality
- Habitat Protection
- Open Space and Urban Greening
- Green Growth

Biological Surveys

As part of their long-term stewardship of marine biological communities in San Pedro Bay, and in response to the scientific need for evaluating potential impacts from in-bay projects, the ports of Los Angeles and Long Beach have conducted periodic biological baseline studies to characterize marine communities over a range of representative habitats throughout the harbor complex.

In 2008, the ports completed an extensive marine inventory to update a previous 2000 baseline inventory. The 2008 inventory addressed physical and chemical conditions in the Bay, adult and juvenile fish, ichthyoplankton, benthic invertebrates, kelp and macroalgae, eelgrass, birds, and exotic species. Overall, the results of the baseline study show the area to be rich in fish and wildlife resources, with hundreds of species of fish identified. The report demonstrated that water



quality in the harbors has generally remained stable since 2000, additional exotic species have not colonized the harbor habitats since 2000, and the harbor continues to provide important habitat for resting or nesting special status bird species including the California brown pelican, California least tern, and Peregrine falcon.

Progress and Initiatives

In addition to completion of the updated biological baseline report, the Port of Los Angeles has continued to make progress maintaining and promoting various marine restoration projects, including:

- **California Least Tern Site Management.** The Port maintains, monitors, and protects 15 acres on Pier 400 for the nesting of the California least tern. Although there have been recent declines, for most of the 2000s the Pier 400 nesting site has been among the top five California least tern (CLT) breeding sites in California.
- **Habitat Restoration Projects.** The Port constructed a 326-acre **shallow water habitat** (soon to be increased by an additional 50 acres) located adjacent to the federal breakwater in Outer Los Angeles Harbor. This habitat was created as mitigation for various Port development projects, and functions as a nursery and feeding area for fish and marine birds. Despite its industrial nature, the Outer Los Angeles Harbor area is a valuable marine resource, particularly for juvenile fish.

The Port also constructed the **Cabrillo Saltwater Marsh** near the Cabrillo Marine Aquarium in the Outer Harbor. The Aquarium maintains this thriving 3.25-acre wetland for its marine education programs. The restoration and operation of the Cabrillo Salt Marsh have provided valuable educational experience for both children and adults. The Port has also been involved in the transplant of eelgrass and pickleweed habitats within and outside the harbor area. The Port has also participated in mitigation projects outside of the harbor area.

In 1995, the Board of Harbor Commissioners approved an interagency agreement to provide funding for the restoration of **Bolsa Chica Wetlands** in Orange County in exchange for Port mitigation credits. The Port's \$40 million in funding allowed for the purchase and restoration of the Bolsa Chica lowlands to prevent development and restore tidal flushing to a wetland degraded by past human activities.

Also, in one of the nation's largest habitat restoration projects, the Port actively participated in the restoration of **Batiquitos Lagoon** in North San Diego County from a choked and dying ecosystem to a thriving habitat with ocean access. This successful project, completed in 1996 at a cost of \$57 million, increased the state's wetland inventory by at least one hundred acres and returned a natural treasure back to the people of California.

Green Technology Development

Emission and health risk reduction goals established by the Port's Clean Air Action Plan (CAAP) provide the Port with the unique opportunity to blend environmental goals with economic and community benefits. To ensure the air pollution reduction strategies set forth by the CAAP are commercially available, the Port has developed and is currently implementing a variety of green technology initiatives, including the Technology Advancement Program and PortTech LA, a green technology business incubator.

Material Issues These Policies Address:

- Health Risk Reduction
- Air Quality
- Energy and Climate Change
- Water Quality
- Stakeholder Relationships
- Habitat Protection
- Open Space and Urban Greening
- Local Economic Development
- Green Growth

Technology Advancement Program

The Technology Advancement Program (TAP) was initiated in 2007 to promote the Ports' aggressive air quality goals identified in the CAAP. The TAP's mission is to "accelerate the verification or commercial availability of new, clean technologies through evaluation and demonstration to move towards an emissions free port." The TAP has two main objectives:

1. To identify and demonstrate new technologies, or new applications of existing technologies that have a significant potential to reduce air pollution emissions from the CAAP source categories and meet CAAP goals;
2. To streamline the process for reaching consensus with the regulatory agencies on the emission reductions achieved by various technologies.

The TAP focuses on four fundamental areas: (1) specific control measure requirements; (2) emerging technology development, demonstration, and testing; (3) "Green-Container" transport systems; and (4) emissions inventory improvements. While the TAP primarily focuses on technology demonstrations with a high potential to reduce diesel particulate matter, nitrogen oxides and sulfur oxides, the technologies demonstrated under TAP often reduce GHG emissions and fine particulate matter. As a matter of practice, the reduction potential of GHG emission is considered in the evaluation for each technology proposed for TAP demonstration. Projects have generally addressed five sources of emissions, including ocean going vessels, harbor craft, cargo handling equipment, container drayage trucks, and locomotives.



