Delivering Sustainability – Challenges and Opportunities

PPCAC - Feb. 23, 2012
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Things used to be simpler for the shipping industry...

- Fuel costs were **low and predictable**
- Environmental regulations were **limited and manageable**
- **CO₂ emissions** were not an issue
- Marine fuels were ‘one size fits all.”
- Shipping as an industry was **not on the radar screen** (as long as we avoided big oil spills)
What are we facing now?

- Increased transparency
- Increased accountability
- Increased regulation
- Increased customer expectations
- Increased competition
Where are we headed?

**Sustainability** – and especially environmental performance - has become a **mega-trend**.

- Increasing stakeholder pressure for improved environmental performance
- Increasing external regulation
- Increasing self-regulation within shipping industry
- Accelerating technological developments and needs
“Sustainability” encompasses the way we relate to our employees, our communities and the world.

Sustainability in **Maersk Line** is defined as our commitment to conduct our business in a **financially**, **environmentally** and **socially** responsible manner.
We operate in an increasingly complex Stakeholder Universe.

Building relationships between people and interest groups
Our customers are demanding a more sustainable supply chain

The feedback of more than 300 of our customers:

41%: "Yes we consider sustainability in our sourcing decisions"

CEO letter to Maersk Line

"To realise our vision, we must address our impact right across the value chain. We will need to work closely with our suppliers, consumers and many other stakeholders"

- Paul Polman
CEO, Unilever

FROM CUSTOMER PERCEPTION SURVEY 2010
Ports must coexist with many other activities.
Ocean-going vessels are major sources of air emissions in ports. *Improvements have been made, but many more are needed.*

**Partnership opportunities:**
- Industry
- Port Authorities
- Terminal operators
- Government
- Communities
“We can’t solve problems by using the same kind of thinking we used when we created them.”

*Albert Einstein*
Industry Efforts to Measure and Reduce Environmental Impacts

www.bsr.org

Clean Cargo Working Group is a business-to-business forum with the goal “to promote more sustainable product transportation.”

**CCWG’s membership (2010)**

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- Standardized footprint calculation tools
- Annual environmental performance survey and benchmarking
- Working to harmonize environmental calculations globally
- Emissions factors published by trade lane.
Equipment initiatives

Technology Retrofit

Low energy reefers

Green vessels

Ballast water

Scrubber technology

Fuel switch

Waste disposal

Chartered vessel efficiency

Terminal Partnering

Initiatives with ports and suppliers

Alternative fuels
Changing the way we think about shipping:

- **It isn't only the biggest ships -- it's the right ships.** This means optimizing the ships for the service, and upgrading the whole portfolio -- new, existing and charter.

- Leading in **transparency** -- publishing every vessel's performance using global standard methods, and third-party verification.

- Sustainability is the right thing to do and also makes good business sense.

- **“Steady Steaming”** delivers more environmental benefits than just slow steaming.

- **Reliability / On-time delivery** benefits the customer and can also benefit the environment.
New vessels on order and being delivered today are much more fuel efficient.

**Triple E – 16,000 TEU**
- 50% more efficient
- On order for 2013

**WAFMAX class – 4500 TEU**
- 28% less CO2 per TEU
- 10 in service (2011)
- 12 more delivered by 2012

**SAMMAX class – 7500 TEU**
- 50% less CO2 per container moved
- 6 vessels already in service (2011)
  - Will deliver 10 more by 2012.
Vessel environmental improvements take time and partnerships.

**New vessels**
- Optimize vessels for intended services
- Potential energy efficiency improvements 20-50%
- Work with shipyards, equipment and fuel suppliers
- Long-term view plus short-term impact

**Existing fleet**
- Identify or develop technologies
- Work with Charter vessel owners
- Partner with technology, software and engine suppliers
- Identify the right mix for each vessel

**Personnel**
- Vessel crews
- Shore side teams
- Structures, metrics, idea sharing
Vessels are becoming more fuel efficient. This reduces fuel use and air emissions.

- Over 20% decrease in emissions of CO$_2$, SOx, NOx and PM per TEU km
- Reduction target for 2007 – 2020 is 25%
Air quality in many US ports exceeds national standards, requiring reductions in emissions.
Almost 6 years of vessel fuel switching has reduced toxic air emissions significantly.

- Over 2300 port calls since 2006 in North America
- Reductions:
  - SO\textsubscript{x}: 95%
  - PM: 86%
  - NO\textsubscript{x}: 6-10%
- Prevented over 4 million kg. (8 M lbs.) of toxic air emissions
- Became mandatory in California in 2009
- Now a global initiative
  - Hong Kong 9/2010
  - New Zealand 2/2011
  - Singapore 7/2011
The North American Emissions Control Area (ECA) will require lower sulfur fuel.

- Effective Aug. 2012
- 200 nautical miles around US, Canada and islands
- Fuel sulfur max:
  - 2012-2014 <1%
  - Jan. 2015 <0.1%
Work with scientists proves environmental impacts. NOAA-led study: Air pollution caused by ships plummets when vessels shift to cleaner, low-sulfur fuels.

Research paper was published in Environmental Science & Technology Sept. 12, 2011.

*Impact of Fuel Quality Regulation and Speed Reductions on Shipping Emissions: Implications for Climate and Air Quality.*

By Dr. Daniel Lack with 28 co-authors from 10 research institutions in the U.S. and Canada.

“The project was funded by NOAA and the California Air Resources Board and conducted in close collaboration with Maersk Line.”

Port and Terminal Performance plays a major role in vessel environmental impact.

- **Why?**
  - Product guarantee
  - Customer satisfaction
  - Asset optimisation
  - Reduction of **WASTE**
    - Waste in the supply chain has a direct negative impact on the environment
  - Efficiency reduces wasted time and resources at dock
  - Shore-side infrastructure is a critical part in efficient movement and environmental impact.
Partnering with ports and terminals focuses on:

- Performance and reliability
- Transparency on environmental performance.
  - Uniform measurements.
  - Independent verification
Performance and Reliability

- Why?
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  - Reduction of **WASTE**
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10% reduction in port stay time → 3.5% reduction of CO2 emissions
Standards for measuring

- What is the difference between terminal A and terminal B?
- We urge and expect the terminals to jointly agree on a standard for measuring their performance on key environmental parameters.
- Focus should start with CO2.

- We need **uniform transparency and independent verification**
Where are we today?

- Communication is sporadic
- Lacking a common framework and language
- Many individual initiatives that create confusion
- Need for stronger alignment between ports, terminals and lines on environmental regulations and objectives
How can we work together to accelerate progress?

- Industry wants to reduce our impact
  - Limited resources
  - Must choose where/how to deploy
- Make it easy
- Help level the playing field:
  - Incentives do work
  - Coordinate voluntary and mandatory programs
- Consider what each party can provide

**Specifics that help**
- Use international standards
  - Environmental Shipping Index
  - Clean Cargo Working Group
- Minimize administrative burden
  - Verify efficiently
  - Consider goal -- Research vs. impact
- Set goals in terms of environmental outcomes
- Promote innovation, efficiency and operational flexibility
Thank you