Building a Sustainable Gateway – Reducing GHGs moving to Carbon Neutral

Presentation to Greenport Americas 2010

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Presentation Overview

• Introduction
• About Port Metro Vancouver
• Corporate Social Responsibility
• Air Action Program
• Carbon Neutral and Greenhouse Gas Emissions Context
• PMV - Moving Towards a Carbon Neutral Organization
• Questions
Port Metro Vancouver

- Amalgamated January 1, 2008
  - Combined the Fraser River Port Authority, North Fraser Port Authority, and Vancouver Port Authority
- Operate and develop combined assets and jurisdictions
- Diverse Board represents government and industry
- Independent, timely decisions based on sustainable strategies
- Focus on long-term growth and competitiveness
The Vancouver Gateway
About the Port

• Largest and busiest port in Canada
• Largest port in North America in total foreign exports
• Handled 102 million tonnes of cargo in 2009
• Trade with more than 160 economies
• 28 major marine cargo terminals and three Class I railroads provide a full range of facilities and services
Business Sectors
Commitment to Sustainability

Our Vision

*Port Metro Vancouver will be valued by customers, embraced as a member of the community and recognized globally as a leader in port sustainability.*

Our Mission

*To lead the efficient and reliable movement of cargo and passengers in a manner that supports Canadian growth and prosperity, now and in the future.*
Corporate Social Responsibility
CSR Scorecard

- Employee Commuting
  - **Reduce** number of employees using single occupancy vehicles
- Energy Consumption
  - **Reduce** electrical consumption (in kWh) for Vancouver Office
- Fuel Consumption
  - **Reduce** fuel consumption in fleet vehicles and vessels
- Waste Management
  - **Reduce** solid waste (in kg) for Vancouver Office
- Truck Congestion
  - **Reduce** the number of drayage truck congestion events on city streets.
- Noise pollution
  - **Reduce** the number of noise events that occur above ambient port noise levels

- **Air emissions**
  - **Increase** number of vessels using low sulphur fuel ( < 0.1%)
Corporate Social Responsibility

- PLANET
- PEOPLE
- SUSTAINABLE
- PROFIT/PROSPERITY
Air Action Program

- Committed to reducing port-related contributions to air quality and climate change and achieving co-benefits wherever possible to ensure both goals are met.
  - Differentiated Harbour Dues Program for vessels using cleaner low sulphur fuels.
  - Emission Inventories for Ocean Going Vessels and Port Land Side Activity.
  - Container Truck Licensing Program Environmental Requirements phasing out older trucks moving toward 2007 Engine Platforms.
  - Anti-Idle Reduction Programs.
  - Northwest Ports Clean Air reduces maritime and port-related air quality impacts and co-benefits of GHG on human health, environment and economy.
**Port Air Emissions**

Burrard Inlet and Roberts Bank only

Assumes Northwest Ports Clean Air Strategy (NWPCAS) 2010 and 2015 goals are met (including Emission Control Area (ECA) in 2015)

- **OGV**: ocean going vessel
- **CHE**: cargo handling equipment
- **PM2.5**: particulate matter with ≤2.5 µm in diameter
- **GHG**: greenhouse gas
- **CO2 Equivalent**: GHG expressed as equivalent tonnes of carbon dioxide

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```
What does Carbon Neutral mean?

- **Carbon neutral**, or having a zero carbon footprint, refers to achieving net zero carbon emissions by balancing a measured amount of carbon released with an equivalent amount sequestered or offset.

- **Best practice** is to reduce and/or avoid carbon emissions first so that only unavoidable emissions are offset.
GHGs – British Colombia Context

• **2007** - B.C. Government passes the *Greenhouse Gas Reduction Targets Act* requires all public-sector organizations to be carbon–neutral beginning 2010. *(Does not apply to PMV)*

• **2008** - Revenue-neutral **Carbon Tax** on carbon emissions introduced
  - Tax shift is intended to encourage everyone in the province to reduce their carbon emissions.
  - BC Carbon Tax equals 3.51 cents per litre of gasoline at the pump. The price will go up by 1.17 cents per litre each July 1 until 2012.
GHGs in Canada – Federal Context

