



الأكاديمية العربية للعلوم والتكنولوجيا والنقل البحري  
Arab Academy for Science, Technology & Maritime Transport

MRCC



## International Maritime Transport and logistics Conference Toward Smart Ports



13-15 March 2016 Hilton Green Plaza – Alexandria - Egypt

## SMART port applications for hinterland intermodal network optimization

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# The Importance Of Hinterland Connections



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- Lack of space in ports



- Bottlenecks



- Environment



Cooperation      IT System Harmonization      Information Sharing



# Process reengineering



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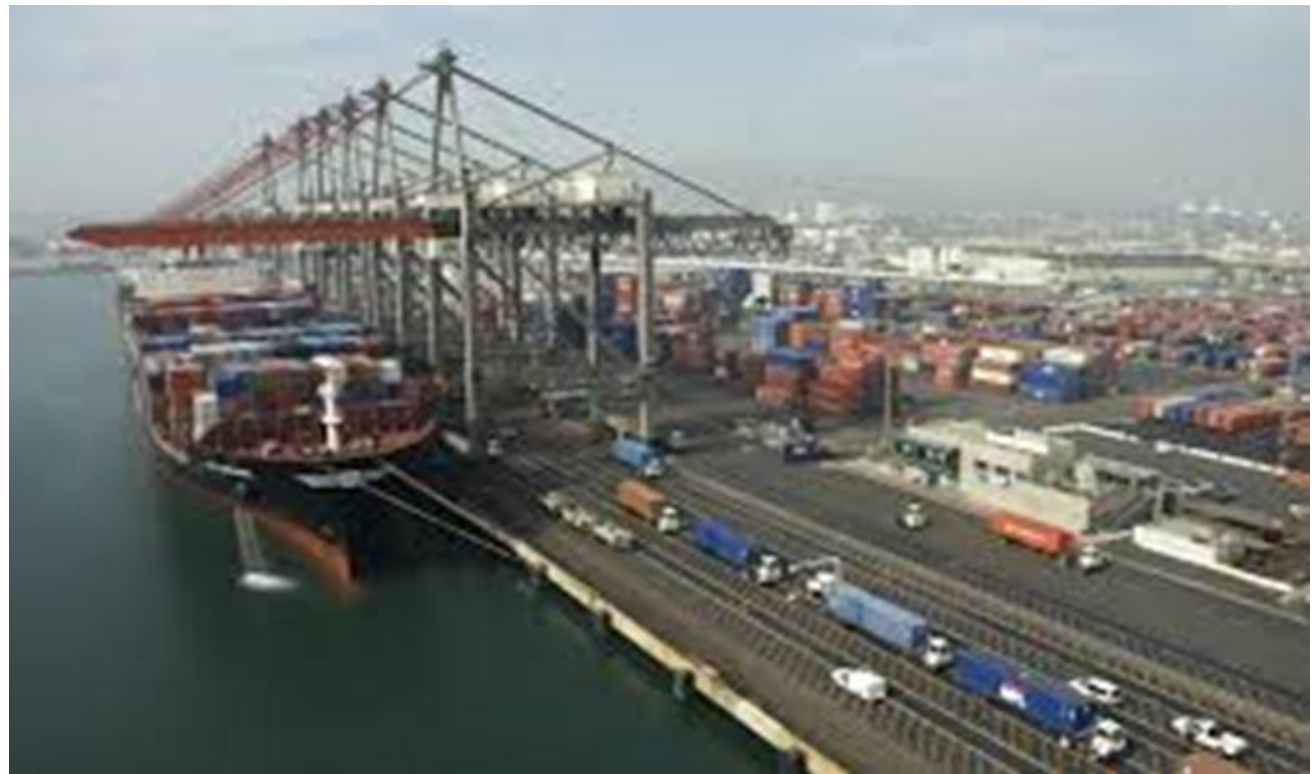
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# container terminal processes

- Waterside
- yard
- landside



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Larger terminals tend to rely on a mix of rail, road and barge transportation to the hinterland.



