MLTM has come up with three major Policies to support Korea’s economy and harmonize with green growth.

- The Enhancement of Port competitiveness
- The Utilization of Waterfront
Despite the global economic downturn, the globalization and increase of international trade will be continued.

The World economy is expected to continue the recovery in the second quarter of 2010 and the first half of 2011.

- **World Economy OUTLOOK (OECD)**: ’10 Growth Rate (4.6%), ’11 Growth rate (4.5%)

- **World Economy OUTLOOK (IMF)**: ’10 Growth Rate (4.2%), ’11 Growth rate (4.3%)

Optimism is raised thanks to stock recovery in developed countries and slow the downturn of economic growth.

There are, however, concerns of Double Dip recovery.
The exports and domestic demand in Korea economy is improving.

IMF expectation: the economic Growth rate of Korea
Export on basis of brisk semiconductor and automobiles, hit a record high jumping 35.0 percent year on year in the first-half of 2010.

Import soared 40 percent year on year, led by raw materials and capital goods in the first-half of 2010.

<table>
<thead>
<tr>
<th>Table</th>
<th>2008</th>
<th>2009</th>
<th>2010</th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Annual</td>
<td>Annual</td>
<td>Q1</td>
<td>Q2</td>
<td>Q3</td>
<td>Q4</td>
</tr>
<tr>
<td>Export</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>422.01</td>
<td>363.53</td>
<td>74.42</td>
<td>90.36</td>
<td>94.78</td>
<td>103.97</td>
</tr>
<tr>
<td>(y-o-y, %)</td>
<td>13.6</td>
<td>-13.9</td>
<td>-25.2</td>
<td>-21.1</td>
<td>-17.6</td>
<td>11.7</td>
</tr>
<tr>
<td>Import</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>435.27</td>
<td>323.09</td>
<td>71.42</td>
<td>73.97</td>
<td>84.85</td>
<td>92.85</td>
</tr>
<tr>
<td>(y-o-y, %)</td>
<td>22.0</td>
<td>-25.8</td>
<td>-32.7</td>
<td>-35.6</td>
<td>-31.0</td>
<td>1.4</td>
</tr>
</tbody>
</table>

US$ Bil.
The amount of container throughput in Korea soared to 14.2% year on year during the first-half due to the increase of the Ex-/Import through Korea.

(Unit: thou. TEU)

* The throughput of the container is recovered to the level as much as before the global economy crisis in 2008
The container throughput of the world and the Far East Asia will be increased continuously

(Unit: thou. TEU)

<table>
<thead>
<tr>
<th>Table</th>
<th>2007</th>
<th>2008</th>
<th>2009</th>
<th>2010</th>
<th>2011</th>
<th>2012</th>
<th>2013</th>
<th>2014</th>
</tr>
</thead>
<tbody>
<tr>
<td>Far East</td>
<td>180,307</td>
<td>193,870</td>
<td>177,204</td>
<td>184,689</td>
<td>199,648</td>
<td>216,814</td>
<td>235,965</td>
<td>255,789</td>
</tr>
</tbody>
</table>

CAGR 7.6%

<table>
<thead>
<tr>
<th>Table</th>
<th>2007</th>
<th>2008</th>
<th>2009</th>
<th>2010</th>
<th>2011</th>
<th>2012</th>
<th>2013</th>
<th>2014</th>
</tr>
</thead>
<tbody>
<tr>
<td>World</td>
<td>497,563</td>
<td>524,567</td>
<td>470,634</td>
<td>483,409</td>
<td>514,388</td>
<td>549,156</td>
<td>587,054</td>
<td>626,263</td>
</tr>
</tbody>
</table>

CAGR 5.9%

We expect the trend of Shipping and Port Industry has been continuing.

1. Continuing Imbalance of Supply and Demand in the Shipping Market is causing shipping company’s financial difficulty.

2. Enlargement of Vessels is requiring that the water depth of port be deeper than ever

3. Expanding Strategic Alliance and M&A among Liners and GTO is spreading the Hub & Spoke System among Ports

4. Strengthening International Port Network is deepening the competition among ports to be a hub
Problems and Current Situation in Korea

**Different view exists in terms of appropriate construction time and scale of port development**

- Less Port developed
  - operator
  - Less Port developed
- More Port developed
  - the owner of goods, Local government
  - More Port developed

More Cargo handled

No more competition between the operators

No Expensive Port Charge

No Delay in handling cargo

To boost regional economy

The different views among stakeholders (operator, the local government etc) make it hard to decide when to start the development of a port

**Even within the government !!!!**
There is a controversy on the government's port investment priority

- Politicians and local governments continuously request for the development of their own ports with priority prior to the other ports.