• 2008 Federal regulation of heavy industry greenhouse gas emissions to achieve the Government's commitment of a 20% reduction in Canada's overall emissions by 2020. *(Does not include Ports or transportation industries)*

• The Federal “Turning the Corner” plan includes:
  • Establishing a market price for carbon;
  • Establishing a carbon emissions trading market, including a carbon offset system, to provide incentives for Canadians to reduce their greenhouse gas emissions.
GHGs - International Shipping Context

• 2009 UN International Maritime Organization (IMO) under pressure by UNFCCC Copenhagen climate conference (COP 15) to deliver results to reduce GHGs
• 2009 EU Commission issues direction to IMO to act to reduce GHG emissions by 2011 or EU will unilaterally impose regional regulations
• 2009 Second IMO GHG Study issued
• IMO development of the Ship Energy Efficiency Management Plan (SEEMP)
  • incorporates best practices for the fuel efficient operation of ships, such as better speed management throughout a ships voyage to reduce fuel consumption and, consequently, CO$_2$ emissions.

[Logos and website links]
PMV as a Carbon Neutral Company

Why?

- Climate change is a global issue that requires real solutions. The causes of climate change and its impacts on the environment and human health are now more understood and action has advanced (Kyoto protocol and Copenhagen Climate Conference).

- Real GHG reduction is a local solution to climate change.

- By voluntarily measuring, calculating and assigning a cost to carbon emissions, PMV prepares for a future “cap and trade economy”

- PMV “walks the talk” of Corporate Social Responsibility and demonstrates leadership in the port sector as a carbon neutral organization.
Strategic Air and Climate Initiatives For Port Metro Vancouver

How?

i. Inventory emissions, set scope of inventory, identify targets and metrics for ongoing measurement

ii. Implement programs to reduce energy usage and emissions

iii. Obtain electricity and other energy from a renewable energy source, (either directly by generating it or by selecting an approved green energy provider), and by using low-carbon alternative fuels (eg. such as sustainable biofuels and H₂)

iv. Offsetting the remaining emissions that cannot for the moment be avoided or generated from renewables in a responsible carbon project, by purchasing certified verifiable carbon credits.
Inventory Scope

# PMV Inventory

<table>
<thead>
<tr>
<th>Scope 1 - Direct</th>
<th>Details</th>
<th>VFPA Divisions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Building Heat /Hot Water</td>
<td>size (sqft), equipment type, building construction, activity and function</td>
<td>Controller</td>
</tr>
<tr>
<td>Maintenance Equipment</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fleet Vehicles</td>
<td>Fuel Consumed</td>
<td>equipment type</td>
</tr>
<tr>
<td>Harbour Vessels</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Scope 2 - Indirect**

- **Purchased Electricity**
  - KWh
  - heating, lighting, operations, monthly aggregate

**Scope 3 - Indirect**

- **Business Travel**
  - Km by Mode
  - travel records, expenses
- **Employee Commuting**
  - Km by Mode
  - employee survey
- **Future Sources**
  - included in future inventories
Employee commuting emissions are relatively low compared to other cities with similar pop. per sq. mile.
2009 Highlight
Cruise Ship Shore Power

• First connection August 2009
• 11 test connections in 2009
• Average 48% reduction in fuel burned and emissions on shore power calls (2009)

<table>
<thead>
<tr>
<th>Reductions</th>
<th>2009 (est. actual)</th>
<th>2010 (est. potential)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fuel</td>
<td>93</td>
<td>946</td>
</tr>
<tr>
<td>Criteria Air Contaminants</td>
<td>7</td>
<td>73</td>
</tr>
<tr>
<td>Greenhouse Gases</td>
<td>289 (net)</td>
<td>3043 (gross)</td>
</tr>
</tbody>
</table>

portmetrovancouver.com
Port Metro Vancouver was an Official Supplier of the Vancouver 2010 Olympic and Paralympic Winter Games, the Canadian Olympic Committee and the Canadian Olympic Team.

Port Metro Vancouver partnered with the Vancouver Organizing Committee for the 2010 Olympic and Paralympic Winter Games (VANOC) and Offsetters to voluntarily offset carbon emissions during the games.

Games Period ran from January 4 March 24, 2010 and in addition to Operations included all hospitality and accommodation during the games and Torchbearer travel and accommodation.
Thank you.

Questions?