Progress and Initiatives

Starting in 2007, the Port began publishing a TAP Annual Report to document progress. To date, many pilot projects have been implemented. As a potential alternative to AMP for vessels, one project focuses on the viability and effectiveness of the Advanced Maritime Emissions Control System (AMECS), which captures exhaust gases from the ship's engines and uses exhaust gas treatment technologies to remove both gaseous and particulate pollution. A Foss Maritime Diesel Electric Hybrid Tugboat has been put into service that reduces nitrogen oxides and particulate matter by approximately 44 percent when compared to the conventional tugs. In addition, TAP has been demonstrating retrofitting existing tugboats with emission reduction technologies.

The TAP continues to investigate the feasibility and commercial viability of hybrid technology yard tractors and the development of the hybrid drive system for yard tractors in use at container terminals. The TAP identified six existing rubber-tired gantry cranes for conversion to the EcoCrane™ hybrid electric configuration that employs a smaller, lower emitting engine coupled with a regenerative braking energy capture and battery storage system. Additionally, a Pacific Harbor Line switch locomotive has been retrofitted with a Diesel Particulate Filter (DPF), which is expected to reduce particulate matter by approximately 90 percent. All of these projects will help the Port and its customers reduce their emissions footprint over time while reducing costs and facilitating economic development.

The Port co-sponsored a cutting edge Green Technology Conference in May 2008 to provide dialogue on new technologies among the ports, local chambers of commerce, entrepreneurs, financial and legal experts and other stakeholders. The conference was a key step in the progression to create "green collar" jobs in the harbor communities, and serves as another example of sustainably blending the environment, the economy and the community.

Balqon Corporation, the nation's first heavy-duty electric truck manufacturer, was one of the first companies to receive TAP funding from the Port. The electric truck prototype was first tested within the port and the Port became its first customer. As a result of the Port's investment of approximately \$5 mil-

3 Sustainability Related Programs

lion, the company opened a manufacturing center in Harbor City near the port, and the Port will collect a royalty payment for each vehicle that is sold worldwide. In January 2011, Balqon announced it had received a \$15 million order for 300 electric drive systems from a Chinese company to integrate them into private and government bus fleets. The new business is expected to create 150 local jobs related to fabrication and assembly, engineering, and research.

TAP technical initiatives will continue to identify and demonstrate technologies that 1) target emission reductions from on-road and off-road trucks, with a focus on zero or near-zero emission technologies; 2) target emission reductions from ocean going vessels, including the feasibility and cost-effectiveness of using onboard systems such as exhaust scrubbers; and 3) identify and demonstrate technologies that target emission reductions from locomotives.

In October 2010, the TAP was recognized by the Harvard Bright Ideas award as one of the most innovative government programs in the country. In December 2010, the TAP won the U.S. EPA's Pacific Southwest Region's Environmental Achievement Award.

PortTech LA

PortTech LA is a public/private non-profit technology commercialization center and incubator operated by a coalition of the Port of Los Angeles, San Pedro and Wilmington Chambers of Commerce, and the City of Los Angeles. Its mission is to attract and mentor companies with technologies that will enable the Port of Los Angeles, and ports worldwide, to meet their immediate and future environmental, energy, security and logistics goals. It is designed to incubate or accelerate technology company growth through assistance with the development, testing, commercialization, manufacture and marketing of the products and solutions required to ensure the sustainability of the ports of the future.

PortTech LA is designed to serve as a bridge to the Port's TAP, helping technology companies, both pre- and post-TAP, make their technologies commercially deliverable to the Port and others. The process is three fold: First, PortTech LA will determine what technologies are needed in the maritime industry, focusing on environmental, energy, transportation and security issues. Second, it will identify companies with appropriate technologies and attempt to bring their presence to the Harbor Area. Finally, the PortTech LA will assist and "incubate" those companies in a variety of ways, including assistance with developing business plans, securing financial support and the commercialization of technologies.

Progress and Initiatives

Starting out as the Port Technology Development Center (PTDC) in January 2008, PortTech LA emerged in 2010 with a presence in downtown San Pedro and had developed a relationship with the Los Angeles Regional Small Business



Development Center. The long-term plan is to develop a port technologies business cluster centered on a campus to be developed in the harbor area. Near-term goals include expanding PortTech LA with some space for light manufacturing between 2013 and 2014.

Highlights of recent progress by PortTech LA include:

- In December 2008, the Bank of America Foundation provided the PTDC with its first funding in the form of a \$25,000 "green grant." PortTech LA subsequently received \$50,000 from SA Recycling, a cutting-edge metal recycling company located on Terminal Island, and a grant check of \$50,000 from Los Angeles County Supervisor Don Knabe. In 2010, Chevron provided an additional \$50,000.
- In October 2009, Jeff Milanette was named Executive Director.
- In June 2010, Marine Oil Technology, a start-up manufacturer of hydraulic oil and engine oil cleansing products, was the first tenant to open shop at PortTech LA's downtown San Pedro headquarters.
- In September 2010, PortTech LA held a technology expo and investment conference attended by the Mayor and over 300 participants. The expo showcased business innovations to investors and strategic partners in the maritime industry and included seminars and roundtable discussions.
- Since 2010, PortTech LA has hosted Enterprise Forum meetings that serve as educational networking events where entrepreneurs are given an opportunity to provide technology demonstrations and attend presentations by guest speakers in the green tech and goods movement industries.
- In 2011, PortTech LA received \$250,000 from the U.S. Small Business Administration.



