Environmental Sustainability Policy Topic #1 - Climate Change and Air Quality

Policy Background:

"**0-50-100-Roots**" is an expression of the City of San Francisco's climate action goal to achieve:

- Zero waste to landfills
- 50% of travel by clean transportation
- 100% renewable energy in operations and new construction
- Carbon sequestration by maximizing composting and creating and maintaining healthy carbon-friendly landscaping.

Consistent with this goal, the City requires every department to track and report greenhouse gas emissions in annual Departmental Climate Action Plans. Departments, including the Port, look at vehicle fuel, energy usage in buildings, water usage, and practices related to waste, transportation and purchasing. The Port completed its first Climate Action Plan in 2009 and was designated the City's first Climate Champion in 2010 for its efforts to measure and reduce its greenhouse gas emissions. Annually, Port staff analyze activities that generate greenhouse gas emissions Port-wide and convert these measurements into GHG emissions. This process enables the Port to track its progress toward its goal to minimize its contribution to climate change and encourages continuous improvement toward that goal. The most recent update of the Climate Action Plan is available at: **Climate Action Plan 2012-2013**.

The Port Commission adopted a **Zero Waste Event Policy** that prohibits the sale and distribution of single-use plastic bottles, bags, and foodware, and the intentional release of balloons for large events (5,000+). This policy also requires the use of compostable food ware at such events, and informed an ordinance subsequently passed by the Board of Supervisors that bans the sale and distribution of plastic bottles on City property.

Energy conservation and energy efficiency are key strategies towards a greener energy future for the Port. The Port benefits greatly from the clean, renewable hydro-electricity provided by the San Francisco Public Utilities Commission. The Port generates 1.8 megawatts from solar panels at Pier 15, Pier 1, Pier 96, AT&T Park, and the EcoCenter at Heron's Head Park and plans to pursue opportunities for additional solar power generation. The Port provides shoreside power at Pier 27 and Pier 70, allowing large ocean going vessels at berth or in dry-dock to run their auxiliary power from the electric grid rather than diesel engines. In 2010, the Port replaced or upgraded three of its four natural gas boilers, significantly reducing natural gas consumption and carbon emissions.

Transportation is a major source of energy consumption and carbon emissions. The Port is transforming its fleet with each vehicle purchase, relying increasingly on hybrid vehicles and alternative fuels. The Port uses renewable diesel, a fuel derived from non-sequestered carbon, in its trucks and heavy duty vehicles, resulting in a significantly reduced carbon footprint. The Port partnered with the **San Francisco Department of the Environment** and **Charge across Town** to deploy the EV ARC™, a solar powered electric vehicle charger made by **Envision Solar**. It is available for public use at Sea Wall Lot 330 at the corner of Bryant and the Embarcadero.

The Port also supports the City's Transit First policy by encouraging the use of alternate modes of transportation for working and commuting. Many Port staff bicycle, walk, and use public transit throughout the work day, and more than 75% of Port staff commute to work by some form of cleaner transportation. The Port also partners with tenants to promote clean transportation, including the

production of biodiesel and participation in **SF Breeze**, a research project to develop a hydrogen fuel cell technology for ferry service. The Transportation Subcommittee will also be discussing clean-transportation policy ideas that could be incorporated in the WP Update. Port Staff will coordinate the efforts of all subcommittees and report any inconsistencies to the full Working Group for further discussion as the WP Update process proceeds.

Policy and Discussion Ideas:

New Waterfront Plan policies should call for improving air quality and reducing the Port's contribution to climate change. Policy ideas for discussion at the 2.1.17 meeting include:

1. Continue to minimize carbon emissions and maximize carbon capture by Port tenants and development partners.
2. Evaluate "carbon neutrality" as a goal for Port operations; continue to measure progress toward that goal through the Port's Climate Action Plan.
3. Explore new opportunities to improve energy efficiency; generate and use solar, wind or other renewable power; and facilitate use of alternative fuels, consistent with the City's 0-50-100-Roots policy.
4. Continue and expand efforts to reduce emissions and promote the use of clean technology for water transportation and maritime operations (e.g. shoreside power, alternative fuels, etc.).
5. Consider incentives for carbon emissions reduction measures (e.g. energy efficiency and use of cleaner fuels and technologies), above those already mandated by existing regulations, in Port leasing and development activities.
6. Enhance data collection and sharing to establish baselines and better measure impacts of climate action policies and projects.
7. Collaborate with City and regional agencies to share information, pursue joint projects and jointly seek state and federal funding to meet Climate Action goals.

