Solutions for Sustainable Ports
A Service Provider’s Perspective

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A Sustainability Solution Provider for Ports, Maritime, Airports and Industrial Facilities
A glimpse into the world of sustainability solutions at US and International ports and maritime facilities.

Comparative Analysis of the US and International Ports’ Applications of Sustainability Solutions

A service provider’s perspective in providing sustainability solutions for ports’:

- Growth/Expansion
- Development
- Operations
Port of Long Beach: Sustainability as a Comprehensive Development, Operations and Business Tool
GREEN PORT POLICY

• Protect the community from harmful side effects of Port operations
• Distinguish Port as leader in environmental stewardship and compliance
• Promote sustainability
• Employ best available technology to minimize environmental impacts
• Engage and educate the community

SIX KEY STRATEGIES
Clean Air Action Plan

Strategies

- Clean Trucks Program
- Clean Vessels Program
  - Vessel Speed Reduction (Reaching 94% Compliance)
- Shore-side power for ships
- Clean Locomotives Programs
- Clean Cargo Handling Equipment
- Clean Harbor Craft
- Alternative technology Program

The Goal is Reduce pollution by 45% within five years
Other Sustainability Programs

- Green Port Integrating Committee
- Green Leases
- Solid waste recycling programs
- Green Port Fest
- Educational Partnerships
- “Let’s Talk Port” Community Outreach
- Urban Reforestation Program
- Sustainable Landscaping Palettes
Switching Sustainability from Environmental to Engineering:

- General perception was:
  - Sustainability is primarily an environmental program
- Implementation centers on environmental issues first
- Sustainable environmental initiatives evolve into sustainable operations
- Sustainable operations requires sustainable engineering practices
- Sustainable development focuses on the building industry
  - Commercial and residential accounts for 40% of total US energy consumption
- What about **Sustainable Infrastructure**?
- How do we apply sustainability to the engineering environment?
Port Engineering Applications

- LEED “Green Building” Program
- Materials Recycling/Reuse/Reduction
- Railroad Sustainability Standards
- “Green” Construction Methodologies
- Engineering Bureau Purchasing and Procurement Environmental Management System
Latin American Example

Sustainability Solutions
Port of Santa Marta
Colombia, South America
QUIENES SON?: Who Are They?

- La Sociedad Portuaria de Santa Marta inició sus operaciones en el año 1993. El estado colombiano le otorgó una concesión por 20 y posteriormente aumentó el periodo a 40 años, es decir hasta el año 2033. Es una sociedad de economía mixta mayoritariamente de capital privado. The Port of Santa Marta Santa Marta is a city located in northern Colombia by the Caribbean sea and the Sierra Nevada de Santa Marta mountains. The Port began operations in 1993. The Colombian state was granted a concession for 20 and then to 40 years, until 2033. It is a mixed economy of mainly private capital.

- The Port Authority has invested in developing marine Terminals at Santa Marta in excess of $ 59 million US.
Puerto de Santa Marta, 2009

16 años después...: 16 Years Later
Contamos con Certificado ISO 9001:2000 y 14001:2004 parte de SGS, PBIP por parte de la OMI y BASC.
TOTAL DE CARGA DESDE 1994 HASTA 2009
Total Cargo from 1994 until 2009

- 7.369.000
- 5.338.175

TONELADAS


- 1MM 2MM 3MM 4MM 5MM 6MM 7MM
### LLEGADA DE CRUCEROS A SANTA MARTA: CRUISE SHIP ARRIVALS/TRAFFIC:
A SEP 2009

<table>
<thead>
<tr>
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<th>2007</th>
<th>2008</th>
<th>2009</th>
<th>2010*</th>
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<td><strong>No. Cruceros</strong></td>
<td>13</td>
<td>17</td>
<td>44</td>
<td>70</td>
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<td><strong>No. Viajeros</strong></td>
<td>13,432</td>
<td>17,424</td>
<td>73,951</td>
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* Proyección 2010

Fuente: Oficina de Turismo Distrito de Santa Marta
Nuestras operaciones, ambientalmente controladas, han permitido combinar amigablemente el turismo y las exportaciones de carbón debido al riguroso cumplimiento de los requisitos de calidad exigidos.