Green Design and Construction

Buildings can leave a large footprint on the environment and have a major impact on the people who work in them in terms of both public health and employee morale. Construction in general, whether buildings or infrastructure, can also be disruptive to the environment and surrounding communities. The Port has several policies and guidelines to incorporate green design and construction into Port operations.

Material Issues These Policies Address:

- Health Risk Reduction
- Air Quality
- Energy and Climate Change
- Water Quality
- Habitat Protection
- Open Space and Urban Greening
- Local Economic Development
- Green Growth

Green Building Policy

The Port Green Building Policy was adopted in 2007 and requires that all new Port buildings of 7,500 square feet or more be designed to meet a minimum standard of U.S. Green Building Council's (USGBC) Gold level for Leadership in Energy and Environmental Design for New Construction (LEED-NC). In the future, existing buildings will also be evaluated for compliance with the LEED Existing Building rating system (LEED-EB). The LEED rating systems consider performance in six categories: sustainable sites, water efficiency, energy and atmosphere, materials and resources, indoor environmental quality, and innovation and design. In addition to the LEED Gold requirement, the Port's Green Building Policy requires that all new Port buildings incorporate solar power to the maximum feasible extent, as well as incorporate the best available technology for energy and water efficiency.

Current goals under this policy include obtaining LEED-NC Gold certification for two projects: the TraPac Admin Building (construction to start in 2012) and the Port Police Building (scheduled to open in July 2011). In addition, new cruise



3 Sustainability Related Programs

facilities and buildings constructed as part of the redevelopment of Ports O' Call must obtain LEED Gold certification. For existing buildings, two Port administration buildings (Harbor Administrative Building and Berth 161) have been chosen as pilot projects for LEED-EB certification. A survey will be conducted to identify which additional buildings may qualify for certification. In the meantime, the Port requires through new leases that all container terminal operators conduct energy audits on terminal buildings to identify energy savings measures.

In addition to supporting the Green Building Policy and other Port projects, two guidance documents have been drafted to create the Sustainable Development Guidelines. These documents include the Sustainable Construction Guidelines and the Sustainable Engineering Design Guidelines.

Sustainable Construction Guidelines

In March 2008, the Port adopted the Sustainable Construction Guidelines to support the Port's Green Building Policy. The Guidelines promote objectives pertaining to emissions reduction, construction training and efficiency, air quality, noise, habitat preservation, safety, and waste reduction.

The Guidelines include actions to: (1) Develop and implement sustainable construction training, (2) Develop a Sustainable Construction Report prior to commencement of the project, (3) Implement a Sustainability Inspection Program, (4) Reduce the amount of paperwork associated with construction administration, (5) Prevent stormwater pollution and siltation and sedimentation of down gradient sites and receiving waters, (6) Minimize disturbance of soil and vegetation, (7) Reduce indoor air quality problems, (8) Provide the construction team with health and safety management, hazard awareness, hazard prevention techniques, and a healthy and safe atmosphere, and (9) Salvage construction materials and wastes to reduce demand for virgin materials. The Guidelines continue to be updated as they are issued with bid specifications.

In addition, the Port adopted a policy in 2008 to use the most efficient construction equipment with the cleanest engines available.

Sustainable Engineering Design Guidelines

Sustainability is best incorporated at the beginning of the design stage of a project. For that reason, in 2008 the Port initiated development of the Sustainable Engineering Design Guidelines. The Draft Guidelines include such provisions as: (1) Engage all appropriate stakeholders in an initial sustainability project planning meeting, (2) Continue to involve stakeholders in regular project progress meetings, (3) Develop sustainable project deliverables by using fewer resources, such as creating awareness of sustainability through the use of recycled and bleach-free paper, (4) Use fewer resources through the use of double-sided printing, (5) When possible, use electronic submissions of bids, plans, specifications, and associated planning, design, and construction documents and invoices, (6) Have electronic meetings to reduce the use of



fossil fuels associated with vehicles used to travel to meetings, and (7) Incorporate principles from the LEED rating system that promote energy and water conservation measures.

Progress and Initiatives

Upon approval of the Green Building Policy, the Port began holding quarterly meetings to facilitate planning and implementation of the Policy, discuss open work orders, and decide which projects should move forward. The Green Building Policy group is also in the process of discussing appropriate metrics for measuring the success of the Policy. Methods discussed have included drafting management systems as well as policies and procedures. The group plans to create an operations plan to be used to implement the policy.

