



# GREEN PORT

Port of San Diego



## 2009/2010 YEAR *in* REVIEW

**I**N December of 2007, the Board of Port Commissioners adopted the Green Port Policy, establishing the framework for the development of the Green Port Program. As part of the Green Port Program, the Port set long-term goals and evaluates progress annually. The second year of the Green Port Program included efforts to conserve resources, reduce waste, and prevent pollution. It spans activities from January 2009 through June 2010 to reflect a shift in reporting from the Calendar Year to the Fiscal Year. We are proud to report that the Port made considerable progress on its 2009/2010 Green Port objectives.

The Green Port Program generates a great deal of interest and support from the Board of Port Commissioners, executives and staff alike. Now more than ever, staff from a number of departments are identifying new ways that the Port can further reduce its environmental impact. Environmental sustainability continues to permeate throughout all aspects of Port operations, from Port gardeners designing waterwise gardens in our parks to administrative assistants arranging “office supply swaps” to reuse supplies and save money. This report provides a summary of these accomplishments.

### **ECONOMIC BENEFITS**

Many of the environmental sustainability efforts initiated through the Green Port Program also result in cost savings. The economic benefits of reduced energy and water use are relatively simple to quantify since usage is tracked through monthly invoices. Without the existing energy and water conservation programs, it is estimated that the Port would have paid up to \$277,000 more in utility costs last year. Additionally, many other sustainability efforts underway at the Port also provide economic benefits that are more difficult to quantify, such as:

- Diversion of composted and recycled material from the landfill, which results in lower waste management costs.
- Decreased high-water-use landscaped areas that require maintenance, which results in lower staffing and equipment costs.
- Increased use of fuel-efficient or alternative vehicles, which results in lower fuel costs.
- Reduced paper use and increased double-sided printing through education and sustainable purchasing efforts, which results in lower office supply costs.



**WATER GOAL:** Reduce the Port's water usage to preserve San Diego's water supply.

**OBJECTIVE:** REDUCE THE PORT'S OPERATIONAL WATER USE BEYOND LOCAL REGULATORY REQUIREMENTS.

- o A Water Conservation Strategy was developed as part of the Port's Environmental Management System. It includes twenty Action Items which are being tracked to improve water management.
- o Operational water use for Fiscal Year 09/10 was reduced by 23% compared to the Fiscal Year 07/08 baseline. Had the Port not made water conservation a priority, this year's water bill would have been an estimated \$250,000 higher.
- o To date, more than 300,000 square feet of Port-maintained landscaped areas on Tidelands has been converted to low-water or no-water landscaping.
- o Plumbing fixtures throughout the Port have been replaced with low-flow systems. This includes low-flow fixtures in all Port buildings, marine terminals and public restrooms. Water use in Port buildings decreased by 22% compared to the Fiscal Year 07/08 baseline as a result of these retrofits.
- o The Port's Smart Irrigation System effectively manages water use by shutting down when leaks are detected. Phase 1 of the installation included planning and budgeting for six locations, which cover 37% of the Port's park area. This phase is now complete and staff is seeking funding for the remaining 22 locations.



**WASTE MANAGEMENT GOAL:** Reduce waste from Port operations through material reuse, recycling and composting.

**OBJECTIVE:** DIVERT FOUR TONS OF WASTE FROM THE LANDFILL.

- o More than 1.5 tons of organic material was composted from the Port Administration Building's cafe. The composted material is used in various Port parks to reduce the need for fertilizers.
- o A pilot program was established to collect discarded paper towels for disposal in the Port's compost bin. This program has resulted in the diversion of 68 pounds of paper towels from the landfill. The towels serve as the vital "brown waste" component of the composting process.
- o The Port's electronic waste collection events for employees were expanded to include Port tenants. Two events were held at the Port's Administration Building, resulting in nearly 2 tons of material diverted from the landfill.
- o A recycling program for compact fluorescent light (CFL) bulbs was established for Port employees. As a result, 123 CFLs have been recycled.
- o More than 1 ton of batteries were recycled by Port employees.
- o 28 unwanted cell phones were recycled by Port employees, which benefitted the Red Cross Haiti Relief effort.





## SUSTAINABLE BUSINESS PRACTICES GOAL:

Give equal weight to environmental, economic and social concerns in the decision-making process.