Note: Subcommittee policy discussions provide guidance to Port Staff as they draft proposed updates to the 1997 Waterfront Land Use Plan. The discussions are on-going and iterative, and will require further revision and reconciliation with ideas generated in the Land Use and Transportation Subcommittee meetings, full Working Group meetings, and other public forums, before ultimately being considered by the Port Commission.

Environmental Sustainability Policy Topic #2 - Water Quality and Conservation

Policy Background:

Land use at the Port can impact water quality through direct discharge of pollutants from construction activities or structures (e.g. creosote-treated wood, leaking under-pier utilities, un-engineered shorelines), and stormwater runoff carrying sediment and other pollutants to the Bay.

Since 2001, the Port has removed over 300,000 square feet of dilapidated piers, primarily comprised of creosote-treated wood from the Bay. As the Port repairs and replaces structures, it seeks alternatives to chemically-treated wood in/over water wherever feasible. Furthermore, the Portwide Maintenance Manual specifies in-water maintenance and repair practices that Port maintenance staff and contractors implement to protect water quality and avoid or minimize impacts to marine life and sensitive shoreline habitat. City and State regulations that govern dust control and runoff from construction sites also reduce direct discharge of pollutants to the Bay.

The Port maintains under-pier utility infrastructure that encompasses several miles of water, wastewater, fire service, electrical, and communications lines. These utilities are subject to harsh conditions, including the corrosive effects of Bay water and damage inflicted by floating debris. Damage and deterioration of under-pier utilities can result in the direct discharge of sewage and water to the Bay. The Port has a comprehensive Under-Pier Utilities Repair Program of regular inspection and timely maintenance and repairs of water and wastewater lines, and relocation of utilities above pier decks when feasible. The Port also requires its tenants with master leases to ensure compliance with utility maintenance responsibility obligations included in their leases.

Urban stormwater runoff is a leading cause of water pollution in California and is subject to evolving regulations designed to reduce stormwater runoff impacts to water quality. At the Port, stormwater runoff either discharges directly to the Bay, potentially carrying with it pollutants from the urban environment, or to the City's combined stormwater and sanitary sewer system. All such runoff is subject to the San Francisco **Stormwater Management Requirements** (SMR). The SMR describe methods of designing new and redevelopment projects to reduce both the volume and potential pollutants in stormwater runoff by emphasizing low impact design and green infrastructure (e.g., permeable pavement, vegetated roofs, etc.). The SMR offer practical, environmentally beneficial and aesthetic design strategies to meet state and federal regulations and address the unique design challenges posed by the Port's piers and over-water structures.

To prepare for and minimize impact of oil spills within Port jurisdiction, the Port has procured and strategically placed along the waterfront more than two miles of containment boom and related oil spill response equipment; has trained more than 100 employees in oil spill response on the water; and practices oil spill response activities on the water annually.

Dredging to maintain vessel access to maritime facilities poses a potential to impact water quality and aquatic life both during sediment removal and subsequent disposal of dredged material. Dredging is heavily regulated by numerous environmental regulatory agencies that collectively authorize dredging in San Francisco Bay through the Dredged Materials Management Office. For decades, dredgers and environmental agencies have sought to increase "beneficial re-use" of dredged material, using dredged material in shoreline habitat restoration projects, rather than disposing it in the Bay or ocean. The Port has been able to beneficially reuse sediment from recent dredging projects and endeavors to pursue beneficial reuse where feasible.