As described above, the Port Police and TraPac Terminal buildings are anticipated to obtain LEED Gold certification pursuant to the Green Building Policy. In addition, for the Port's waterfront redevelopment projects in San Pedro and Wilmington, new buildings and landscaped public open spaces will be constructed to meet the LEED-NC Gold standard. The Ralph J. Scott Fireboat Museum in the Downtown Harbor, currently in design, and the restroom buildings at the Wilmington Waterfront Park (constructed May 2011), incorporate sustainable design principles related to energy efficiency and material selection. The LA Waterfront projects total 500 acres and both will implement innovative water conservation measures, such as the use of native plants, recycled water for landscaping, and stormwater management design measures.

To further streamline the design and construction process, the Sustainable Engineering Design Guidelines will be combined with the Sustainable Construction Guidelines to develop a handbook that will be posted on the Port's employee internet site. All Port Project Managers are aware that they will use this handbook moving forward.





Community and Economic Development

The Port strives to improve the quality of life for residents in adjacent communities and throughout the region. To that end, the Port has created a number of projects, programs and outreach opportunities to maximize connectedness with the San Pedro and Wilmington communities as well as with the region, state, and nation.

Port Job Clusters

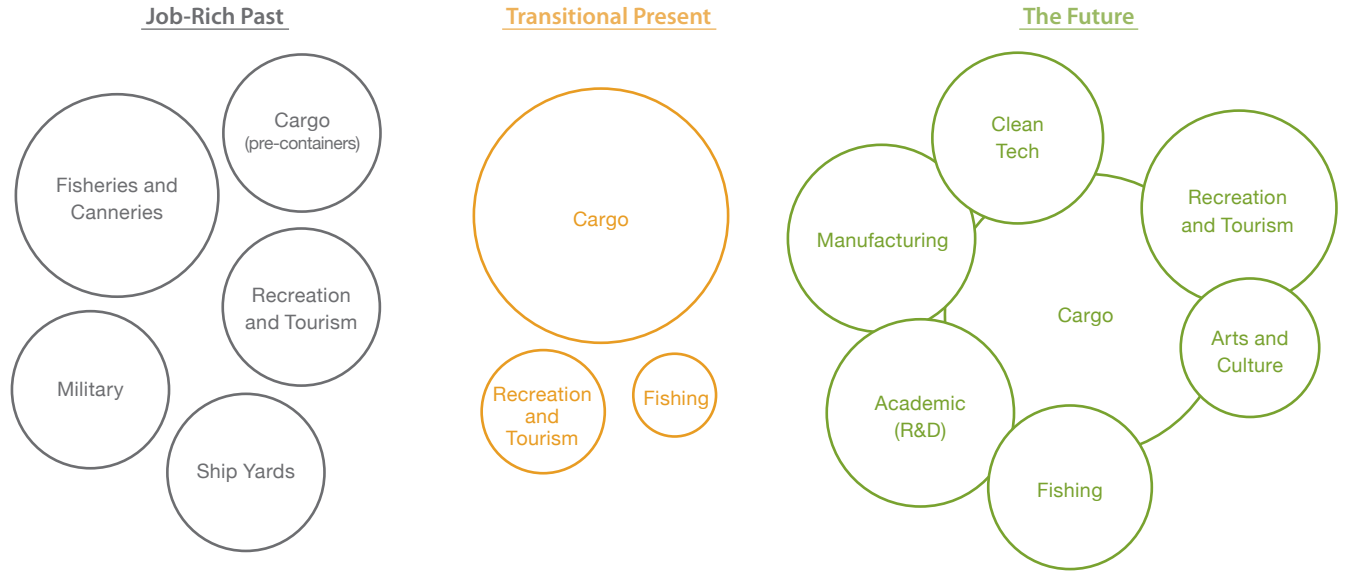
Current efforts to update the Port’s Strategic Plan are directly related to port sustainability and community and economic development. One in every eight Southern California jobs is linked to the Port. As illustrated in Figure 4, a variety of jobs for the community existed over the first hundred years of the Port’s operations related to the fisheries and canneries, military, cargo operations (before containers), shipbuilding, and recreation and tourism. Current job clusters at the Port are less diverse and focus on cargo (primarily containers), fishing, and recreation and tourism. At a February 2011 board meeting, the Board of Harbor Commissioners expressed an

Material Issues These Policies Address:

- Health Risk Reduction
- Air Quality
- Energy and Climate Change
- Water Quality
- Stakeholder Relationships
- Habitat Protection
- Open Space and Urban Greening
- Land Use
- Local Economic Development
- Green Growth

interest in “expanding the circle of jobs” created by the Port to foster closer ties with the community. The Port hopes to implement this strategy with current and future efforts, such as the LA Waterfront Program, Port Tech LA and Technology Advancement Program, and proposed City Dock No. 1 Marine Research Institute. Increased Port involvement with local educational facilities, community groups, and businesses will help the Port do its part in promoting the vitality of the surrounding communities.