### OBJECTIVE: INCREASE OPPORTUNITIES FOR EMPLOYEES AND THE PUBLIC TO PARTICIPATE IN THE GREEN PORT PROGRAM.

- o The Port's Administration Building was established as a Community Supported Agriculture (CSA) Program drop-off site in May 2009. The site is open to the public and currently has 14 active members.
- o 33 Green Port tips were emailed out to all Port employees, posted on the Port's website, and distributed via social media.
- o Green Port Month activities in 2009 included lunch-time seminars, giveaways, a raffle for employees who used re-usable plates and bowls, a cleanup event, and an electronic waste collections event.
- o Earth Week activities in 2009 included an environmental photo contest, a cleanup event, cell phone recycling, a Sustainability Pledge and lunch-time seminars.
- o 2009 Holiday celebrations included an energy efficient tree-lighting event and a holiday light strand exchange for the public.
- o 2010 Bike to Work Week was promoted in May through a biking safety seminar and a raffle for employees who biked to work.
- o 397 Port employees received training on the Port's Water Conservation Strategy.
- o The Commuter Assistance Program provided 100% reimbursement of bus, train and trolley passes to 64 employees.

### OBJECTIVE: EXPAND THE USE OF ENVIRONMENTALLY-FRIENDLY PRODUCTS.

- o A Port-wide Green Cleaning Policy is being developed as part of the process to acquire LEED (Leadership in Energy and Environmental Design) certification for two Port buildings.
- o An internal Sustainable Purchasing Policy was adopted and implemented. Of the total amount of office and equipment money spent on procurement during Fiscal Year 09/10, 25% was spent on green products. This reflects an increase of 7% from the 2008 Baseline Year.



**AIR GOAL:** Reduce greenhouse gas contributions and other air emissions from Port operations.

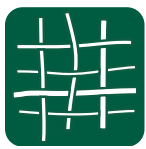
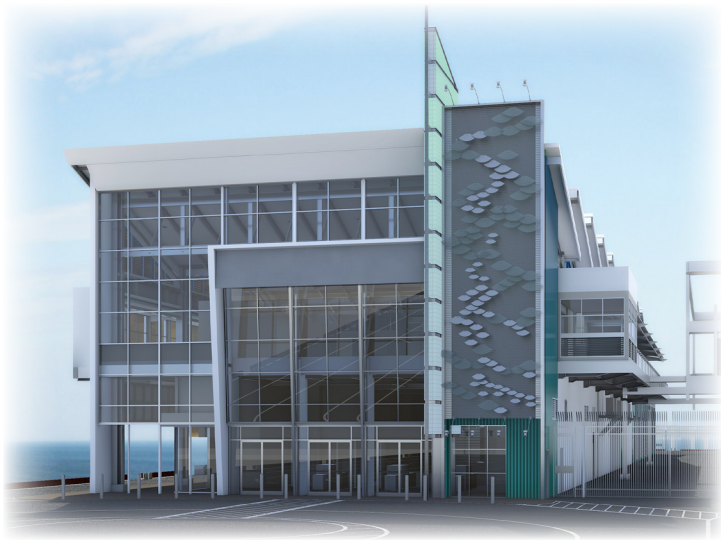
### OBJECTIVE: DEVELOP AND IMPLEMENT A CARBON FOOTPRINT MANAGEMENT PROGRAM.

- o The carbon footprint of Port operations for 2008 was calculated, verified by a third party, and registered publicly with The Climate Registry. Data for 2009 also has been collected and currently is being processed. Goals for reduction will be established as part of a broader Climate Mitigation and Adaptation Plan to begin in fall 2010.

### OBJECTIVE: CONTINUE IMPLEMENTATION OF THE CLEAN AIR PROGRAM.

- o To date, 60% of cruise ship and 56% of cargo vessel calls to the Port have participated in the Vessel Speed Reduction Program. This resulted in an 11-14% reduction in air pollutants from these vessels, including nitrous oxides, carbon dioxide and particulate matter.
- o Significant progress has been made on the shore power system at the B Street and Broadway Piers. All customized equipment has been purchased and delivered, and construction is well underway. This project is on target to be completed by December 2010.
- o The Clean Trucks Program underwent a major revision this year to further reduce emissions associated with trucks visiting the Port. The Board of Port Commissioners approved a revised program, which will ban trucks from entering the terminals that do not comply with the state's requirements. The ban will take effect January 1, 2011. Customer service centers were established to provide outreach to truck owners and operators at the terminals.





## SUSTAINABLE DEVELOPMENT GOAL:

Enhance the environmental performance of Port buildings while maximizing long-term economic benefits.

### OBJECTIVE: ADOPT A SUSTAINABLE BUILDING POLICY.

o A Sustainable Building Policy is being developed. The policy will be based on the Port's experience with LEED (Leadership in Energy and Environmental and Design) in the design and construction of Broadway Pier Terminal and in the standard operating procedures generated through the LEED certification of existing Port buildings. Although no formal policy has been instituted, sustainable building practices such as the use of environmentally-friendly paints and recycled-content carpets have been utilized with any build-outs and improvements made in Port buildings.

