SHIPPING EFFICIENCY

Improving Performance and Profitability: Innovative Financial models for retrofits

Carbon War Room
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In 20 min

- Context
- Opportunity
- Financing
- Action
The opportunity

Source: McKinsey & Co Cost Curve (over-simplified by CWR)
The Carbon War Room accelerates the adoption of business solutions that reduce carbon emissions at gigaton-scale and advance the low-carbon economy.
Opportunities...

9Gt CO₂
$1 trn

7 tech / <= 18mo

First 20%
$87bn => $245bn

$70bn pa
Focus

Market

Business

Policy

Tech
Transport | Shipping

Operation Shipping Efficiency

GLOBAL SHIPPING ACTIVITY - AMONG THE LARGEST CARBON DIOXIDE EMITTERS

Technology Solutions
The Plan

Information

Better (efficiency) information drives better markets

Demand

Accelerate drivers of demand for more efficient vessels

Capital

Ensure the money is available to retrofit for those that want to

Irreversible Momentum
Comparing ship to ship

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<tr>
<th></th>
<th>B</th>
<th>VS</th>
<th>F</th>
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<tbody>
<tr>
<td>FUEL SPEND</td>
<td>$1,304,325</td>
<td>$1,671,314</td>
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<tr>
<td>EVDI™</td>
<td>2.63</td>
<td></td>
<td>3.42</td>
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<tr>
<td>CO₂</td>
<td>5,013</td>
<td></td>
<td>6,410</td>
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<tr>
<td>DWT</td>
<td>172,964</td>
<td></td>
<td>170,000</td>
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TOTAL FUEL SAVED: $366,989 USD
CO₂ DIFFERENTIAL: 1,397 tonnes
Diagram shows possible voyage plan of a vessel travelling from Vitoria, Brazil to Qingdao, China.
Increasing demand...
Demand-side engagement

26 Charterers using the A to G as a policy when selecting vessels

Prince Rupert and Port Metro offer discounts to A, B, C rated vessels

26 companies
1.8 billion tonnes of cargo
23% of non-container charter market
Demand pull: Charterers using A to G as a policy
## Ports – Press For Good

“The **Globe and Mail** offers the most authoritative news in Canada, featuring national and international news.”

### Online audience

| 6, 225, 915 |

### Print audience

| 313, 000 |

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The Financial Benefit of Retrofitting a Ship

For the purposes of financing efficiency retrofits, a ship may be thought of as a building on its side.

- 10–15% Fuel Savings
  - $1–$3M Projects
  - 2–5-year Payback

- 25–30% Energy Savings
  - 5-year Payback

- 10–20% Internal Rate of Return
  - $1–$5M Projects
  - 10–20% Internal Rate of Return
New Free Report: Hidden Treasure
Financial Models for Shipping Retrofits

www.carbonwarroom.com

And first 10 paper copies are with us today
Financing Example

- Monitoring company
- Tech company
- Tech company
- Vessel
- Fuel Saving Escrow Account
- Fuel Payer (shipowner or charterer)
- Bunker Fuel Provider
- Counterparty
- Capital & Interest Payments
- Legal Charge / other rights
- Unsecured Loan Agreement
- Performance guarantees
- Guarantee Assignment Rights
- Payment to technology suppliers
- Technology partners
- Fuel Saving
- Financial savings
- Fuel
- Cash
- Contract of affreightment
- Payment to technology suppliers
Methodology and Monitoring: A Key to Success

**Monitoring and Measurement to Calculate Fuel Savings**

- Fuel savings area represents the savings over time attributed to the technologies.
- Fuel consumption as estimated from noon report data.
- Standard drydocking increases performance.
- Step change in performance from retrofit technologies.
- Continuous monitoring begins (prior fuel consumption data estimated from noon reports).
- First dry-dock.
- Time in operation.

**KEY:** The solid black line represents the ship’s pre-dry-dock fuel consumption, whereas the dotted black line represents the estimation for how the ship would have performed post-dry-dock without the retrofit. The blue line represents the consumption post retrofit. The red line is the ship’s underlying gradual deterioration (other than hull fouling).
What does it mean for Great Lakes?
Observations from Today

- Tight Connection - Economics, Environment, Health
- Better information drives better markets – Power of Ports & Charterers & Shipowners on same information
- Communication as a tool
Thoughts to Action…

- Choice
- Trends
- Collaborate
- False Choice

Sources: leeabroad, http://usdebt.kleptocracy.us/, earthday
THANK YOU

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