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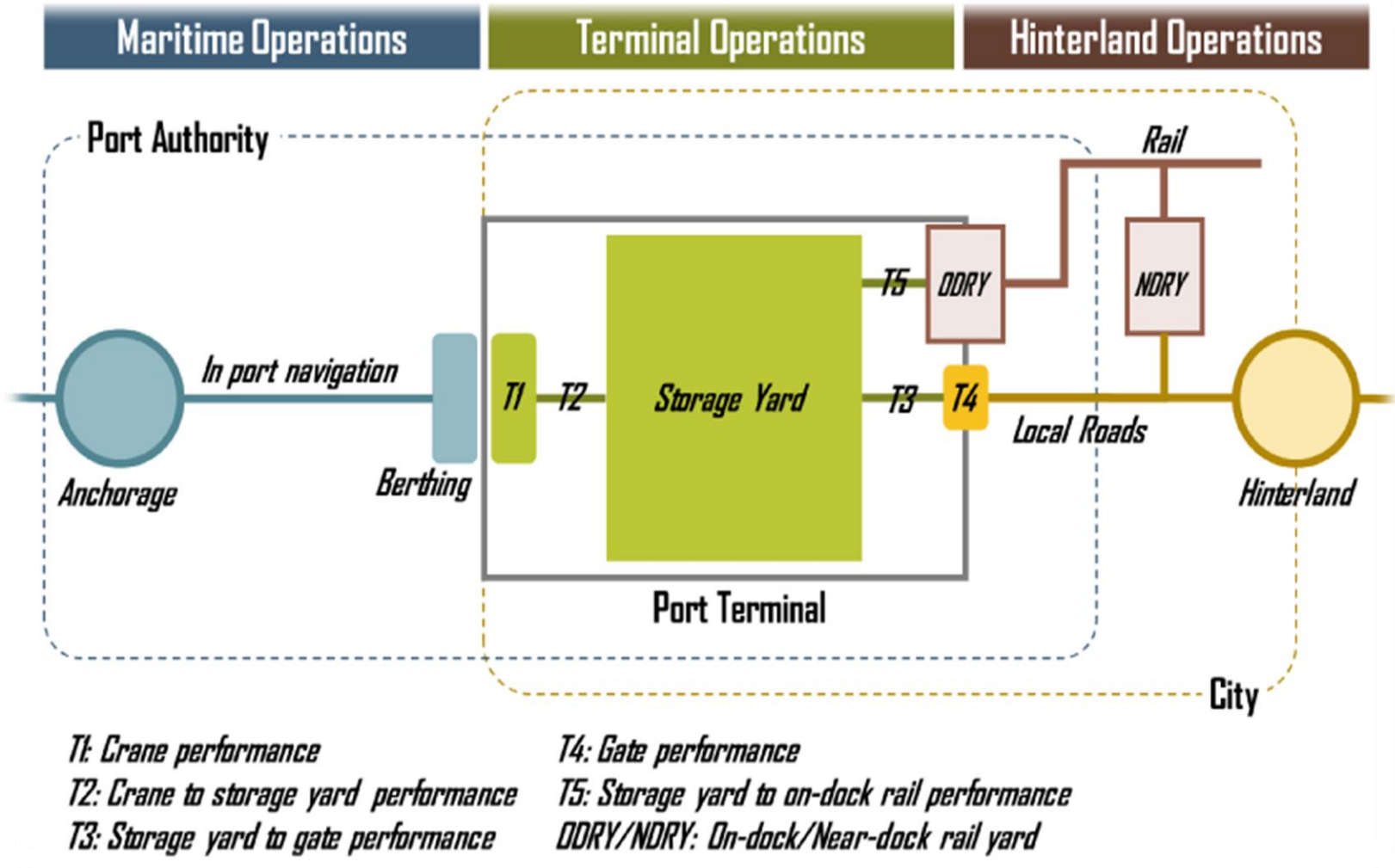


Gate operations efficiency are often the result of a coordination effort between:



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**OPERATIONAL  
EFFICIENCY!**



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FIRST-COME,  
FIRST-SERVE



# SMART gate network management



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**Network  
Services**  
to keep your  
business at  
maximum  
efficiency

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SMART hinterland connectivity can be measured in several ways:





# The importance of SMART logistics to the planning of hinterland transport



# SMART port repositioning of empty containers



Even where container loads are received and generated by the same factory or warehouse, the chances of an inbound container being reloaded with an export consignment are often quite limited. As a result of the following practices:



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Container 20 foot



Container 40 foot



Container 40 foot HC



Container 45 foot



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# SMART hinterland transport





- High speed.
- Suitable for long distances.
- Safety.
- Large carrying capacity.
- Reduce congestion on roads



## SMART KPIs for rail transport

- ✓ Magnitude of the rail infrastructure (Total sidings in port area (Km)/Total terminal area).
- ✓ Use of the intermodality-railway option (Total TEUS transported by rail/Total TEUS).
- ✓ Use of the intermodality- road option (Total TEUS transported by road/Total TEUS).