### OBJECTIVE: ENHANCE THE ENVIRONMENTAL PERFORMANCE OF TWO PORT BUILDINGS.

- o The process to earn LEED certification for the Administration Building and General Services Building is currently underway.
- o The Broadway Pier Terminal construction is nearly complete and is expected to open in December 2010. Sustainable building practices to earn LEED points are in place and certification is expected to be verified and awarded in early 2011.
- o A seminar on LEED-Existing Buildings was provided to 34 Port employees to educate them about basic principles and potential cost-savings of sustainable buildings.
- o Three Port employees became LEED-Accredited Professionals.



## ENERGY GOAL:

Conserve energy and maximize energy efficiency of Port operations.

### OBJECTIVE: IMPLEMENT THE ENERGY ROADMAP OBJECTIVES RECOMMENDED BY SDG&E TO REDUCE ENERGY USE.

- o Energy needs were reduced by more than 160,000 kilowatt-hours in 2009 compared to 2008. This reduction is equivalent to the energy needs of ten average households for a year. This was achieved through Port-wide energy efficiency education, behavioral changes and the installation of a photovoltaic system on the Annex of the Port Administration Building. Had the Port not achieved energy savings, this year's energy bill would have been an estimated \$27,000 higher.
- o All light fixtures in the Port's Administration Building parking lot were retrofitted with energy efficient Light Emitting Diode (LED) fixtures. The project reduced the number of fixtures from 14 to seven and resulted in a 91% reduction in energy use. This pilot project is expected to save approximately \$3,000 per year in energy costs.

### OBJECTIVE: INVESTIGATE OPPORTUNITIES TO GENERATE ONE MEGAWATT OF SOLAR ENERGY ON TIDELANDS.

- o A local firm was contracted to complete an analysis of solar energy potential. The report outlines Port-operated areas that are suitable for the installation of photovoltaic systems and will assist the Port's decision-making process as opportunities for photovoltaic systems on Tideland are explored.
- o A 24.6 kilowatt photovoltaic system was installed on the Port Administration Building Annex. To date, the system has provided 29,850 kilowatt-hours of clean, renewable energy to the building.
- o The photovoltaic system for the General Services Building is in the final design phase and steps for installation are being explored.
- o The Port is analyzing financing opportunities, such as Power Purchase Agreements, to increase the use of renewable energy on Tideland.

## LESSONS LEARNED

- o Employee education and open communication help facilitate participation and buy-in on environmental sustainability projects. This is especially important for projects that directly impact employees.
- o Measuring a facility's energy performance using the EPA's Portfolio Manager is a helpful practice that not only provides important information for facility operators, but also helps expedite the rebate application process.
- o Environmentally preferable product selection involves continuous evaluation of quality, effectiveness and cost. Organizational support can then be gained based on the product's long-term benefits.
- o Understanding current practices and establishing baselines is critical to the development of successful conservation strategies. For example, identifying waste streams provides information on what people throw away, which facilitates the development of programs to remove barriers and increase recycling rates.
- o Promoting sustainable practices throughout the Port can be challenging during periods of fiscal restraint. Communicating the concept that many sustainability efforts save money in the long-term is key to gaining buy-in for a successful program.
- o Communication to the public about the Port's water conservation efforts will become increasingly important as irrigation restrictions make it more difficult to maintain turf in Port parks.
- o Although reclaimed water (a.k.a. "purple pipe") currently is not available for use on Tidelands, opportunities exist to prepare for the future by incorporating purple pipe design considerations into current development projects.
- o Obtaining LEED certification requires diligence and continuous follow up with all team members. Having a dedicated LEED team that keeps the contractor and the Port on track has been very effective in helping achieve the LEED goals.
- o Small pilot projects can serve to increase awareness and provide important building blocks for successful implementation of full-scale programs.

## CONCLUDING THOUGHTS

The Port made significant progress this year on its long-term environmental sustainability goals. The Port continues to seek effective ways to minimize the environmental impact of its operations while considering social and economic benefits. As this initiative continues to grow, a greater understanding of the overlap and multiple benefits of various projects is beginning to emerge. For example, people are beginning to recognize that waterwise landscaping reduces the amount of water used for Port operations, reducing the energy needed to move that water and the air emissions associated with that energy use. Additionally, the conservation of resources generally has the added benefit of decreasing operating costs.

New Green Port initiatives are underway for 2010/2011 to further conserve resources, reduce waste and prevent pollution. A primary area of focus in 2010/2011 will be the development of a plan, which will identify mitigation measures to address greenhouse gas emissions and strategies to adapt to impacts resulting from climate change. Grant and partnering opportunities will continue to be explored for all initiatives where applicable, and lessons learned will be applied to ensure program improvement and growth.