Figure 4: Port of Los Angeles Job Clusters



Community Mitigation Trust Fund

On April 2, 2008, the Board of Harbor Commissioners approved a Memorandum of Understanding (MOU) between the City of Los Angeles and the Appellants of the TraPac Environmental Impact Report. The MOU provided for the establishment of the Community Mitigation Trust Fund to be funded upon construction of specified Port of Los Angeles development projects. Currently, the City of Los Angeles Treasurer's Office is investing the Trust Fund until a non-profit can be established to manage the fund. The Trust Fund will be restricted in use to the purposes specified in the MOU. [More info to come.]

Progress and Initiatives

To date, approximately \$16 million in funds have been collected for this program. The Port is currently in the process of creating a non-profit organization that will oversee the distribution of funds under the Community Mitigation Trust Fund. One of the first tasks of this organization will be to identify projects eligible to receive funding.

Community Aesthetics Mitigation Program

The Port established the Community Aesthetics Mitigation Program in 2003 to implement aesthetic mitigation projects in the communities of San Pedro and Wilmington. The program funding process and requirements were established in the 2003 China Shipping settlement agreement stipulated judgment, later amended in 2004, between the City of Los Angeles and the Natural Resources Defense Council, et al. As of December 2009, the Board of Harbor Commissioners approved 13 projects recommended by the Port Community Advisory Committee (PCAC) in accordance with the amended stipulated judgment. The Port has allocated over \$30 million to fund this program.

Progress and Initiatives

In February 2008, the Board of Harbor Commissioners allocated \$900,000 in Aesthetic Mitigation funding for the Banning Museum Transportation Exhibit in Wilmington, which involves conversion of an existing 3,000-square-foot photo gallery and retail shop into permanent exhibition space that highlights the transportation history of the Los Angeles Harbor between 1850 and 1915.

In February 2008 the Board of Harbor Commissioners also allocated over \$2,700,000 to the YMCA Aquatic Center project in Wilmington. A funding agreement was finalized in October 2009 and the project is currently being designed by the YMCA and their project team.

Also, in July 2008, \$1,800,000 was allocated for landscaping along Alameda Street and Harry Bridges Boulevard in Wilmington. The Community Redevelopment Agency, in close collaboration with the Wilmington Industrial Park Advisory Committee, is the lead agency for this project. The project is currently underway.

In December 2008, the Board of Harbor Commissioners allocated \$5,000,000 for the renovation of Plaza Park in San Pedro. The project includes the replacement of walkways, lighting, railings, stairs as necessary, irrigation, signage, and enhanced locations for viewing the Harbor and the Vincent Thomas Bridge. This enhanced viewing location and signage also serves as mitigation for the China Shipping Terminal Improvements project. Construction is expected to begin Fall 2011.

In addition, in July 2009, the Board of Harbor Commissioners approved and allocated Community Aesthetic Mitigation funding for the Los Angeles Harbor Lighthouse, also known as the Angel's Gate Lighthouse Restoration Project. The Angels Gate lighthouse was built in 1913, and resides at the end of the 9,250-foot-long San Pedro Breakwater. Over the years the lighthouse has fallen into disrepair and, although functional, is in need of restoration to preserve its historic character. The Cabrillo Beach Booster Club has spearheaded this restoration effort and has received \$1.8 million in funding to begin the project.

As well as the lighthouse project, in July 2009 the Board approved a health education program, administered by the Robert F. Kennedy Health Institute at Banning's Landing, for \$1,000,000; the restoration of The Swift of Ipswich, a wooden tall ship owned by the Los Angeles Maritime Institute that will be used to expand their TopSail education program, for \$771,000; an electronic sign for the Wilmington Chamber of Commerce used for public service announcements for \$50,000; landscaping in the Wilmington Marinas for \$1,400,000; and a storm water education program and waterway clean ups in Wilmington for \$75,000.

Finally, in December 2009, the Board of Harbor Commissioners allocated nearly \$7,000,000 for the restoration of the "Hey Rookie" pool in San Pedro which has historical significance because it was opened in 1943 for training those in military service and was later made available for the general public. It was closed in the early 1990s and since then, has been severely vandalized. This project will allow for repair and historical restoration and will return the pool to public use. The pool construction will be managed and maintained by the Department of Recreation and Parks in collaboration with the Fort MacArthur Museum Association.

These projects account for the allocation of the entire Aesthetic Mitigation fund. In the event additional funding becomes available, the Board of Harbor Commissioners has approved, in concept, a landscaping project along Front Street and Harbor Boulevard. It is anticipated that project would cost between \$2,000,000 to \$4,000,000 to implement.



LA Waterfront Program

The LA Waterfront Program is one of the most significant community revitalization efforts undertaken in the Port’s history. Encompassing over 500 acres from San Pedro to Wilmington, the LA Waterfront includes a variety of uses ranging from waterfront promenades and parks, commercial and retail development, transportation improvements, and passenger cruise operations. Major projects include the Wilmington Waterfront Development Project, Wilmington Waterfront Park, and San Pedro Waterfront Project. Full build-out of the LA Waterfront will occur over the next twenty years.