The Port’s operations, through environmental controls, allowed to combine friendly tourism and coal exports due to strict compliance with sustainable development and quality requirements.
Sustainable Co-existence of Cruise and Coal Terminal Handling and Storage
INVERSIONES PARA LAS OPERACIONES DE Carbón:

INVESTING IN COAL OPERATIONS:

Hemos invertido en una moderna infraestructura para el cargue directo de carbón con tecnología de punta y altos estándares en controles ambientales.

Investment in modern infrastructure for the direct load of coal with high technology and high standards in environmental controls.

Hemos trabajado en la consolidación de alianzas estratégicas para la conquista de cruceros y la inclusión de Santa Marta como destino turístico internacional.

Building strategic partnerships for the inclusion of Santa Marta as an international destination.

INVERSIONES PARA AUMENTAR RECALADAS DE CRUCEROS:

INCREASE IN INVESTMENT ON CRUISES:

Hemos trabajado en la consolidación de alianzas estratégicas para la conquista de cruceros y la inclusión de Santa Marta como destino turístico internacional.

Building strategic partnerships for the inclusion of Santa Marta as an international destination.
Aspectos ambientales

Environmentally Sustainable Way of Handling and Managing Coal
International recognition for implementing technology and processes that ensure a clean operation by AAPA in 2007 and Inter American Commission on Ports in 2009
Los corales se constituyen en refugio de peces pequeños que posteriormente, cuando se han desarrollado, favorecen las actividades de los pescadores en la Bahía.
Visión del desarrollo del puerto

Vision of Sustainable Development of the Port: Economic Sustainability
**Primera Fase 2008-2011**

**Phase I: 2008-2011**

**USD57 MILLONES**

**Bulk Terminal**
Capacity: 1,500,000 tons
Operational performance: 370 tons hours
Operational Improvement: 85%

**Container Terminal**
Capacity: 300,000 TEUs
Increased capacity: 172%
Operational performance: 20 cont / time hook
67% operational improvement

**Subterminal de Graneles**
Capacidad: 1,500,000 tons
Rendimiento operacional: 370 tons hora
Mejora operacional: 85%

**Subterminal de Contenedores**
Capacidad: 300,000 TEUs
Incremento capacidad: 172%
Rendimiento operacional: 20 cont/hora gancho
Mejora operacional 67%
Segunda Fase 2012 – 2020

Phase II: 2012-2020

USD44.9 MILLONES
Phase III: 2021-2033

420,000 TEUs
Increased capacity: 40%
Operational performance: 20 cont/time hook

Subterminal de Contenedores
Capacidad: 420,000 TEUS
Incremento capacidad: 40%
Rendimiento operacional: 20 cont/hora gancho

USD25.3 MILLONES
Con inversiones en tecnología, logramos conciliar las actividades turísticas paralelas al desarrollo portuario: **With investments in sustainable and clean technologies, tourism activities and port operations and development can symbiotically co-exist**
Delivery of 1,000 school kits

2010: Entrega de 1,000 kits escolares
2010: Entrega del Centro Integral Comunitario en Zona de Influencia Directa: Creating Community Centers in Surrounding Port Communities
Programa para el mejoramiento de la calidad de vida de “Niños en Situación de Calle”

Padre Javier de Nicoló: Programs to improve the quality of life of "Children of the Street" Father Javier de Nicolo
Proposed construction of a "Community Service" center which will benefit over 5,000 children from disadvantaged communities.
A Service Provider’s Approach in Providing Sustainability Solutions:

- Conduct sustainability review of the port (how much is in place and how much needs to be done)
- Develop a formal port wide sustainability policy
- Develop sustainability program elements that support the policy
- Provide strategic recommendations in integrating sustainability across all organizational and business lines/functions and operations of the port/facility tempered by the business priorities and objectives.
Conclusions:

- Sustainability solutions are universal (US, Latin America, Europe) in scope and nature.
- However, what is different: is their applications as they depend on:
  - Cultural and socioeconomic make up of the communities that surround them.
  - Programmatic and business priorities at the port.
  - Political drivers.
  - Other drivers/factors.