The Port complies with numerous State and City regulations designed to conserve water. These require use of efficient fixtures, planting of native and drought-tolerant plants, monitoring water consumption, and making timely repairs of leaking pipes. The City requires new development to design and construct infrastructure that enables use of recycled water from off-site and reuse stormwater and wastewater on-site.

Policy and Discussion Ideas:

New Waterfront Plan policy ideas for discussion at the 2.1.17 meeting include:

1. Continue to implement the City's existing Stormwater Management Requirements and promote additional implementation of "green infrastructure"[1] to reduce the volume and improve the quality of stormwater runoff.
2. Continue the Port's ongoing program of inspection and repair of under-pier utilities to reduce discharges of wastewater and potable water to the Bay; seek opportunities in renovation or new construction to relocate utilities above-board.
3. Continue to remove deleterious fill from the Bay and shoreline, particularly where such fill degrades habitat or water quality (e.g. un-engineered shoreline debris, creosote-treated wood).
4. Prioritize beneficial reuse of dredged materials at approved facilities over in-bay, ocean, or upland disposal.
5. Develop design, maintenance, and operational tools (e.g. solar-powered Big Bellies) to reduce the spread of garbage into the Bay.
6. Promote remediation, redevelopment, and reuse of contaminated sites, particularly where such redevelopment can protect such sites from erosion or inundation.
7. Implement State and local water conservation and water reuse requirements and policies for new construction, renovation, parks and open spaces, and operations and maintenance.
8. Implement City requirements for new and redevelopment projects to design and construct infrastructure to use recycled water from off-site and reuse stormwater and wastewater on-site.

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[1] Green infrastructure is an approach to managing stormwater through vegetated features and other natural-systems rather than conventional piped drainage and centralized water treatment systems. It is a cost-effective, resilient way of treating stormwater at its source while delivering aesthetic, environmental, social, and economic benefits. In San Francisco, reducing stormwater runoff into the combined storm/sanitary sewers may reduce the frequency and/or volume of sanitary sewer overflows to the Bay during wet weather.

Environmental Sustainability Policy #3 - Natural Resources

Policy Background:

The Port primarily protects natural resources through habitat restoration projects and ongoing maintenance and expansion of waterfront parks and open spaces on Port lands. These areas provide habitat for native plants and wildlife, improve water quality, and can be constructed to protect the shoreline from increasing high tides and storm surges.

Although opportunities for habitat restoration may seem limited by the Port's urban setting, the Port has successfully protected and improved natural shoreline habitats in a handful of southern waterfront areas with unique geography and development history. The Port created and enhanced tidal wetlands at Heron's Head Park, and along the northeastern shoreline of Pier 94. Open space development at the Port such as Bayview Gateway and the landscaping at the Port's Cruise Terminal use low water-use native plants.

The City's biodiversity program's mission is to protect, enhance and restore biodiversity, and habitat value in San Francisco's parks, natural areas, and built environment. Goals under the biodiversity policy include:

1. **Biologically Rich Ecosystems:** Restore robust and interconnected natural areas, habitats, flora, fauna, and rare species of our indigenous ecosystem and watersheds.
2. **Ecological Planning and Design:** Incorporate multi-functional greening into all vertical, horizontal and open space development, with a priority on wildlife habitat creation.
3. **Equitable Access, Awareness and Experience of Nature:** Connect all residents, workers, and visitors with green streets, parks, and natural habitats every day.
4. **Community and Ecological Stewardship:** Empower people and partnerships to promote, cultivate and restore nature in every neighborhood.
5. **A Resilient, Sustainable and Living City:** Leverage local ecological systems to transform San Francisco into a healthy, vital, nature-based city.

The Port supports this policy, incorporating measures to enhance biodiversity in its habitat restoration areas, new development projects, and parks, including those discussed above.

The Port also strives to improve and protect natural resources through its development and leasing activities. Like many waterfronts throughout the nation, most of San Francisco's eastern waterfront and virtually all of the Port's shoreline is comprised of fill that was placed in the Bay beginning in the mid-1800s to create new land for industrial Port operations. Because historic and more recent use of filled and other Port lands often involved hazardous materials, the Port today must clean up a legacy of environmental contamination or, in some cases, manage contamination in place with appropriate environmental protections. See Policy Topic #4 for further discussion.