Progress and Initiatives

Wilmington Waterfront

Wilmington Waterfront Development Project

Approval of the Wilmington Waterfront Development Project in June 2008 concluded a 20-year community planning effort. The Project focuses on connecting the Wilmington community to the waterfront, creating open space, and developing 58,000 square feet of visitor-serving commercial space and up to 150,000 square feet of light industrial space oriented towards the development of green technologies. The Project covers approximately 94 acres and includes a 10-acre

land bridge/elevated waterfront park that will span active rail lines. Near Banning’s Landing, the Port’s birthplace, the Port will construct a 200-foot observation tower, waterfront promenade, and public floating docks. Construction of the Wilmington Waterfront Development Project will occur in phases. Construction of Phase I is expected to begin in 2013. The project is expected to create a total of 2,847 one-year equivalent construction jobs through the construction period. Project operations are expected to result in 336 ongoing jobs when the project is completed in 2020.

Wilmington Waterfront Park

In 2008, the Port began construction of the Wilmington Waterfront Park (former known as the Harry Bridges Boulevard Buffer Project). The grand opening of the 30-acre public park occurred in June 2011. The approximately \$70 million project includes redevelopment of the area bounded by Figueroa Street, Lagoon Avenue, C Street, and Harry Bridges Boulevard to buffer Wilmington residents from adjacent port operations and provide regional recreational open space. Wilmington Waterfront Park offers over six acres of recreational fields, plazas, picnic areas, water features, a playground, and elevated pedestrian paths that provide views of the working port. The project was planned in close collaboration with the Wilmington Waterfront Development Subcommittee of the Port Community Advisory Committee, comprised of represen-



3 Sustainability Related Programs



tatives from numerous community organizations in Wilmington. Combined with the expansion of the adjacent TraPac Container Terminal, the project created approximately 2,800 construction jobs.

Sustainable design features include the use of native plants, connection to the California Coastal Trail, a French drain stormwater management system throughout the site, energy-efficient buildings, and the use of recycled water for landscaping. The landform creating the 16-foot high elevated promenade aids in attenuating noise from truck traffic along Harry Bridges Boulevard. One especially innovative feature to improve air quality includes the use of a titanium dioxide coating on a portion of the terrace walls along Harry Bridges Boulevard. Research has found that titanium dioxide reduces NOx emissions by 45 percent per 500 vehicles. Approximately 650 trees cover 14.42 acres of the site to help sequester carbon and re-establish habitat in the Wilmington community.

San Pedro Waterfront

San Pedro Waterfront Project

In September 2009, after a decade long community planning process, the Port approved the San Pedro Waterfront Project. The Project includes 400 acres and implements the Port's commitment to focus commercial, retail, and recreational uses on the west side of the Main Channel adjacent to port communities. With over 32 project elements, major features include construction of the Downtown and 7th Street Harbors, redevelopment of Ports O' Call, construction of new cruise facilities in the Outer Harbor, transportation improvements, creation of over 30 acres of new open space, and establishment of a continuous waterfront promenade that will stretch over 8 miles. Development will occur in several phases with full build out expected by 2030. The Project is expected to result in 14,300 new construction-related jobs and at full build-out operations are expected to generate 5,660 jobs.



Fanfare Fountain

In 2008, over 5,000 people gathered for the grand opening of the Fanfare Fountain, the largest water feature in California. Located at Harbor Boulevard and Swinford Street near the Vincent Thomas Bridge, the fountain pumps 400,000 gallons of recycled water to create one-of-a-kind public water shows synchronized to music and lights. The fountain has helped create an important public space that is enjoyed by local residents and thousands of visitors to the Port and World Cruise Center. Water shows occur daily between 10 am and 9 pm. Several special events are scheduled for 2011, including an outdoor concert series.

Cabrillo Marina Phase II

In 2009, the Port began construction of the \$130 million, 700-slip Cabrillo Way Marina Phase II Project, which is scheduled for completion in Fall 2011. The Project covers 80 acres of land and water in the West Channel area of the outer harbor and provides approximately one mile of public waterfront promenade.

22nd Street Park

In January 2010, the Port completed construction of the 16-acre 22nd Street Park, which is bounded by 22nd Street, Miner Street, and Crescent Avenue in San Pedro. The park features walking and biking trails, 500 shade trees, bocce ball courts,





restrooms, open meadow, and over 4 acres of flat, grassy areas for recreation.

Downtown Waterfront

In December 2011, the Port will begin construction of the Downtown Harbor, a 1.2 acre water cut located between Fire Station 116 and the LA Maritime Museum at the foot of 6th Street, to further integrate downtown San Pedro with the waterfront. The project will include a waterfront promenade and plaza, slips for tugboats and visiting tall ships, the Ralph J. Scott Fireboat Museum (a National Historic Landmark), parking, public art elements, signage and pedestrian linkages to Downtown San Pedro. Construction of the adjacent 7th Street Harbor and public pier for visiting vessels is planned for 2013.