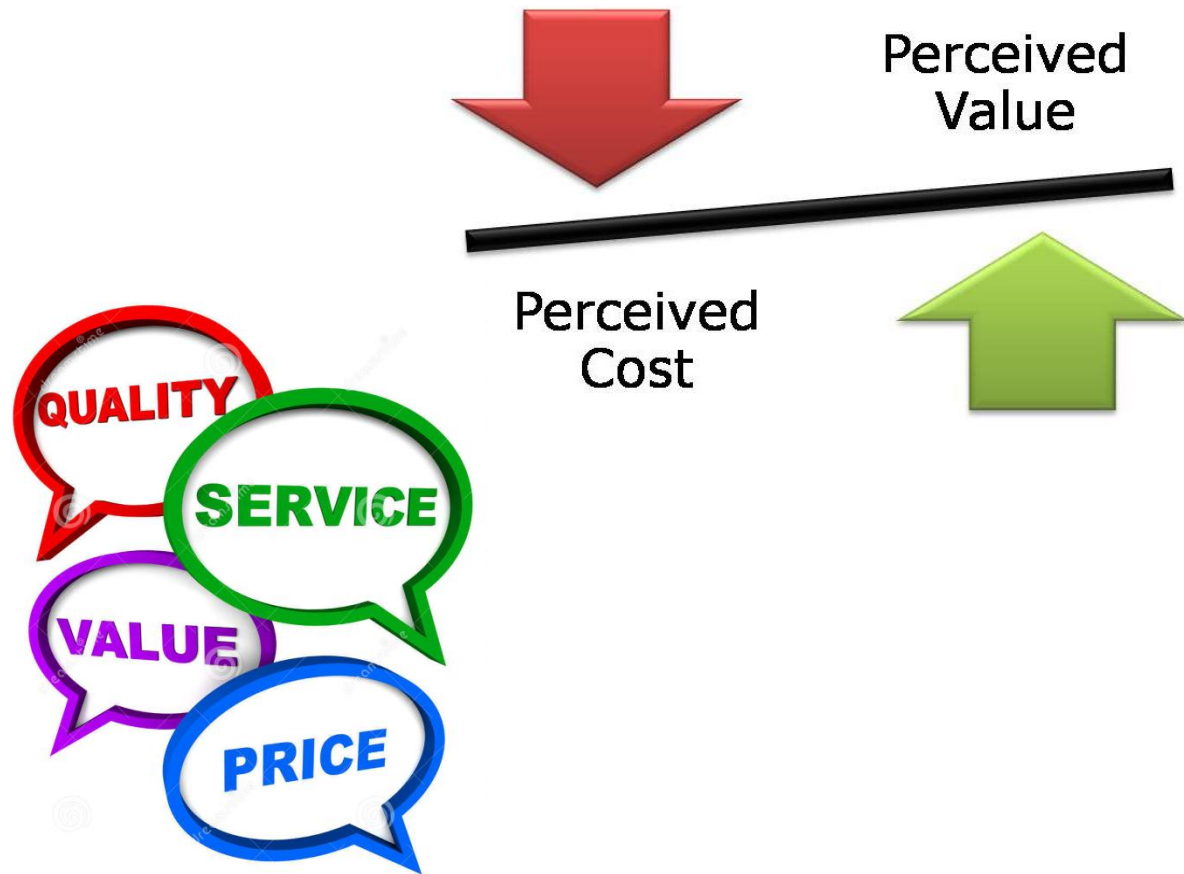
**There are four major ways in which such coordination can be improved**