The Port's habitat restoration projects along the northeast shoreline of Pier 94, and the rocky shorelines and tidal salt marsh at Heron's Head Park not only provide habitat to plants and wildlife in the San Francisco Bay, they also provide recreation and educational opportunities for San Francisco residents and visitors from throughout the region. Each of these habitat areas is supported by dedicated partners who serve as stewards of the shoreline habitat, including the **Golden Gate Audubon Society**, **San Francisco Recreation and Parks Department – Youth Services**, and **Bay.org**.

For example, the EcoCenter at Heron Head's Park is owned by the Port and operated by Bay.org. The EcoCenter provides classroom and community gathering space for residents and children citywide and is the home for environmental education programs provided by Bay.org and its partners, including the Port and the San Francisco Recreation and Parks department, among others. Nearly every feature of this 1,500-square-foot facility demonstrates renewable energy, pollution and greenhouse gas reduction, wastewater treatment, "green" building materials, and the green economy. It is San Francisco's first LEED Platinum, zero net energy building, and serves as a demonstration of green building technology. Its features include a 4.6 kilowatt solar installation, a living roof, rainwater capture in 4,800 gallon tanks, a Living Machine to treat wastewater on-site, and native plant landscaping. Programs offered to the public free of charge at Heron's Head Park and the EcoCenter engage children, youth, and adults in a variety of educational, recreational, and volunteer activities that contribute to care of the park and surrounding Bay and shoreline. At the Pier 94 Wetlands, the Port and **Golden Gate Audubon Society** work together to maintain salt marsh and adjacent upland habitat within industrial land uses near Pier 94 on San Francisco's southern waterfront. They sponsor and lead school programs and work days where volunteers remove invasive plants and trash, and plant hundreds of native plants.

Policy and Discussion Ideas:

New Waterfront Plan policy ideas for discussion at the 2.1.17 meeting include:

1. Protect and maintain existing natural shorelines and habitat areas, including managing impacts of invasive species, predators, and public access.
2. Incorporate dual-purpose green infrastructure in stormwater management, flood control, and public realm improvements to promote biodiversity and provide ecological value.
3. Seek opportunities to build natural infrastructure (e.g. wetlands, horizontal levees, and "living shorelines") and habitat into shoreline stabilization or improvement projects; build a "soft" waterfront edge where feasible and appropriate.
4. Seek opportunities to protect and create a mosaic of different kinds of in-water and shoreline habitat; consider opportunities to integrate habitat into design and construction of in-water structures such as oyster baskets, or textured vertical surfaces
5. Work with partners to remediate contaminated sediment and support Bay-wide efforts to improve sediment quality and healthy fishing in the Bay.
6. Seek partnerships and funding to support research and implementation of innovative habitat restoration methods that will improve biodiversity and ecological function around the Port and the Bay.
7. Continue to work with partners to offer environmental education and community activities at Heron Head's Park and Pier 94.
8. Seek locations and opportunities for new and expanded programs and signage along the waterfront to engage and educate local communities and visitors.
9. Encourage and collaborate with local stakeholders (tenants, community groups, schools, non-profits and other institutions) to broaden the volunteer and stewardship base, further engage the public in improving the health of the waterfront, and instill a conservation ethic.

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Environmental Sustainability Topic #4 - Green Building, Leasing and Development

Policy Background:

With 25 million square feet of leasable space, the Port manages close to 200 buildings along the 7.5 miles of San Francisco waterfront under its jurisdiction. Some buildings date back to the 1920s, such as the historic Pier 29. Others are new additions, such as the neighboring James R. Herman Cruise Terminal at Pier 27 which received LEED Gold Certification. Through the renovation and construction processes for Port projects, the Port implements green building technologies and other sustainability measures that are suitable for each project. The Port has a **Green Building Code** (consistent with the City's Green Building Code), which requires LEED Certification for new development and major renovations.