To further strengthen ties with Downtown San Pedro, the Port of Los Angeles is an active member of the San Pedro Historic Waterfront Business Improvement District (PBID), which was formed in 2008. The boundaries of the PBID extend from 4th Street to 9th Street along Harbor Boulevard to Pacific Avenue. The goal of the PBID is to provide a district that fosters business development, expanded retail sales, and ownership of residential real estate and tourism in a clean, safe environment for Downtown San Pedro. Current efforts focus on street beautification, providing Downtown trolley service, tourism marketing, and providing retail kiosk opportunities on the Waterfront Promenade.

Southern Pacific Slip

In July 2011, the Port will begin construction of a waterfront plaza at the head of the Southern Pacific Slip, which berths commercial fishing vessels just south of Ports O' Call. The public plaza will feature an iconic "Ghost Fish" sculpture by

artist Carl Cheng. The 40-foot blue fin tuna will be hung from a galvanized steel frame over the water at Berth 73. Celebrating San Pedro's long history as a commercial fishing hub and birthplace of the tuna canning industry, the sculpture will incorporate aluminum and glass cast objects and artifacts gathered from local fishermen. A solar-powered camera and video screen in the fish's eye will glow for pedestrian viewers. The Project is expected to be completed by Fall 2012.

LA Waterfront Public Art Program

The Port's public art program is focused on creating an experience, destination, and "sense of place" at the LA Waterfront. By facilitating public art that engages local, regional, and internationally known artists - whose work represent a diverse range of cultural and artistic perspectives- the public art created reflects the culture, history, and unique character of the harbor area. Recent public art installations on the LA Waterfront include artist Doug Hollis' "TelItales," a wind and sound activated installation and seat wall tile benches by various artists at the Cruise Ship Promenade; the "Millennium Man" at the Fanfare Fountain; and artist Mark Dion's "Ship in a Bottle" at the Cabrillo Way Marina. Future public art installations are planned for the Wilmington Waterfront Park, Southern Pacific Slip, Downtown Harbor, Port Police building, and Cabrillo Beach.

Tree Planting Program

The Port of Los Angeles Tree Planting Program was initiated in 2007 to distribute and plant trees in and around the Port area. The program is an integral part of the Port's Climate Action Plan, and represents the Port's participation in Million Trees



LA, a cooperative effort between the city of Los Angeles, the Department of Public Works, community groups, environmental organizations, businesses and individuals, to plant and care for trees where they are most needed. Million Trees LA is part of a larger strategy to transform Los Angeles into the cleanest and greenest big city in America. This program supports the Port's efforts to use community participation to revitalize neighborhoods and to create a more vibrant and sustainable community. Trees have been distributed to four groups: the community, customers (port tenants), employees, and the Port's Capital Maintenance and Improvement Program.

In addition to adding trees to the harbor and Los Angeles areas, the Port embarked upon an aggressive community tree give-away program. Under this program the Port distributed trees, free of charge, at local community events and monthly Saturday "Tree Give-Away Days." As part of the Tree Planting Program, the community, customers, and employees were asked to fill out a "Pledge to Plant" card when the trees were distributed.

Progress and Initiatives

Under the broader goal of planting and distributing trees in and around the Port area, the Port's initial target was to add more than 7,300 trees to the harbor and Los Angeles areas by the end of 2009. In 2008, the Program distributed or planted over 4,800 trees to the community, customers and employees. The majority of these trees were distributed through the Port's Capital Maintenance and Improvement Program. In conjunction with the 7,100 trees distributed or planted in 2007, the Program in total has planted or distributed over 11,900 trees, well over the 7,300-tree target. Having achieved its planting targets in 2008, the Program and associated workgroup was discontinued in 2009.

Other Community Outreach Activities

America's Port™ Reality TV Show

In 2008 National Geographic produced the reality TV show "America's Port™," documenting Port operations. The show provides an overview of daily port activities from the perspective of various people at the Port, ranging from the longshoreman in charge of loading and unloading massive cargo ships, to port police and customs officials, to the Port's Executive Director. The 8-episode series explores various events that occur at the port, such as when Port Police dive teams perform a dock sweep for explosive devices prior to the arrival of two Korean Navy vessels.

Port Boat Tours

The Port offers boat tours of its facilities to provide an opportunity for organizations and educational groups to experience the massive scale and theatre of a working port. In 2010, more than 12,000 Los Angeles Unified School District students took part in the Port's free boat tour program. Free boat tours for the public are available during World Trade Week.