**WIN-WIN**



**But...**

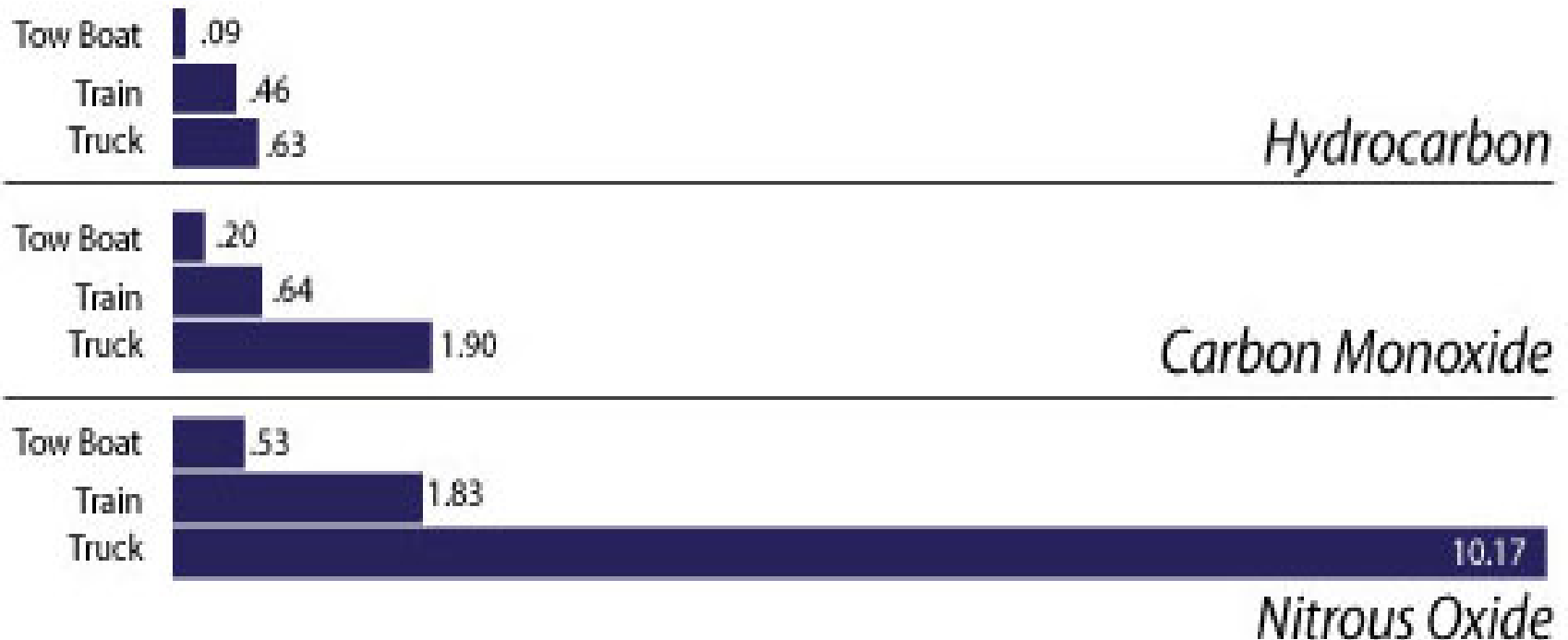


**Financing for  
Development**

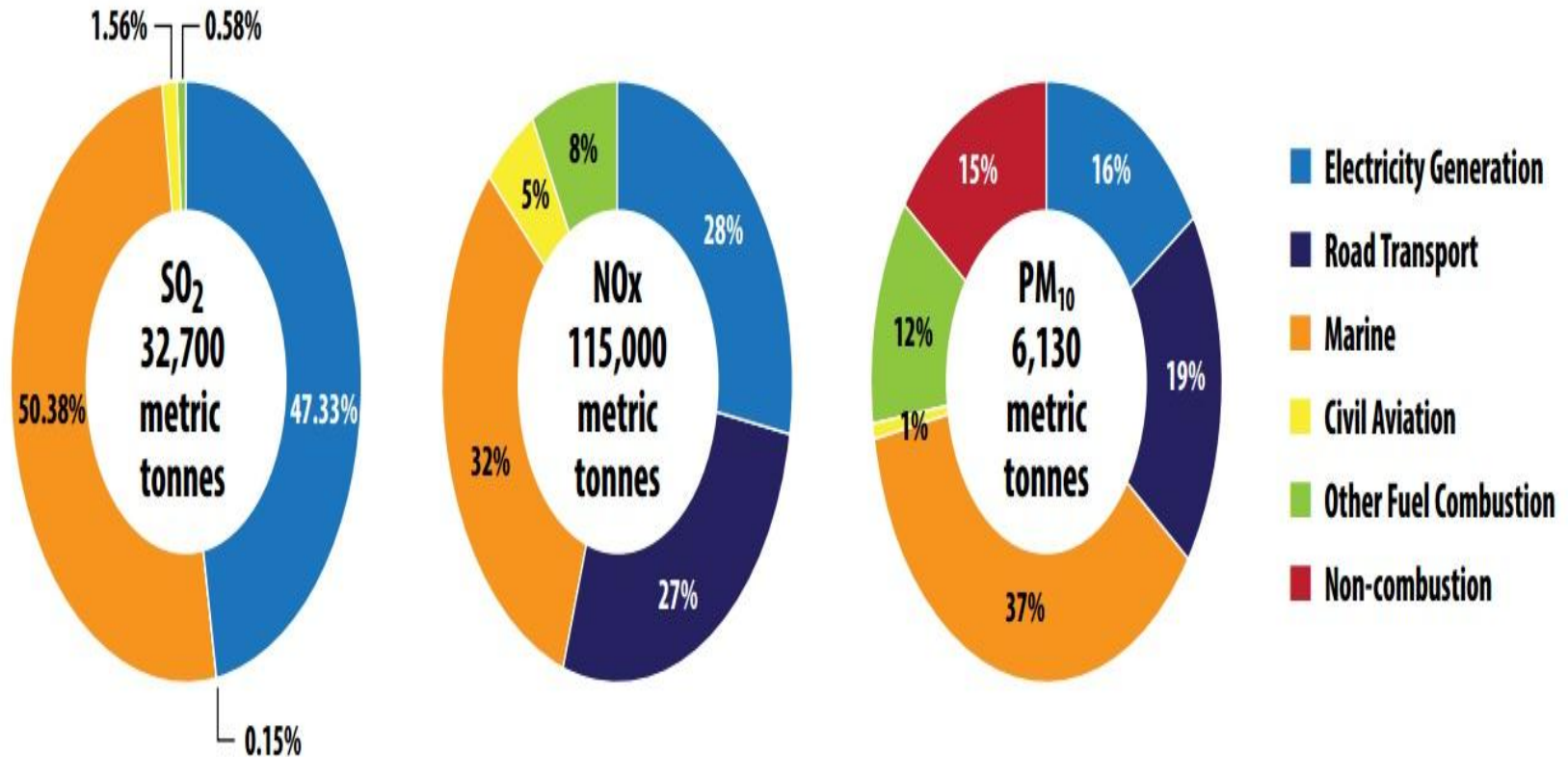
# Assessing the environmental impact of ports



