Charting a Course for Decarbonizing Maritime Transport

Edoardo Casarotto, WB Maritime and Shipping Consultant
T&E “How to decarbonize shipping by 2050?”
Tuesday, 6 July 2021
Key references

Volume 1: Zero-carbon bunker fuels

Volume 2: Role of LNG

Summary for Policymakers and Industry
Key findings

1 Development opportunities – Major opportunities for countries in decarbonizing shipping

2 Ammonia and hydrogen – Most promising zero-carbon bunker fuel options to date

3 Role of LNG – Limited role as a fuel, more important role as a feedstock
Around the world: shipping as a development issue

Key enabler for developing economies

15 out of the 20 largest ports

9 of the top 10 ship registries

1.2 million jobs

Crucial lifeline for SIDS

Shipbreaking

and more...
Our journey

1. Development context
2. Emissions challenges
3. Alternative fuels
4. Opportunities for client countries
5. Implications
Forward lookout: shipping’s emissions trajectory


Source: Own graph, based on the Fourth IMO GHG Study (2020)
Our journey

1. Development context
2. Emissions challenges
3. Alternative fuels
4. Opportunities for client countries
5. Implications
On the horizon: zero-carbon bunker fuels
Navigating the shallows: the role of liquefied natural gas
Our journey

1. Development context
2. Emissions challenges
3. Alternative fuels
4. Opportunities for client countries
5. Implications
Turning tides: realignment of the fuel market

Country with no or insignificant oil reserves, but large renewable energy resources
Setting sail: the potential for blue ammonia/hydrogen for ships
Setting sail: the potential for first blue, then green ammonia/hydrogen for ships
Setting sail: the potential for green ammonia/hydrogen for ships
“Treasure Island”: wider development benefits
Our journey

1. Development context
2. Emissions challenges
3. Alternative fuels
4. Development opportunities
5. Implications
Charting a course: key implications for policymakers and industry

Main findings: (1) Development opportunities - (2) Ammonia and hydrogen - (3) Role of LNG
Charting a course: the catalytical role of governments

<table>
<thead>
<tr>
<th>Internationally</th>
<th>Nationally</th>
</tr>
</thead>
<tbody>
<tr>
<td>Create a level playing field and raise revenues</td>
<td>Meaningful carbon price on bunker fuels, and strategic revenue use</td>
</tr>
<tr>
<td>Enhance regulation</td>
<td>Energy efficiency standards, port regulation, etc.</td>
</tr>
<tr>
<td>Initiate pilot and demonstrator projects</td>
<td>Direct subsidies, concessional loans, guarantees, fiscal incentives, etc.</td>
</tr>
<tr>
<td>Scale up renewable energy production</td>
<td>Feed-in tariffs, priority dispatch, etc.</td>
</tr>
<tr>
<td>Leverage public procurement and provide offtake certainty</td>
<td>Green public tenders, offtake guarantees, etc.</td>
</tr>
</tbody>
</table>
Thank you.

ecasarotto@worldbank.org