- Conflicts between local communities such as Busan, Gwangyang, Incheon and Pyeongtak are intensifying in terms of investment priority and size of container port development.
Problems and Current Situation in Korea

Too many operators exist
There are 13 operators in Busan Port

The port charges are too low
The terminal operator is suffering from financial deficit due to low port charges caused by price-cutting-race among the operators

The weakening of Bargain Power of operators
13 terminal operators in the Busan port are competing to attract liners, resulting in losing terminal operator’s bargain power

Lots of demands from terminal operators, but difficult to find the appropriate measures to deal with these problems
Mandate of authority of Port development and management From the central government to Local government

Power of Politicians is growing and the concerns on the disorder of priority of the Port Development are rising
Port Policy of Korea

1. The enhancement of Port Competition
2. Green Growth (Greenport)
3. The Utilization of Waterfront
The enhancement of Port competitiveness

Major container ports are continuously being developed with top priority in the budget and the size to enhance the competitiveness

Busan New Port

<table>
<thead>
<tr>
<th>Year</th>
<th>Berths</th>
<th>Annual Capacity</th>
<th>Hinterland</th>
</tr>
</thead>
<tbody>
<tr>
<td>2008</td>
<td>11</td>
<td>3.7M.TEU</td>
<td>142ha</td>
</tr>
<tr>
<td>2015</td>
<td>27</td>
<td>9.7M.TEU</td>
<td>465ha</td>
</tr>
<tr>
<td>2015</td>
<td>30</td>
<td>10.6M.TEU</td>
<td>670ha</td>
</tr>
</tbody>
</table>
To enhance the competitiveness of Busan port, the Korea government is focusing on developing the support facility like distripark, railway, road and the service facility like refueling and shipyard for repairing.

- Distripark provision of 280,000 m² to the North Container Terminal
- Continuance of Distripark development of 2,480,000 m² to the West Container Terminal
- Early opening of Distripark rail of 38km
- Providing environment for navigation of large vessels by dredging water depth from -15m to -16m
- Providing refueling facility (Storage scale 62,640 m³) and shipbuilding/repair facility (2 dry docks)
Providing Diverse Port Services in port of Busan

- Constructing Bunkering service center in Busan New Port by 2011
- Shipyard construction project for repairing ship in Busan New Port will start soon this year
- Supply center for articles for ship is under construction
Developing regional ports to support regional economy and to achieve logistics cost-saving

- Incheon Port
- Pohang Port
- Ulsan Port
- Dong hae Port etc.
Intensive investment for Port Distripark

Low rents of the distripark lower the risk at initial investment in Korea

The rent cost for the distripark is much cheaper than any other countries

- Rents (Busan New Port) : US $ 0.03 (3 cent) per month per m²
- Rents (Gwangyang) : US $ 0.025 (2.5 cent) per month per m²

Port Distripark Master Plan for 8 major ports established in 2006
Completion of 465 ha in 2009, and plans to secure 2,031 ha by 2015
Developing competitiveness for Port Access Transportation Network

Concentrated investment of budget for roads and railways connected to ports

Established the Port Access Transportation Network Master Plan in 2009

- Road: 61 new projects in 20 ports, 34 projects connected to 19 ports
- Railway: 5 new projects in 5 ports, 5 projects connected to 4 ports
Balancing the power of Operators and Liners in Busan Port to keep appropriate port price level

The government are looking for the countermeasures to resolve the problems Busan Port is facing with the operator
The improvement of design and construction technology of Port

- It is needed to cut the construction cost and to achieve the safety of infrastructure for climate change

- Turn-key system in bidding also has played a critical role in improving the design and construction technology, especially in Breakwater

- VE (Value Engineering) is used in Design Phase to cut the construction cost (the cutting rate is 5% on average)

- R&D is considered to be more and more important for construction cost saving and safety
The enhancement of Port competitiveness

The Pohang Young-il Bay Breakwater
1. The enhancement of Port Competition
2. Green Growth (Greenport)
3. The Utilization of Waterfront
The Korean Gov. sets up basic plans to build a Green Port, which is efficient in energy consumption and low in carbon emissions by using new and renewable energy sources.