## *Barge Transportation: The Environmental Advantage*

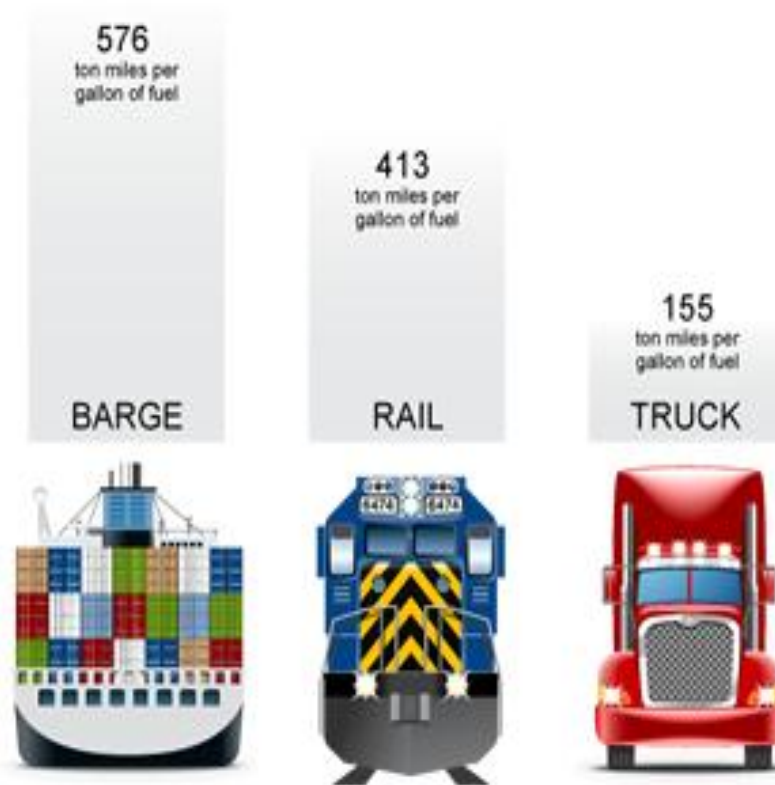


## Contribution of Marine Emission to the Total Emission Profile of Hong Kong, 2012 data (source: NRDC)



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**The number of ton-miles per gallon of fuel by barge is 514 miles, by train 202 miles and, by truck 59 miles.**

# SMART Reduction of Emissions from Hinterland Transport



спасибо

谢谢

GRACIAS

THANK YOU

ありがとうございました

MERCI

DANKE धन्यवाद

شكراً

OBRIGADO