Port projects also comply with environmental measures mandated by the City of San Francisco's Health and Environmental Codes. As rehabilitation of existing buildings and new development at the Port proceed, Port facilities will become increasingly "green" as they incorporate new sustainability measures. Examples of existing projects and requirements include:

The Piers 80-96 Maritime Eco-Industrial Center - One objective of the Port's Strategic Plan is to sustain construction material industry operations at the Port, including bulk aggregate cargo shipping and concrete and asphalt batch plants, using state-of-the-art technologies to reduce air emissions and promote reuse and recycling of materials. Since 2000, the Port has supported over $88 million in public and private investments on Port piers and upland properties that today comprise the southern waterfront's **Maritime Eco-Industrial Center**. Here, the Port co-locates maritime industrial tenants, cement and other construction material providers, and recycling business operators, among other compatible tenants, to enable product exchanges, optimize the use of resources, incorporate green design and green technologies, and foster resource recovery and reuse, while minimizing environmental impacts and incorporating public open space for enjoyment and habitat.

Mandatory Waste Reduction and Recycling - The City's Environment Code mandates that all demolition and construction projects divert at least 65% of demolition and construction debris to recycling, and that City projects divert at least 75%. All City departments must also ensure that City-owned/operated facilities provide adequately sized, convenient and accessible recycling and composting areas.

Energy and Water Conservation - The City has adopted specific requirements for energy efficient lighting and water-conserving fixtures in construction, beyond those specified by the State.

Environmentally-Sound Construction - City health and building codes require identification of potentially contaminated soil and groundwater prior to construction, dust control during construction, and stringent controls on air emissions from construction vehicles and equipment at City construction projects.

Use of Environmentally-Preferred Materials - The City has a long-standing ban on purchasing tropical hardwoods, requires elimination of lead-containing building materials in new construction, limits use of arsenic-treated wood, and has policies to promote purchase of more sustainable materials such as PVC-free plastics by City Departments. The City requires all City Departments

to develop integrated pest management plans and implement measures to minimize use of toxic pesticides in City facilities and operations. The City maintains an active Integrated Pest Management (IPM) task force to support such efforts.

Since adoption of the Waterfront Land Use Plan almost 20 years ago, the Port has worked with parties responsible for pollution or with new development partners to clean up contaminated property and enable environmentally sound uses. The Port also works with its tenants to minimize the environmental risks associated with operations on Port property through its **environmental risk management policy**, which ensures that financial resources are available to address environmental risks related to Port tenants' operations. Every new lease and property agreement is reviewed to determine applicability of the Port financial assurance requirements, which may include an environmental oversight and/or performance deposit. In addition to ensuring that the Port has resources to respond to an environmental incident, the Port and its tenants benefit from review and consideration of potential environmental risks and, where appropriate, development of risk reduction measures.

Policy and Discussion Ideas:

New Waterfront Plan policy ideas for discussion at the 2.1.17 meeting include:

1. Continue to implement the Port's Green Building Standards and applicable provisions of the City's Environment Code in new construction and renovation to meet LEED standards, conserve water, and improve energy, and use healthier or environmentally preferred building materials.
2. Work toward Zero Waste by implementing Port and City requirements and policies that promote reuse, recycling, and composting in construction and operations.
3. Implement the City's Better Roofs Ordinance, which requires new commercial and residential buildings to install rooftop solar for heat or electricity.
4. Seek opportunities to plan land uses and lease Port property to promote "district level" sustainability measures, such as those occurring within the Port's Maritime Eco-Industrial Center, to promote reuse and recycling of materials, and reduce transportation and related air emissions from construction activities on and off Port lands.
5. Implement integrated pest management practices in Port and tenants' facilities and operations to reduce use of toxic materials in indoor and outdoor environments.
6. Monitor evolving best practices and explore new technologies to achieve progressively higher levels of resource efficiency and sustainability in leasing and development projects over time.
7. Market and message a green SF Port in Port development and leasing activities.

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