**The Objective of Reduction**: 30% Compared to BAU (Business as usual) in 2020

- **Greenhouse gas Reducing**,
- **Energy Efficient**, and **Nature-friendly Port**
The Use of Renewable Energy

We will raise the energy efficiency through the use of renewable energy, such as wind, wave, solar and currents.
Use of Renewable Energy

- Marine wind-power project was implemented July in 2009
  - Studying in selecting the appropriate site in port to provide the sufficient wind energy

- Phrase 1 (2009)
  - Research
  - Master Plan

- Phrase 2 (2010)
  - Field Study
  - F/S

- Phrase 3 (2011-2012)
  - Test bed
  - Detail design

- Phrase 4 (2013-2024)
  - Commercialization
  - Completion
Electric cranes and AMP

- Substitute old cranes powered by diesel to new ones powered by electricity
- Provide electricity to a ship with AMP, cutting carbon emissions in ports

Fuel → Electricity

Incentive
- Subsidy
- The reduction of rent
Modal Shift

- Struggling to reform the logistics system in Korea to reduce the emission of CO₂ and to increase the independency of fuel energy
  - Korea is mainly depending on road transport in Freight transport
  - The road is accounting for 92% of land freight transport in Korea, while the railway is accounting for 8%
- Trying to increase the railway transport volume from 8% to 20% of land transport and the coastal shipping from 19.5% to 25% of freight transport by 2020
Modal Shift: Railway system in ports

- MLTM is establishing the rail transport system in major ports
  - Promotion of the shift from road to rail transport in ports

<table>
<thead>
<tr>
<th>Present</th>
<th>2015</th>
<th>2020</th>
</tr>
</thead>
<tbody>
<tr>
<td>7.7%</td>
<td>15%</td>
<td>20%</td>
</tr>
</tbody>
</table>

- West-side connected railway in Gwangyang port by 2010
- Connected railway system in Busan New port by 2010
- Gunsan, Ulsan, Pohang and Donghae ports are under the planning
Modal Shift: Coastal Shipping

MLTM is providing many incentives to foster the coastal shipping

- Subsidy to promote Coastal shipping shift (US$ 1,000 thou.)
- 100% port charge exemption for coastal ships
- Financial support to building coastal ships with the trust guarantee funds
- Secure crews for coastal shipping
  - Expansion of non-taxable income for coastal shipping crews
  - Add 180 crews every year, through a short-term course
1. The Strength of Port Competition
2. Green Growth (Greenport)
3. The Utilization of Waterfront
Developing the Marina Ports to boost marine tourism in Korea

✓ The small size of 5 Marina ports have been constructed since before the Marina act was established in 2009

✓ “Basic Development Plan on Nationwide Marinas” including 43 marina ports is announced (2010)

✓ Nine of marina ports will be developed by central government to foster marina industry in Korea

✓ The rest will be constructed by the private sector, however, the subsidy will be provided for public facilities (breakwater)

✓ The incentives like tax cut and exemption will be provided to the private sector
The Utilization of Waterfront
Six cruise ports will be developed to attract cruise ships

- **Busan**: 2 berths (80,000GT)
  - *Only 1 berth in Busan is on operation for exclusive use of cruise*
- **Yeosu**: 1 berth (80,000GT)
- **Jeju**: 1 berth (80,000GT)
- **Mokpo**: 1 berth (50,000GT)
- **Incheon**: 2 berths (50,000GT)
- **Pyongteak**: 1 berth (26,000GT)
“Guideline to build water-friendly and cultural places nearby ports” (2010) is acting to convert the port area to high-value-added space.

MoKpo ‘Sunset Area’
Sung San Po, Jeju ‘Sunrise Park’
Masan ‘The edge of Sky Park’
Gwangyang ‘Waterside park’
10 projects planned by Government will be completed in 2016.

Project Area: 13,168,000 m²

The 1st project, Busan North Port Redevelopment has been carried out since Dec. 2008.

Inviting bidders to Ports of Gwangyang, Gunsan, Mokpo and Incheon projects in 2010.
Busan Port Redevelopment Project

To develop the useless port area into Commerce & Business Zone, Multi-Urban Zone, IT Imagination & Exhibition Zone and Maritime Cultural zone.
To provide the Marine tourism complex to enhance the synergy effect between the marine tourism and the related industry.
The Gyeong-in Waterway project

- The Han river (Seoul) and the West sea will be connected to create diverse synergy effects in culture, tourism, and leisure industries.
- The plan will revitalize local economies by creating around US$ 3 bil. of production and 250 thousand Jobs.
- In addition, the eco-friendly transport system using a waterway will contribute to low carbon green growth.
The Port of Kyung-in is under construction.

Various riverside areas including bicycle lanes will be created along the Gyeong-in Waterway.
Thank you