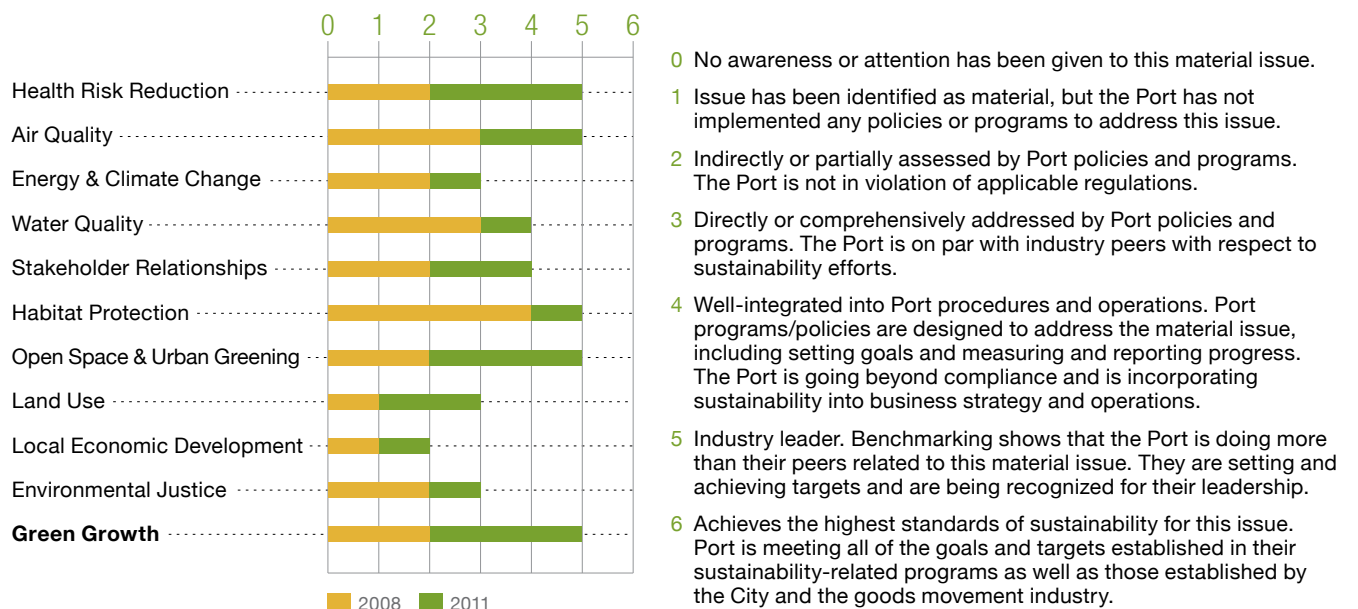
4 Performance Scorecards

The Port of Los Angeles combines a grow green philosophy with the Triple Bottom Line approach to sustainability. This report highlights major Port sustainability initiatives and measures the Port's progress in achieving green growth. Through green growth, the Port is able to expand operations while aggressively reducing impacts to the environment and community. Simultaneously growing and greening the Port's core businesses is the top material issue guiding sustainability efforts. Through this approach, the Port has contributed to an

emerging industry-wide understanding of the externalities associated with the goods movement industry and the acceptance of green growth as an imperative for business operations.

The Material Issues Scorecard, presented as Figure 5, rates the Port's progress on addressing the material issues most important to the Port and its stakeholders for achieving sustainable operations.

Figure 5: Material Issues Scorecard



- 0 No awareness or attention has been given to this material issue.
- 1 Issue has been identified as material, but the Port has not implemented any policies or programs to address this issue.
- 2 Indirectly or partially assessed by Port policies and programs. The Port is not in violation of applicable regulations.
- 3 Directly or comprehensively addressed by Port policies and programs. The Port is on par with industry peers with respect to sustainability efforts.
- 4 Well-integrated into Port procedures and operations. Port programs/policies are designed to address the material issue, including setting goals and measuring and reporting progress. The Port is going beyond compliance and is incorporating sustainability into business strategy and operations.
- 5 Industry leader. Benchmarking shows that the Port is doing more than their peers related to this material issue. They are setting and achieving targets and are being recognized for their leadership.
- 6 Achieves the highest standards of sustainability for this issue. Port is meeting all of the goals and targets established in their sustainability-related programs as well as those established by the City and the goods movement industry.



The Programs/Policies Scorecard, Figure 6, rates the Port's progress on program implementation. As indicated by the scorecards, the Port is leading the industry in many aspects of sustainability, particularly in addressing the following material issues: Health Risk Reduction, Air Quality, Habitat Protection, Open Space and Urban Greening, and Green Growth. In general, the Port has made significant progress in developing programs and policies that target these material issues and contribute to achieving green growth. In addition, the programs/policies

scorecard demonstrates the Port's commitment to some of its most pressing concerns and illustrates the frameworks in place to support implementing a comprehensive sustainability plan. The Mayor's Executive Directive #10 provides guidance to help Los Angeles become one of the greenest cities in America. The Port, through its aggressive programs and leadership, will continue to be a major contributor to the City's effort. Next year, the Port will again report on its green growth efforts and strive for continuous improvement towards sustainable operations.

Figure 6: Programs/Policies Scorecard

