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OUR VISION IS:

"FOR EVERY ORGANISATION TO ACTIVELY DECARBONIZE"

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Presented to you by

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The Need: The Maritime Industry, including ports, must do their part to reduce global greenhouse gases

Currently at 3% of total GHGs and expected to increase as international trade increases.





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The Case For Great Lakes Decarbonization

- a. Decarbonization is not just a coastal port issue
- b. Federal, State and Local entities are expecting decarbonization of all industries
- c. Fortune 500 companies with vast supply chains are also expecting it
- d. Funding is available





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The Idea: Develop a Decarbonization Plan for the Port of Detroit that encompasses all aspects of cargo movement and entities related to port activity

- a. All private terminals and the one public terminal
- b. Cruise ships
- c. Gov't – police & fire ships, coast guard and Army Corps of engineers





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The Cost of Developing Plan and Where's The Funding?

- a. SWAG - \$1 million
- b. State Legislature
 - i. Find a champion for the cause
 - ii. Federal Money is too slow





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Challenges

- a. Port Authority has very little leverage.
 - i. Handles less than 4% of Port of Detroit Cargo
 - ii. Does not have leases with terminals
- b. No state law requiring participation
- c. Terminals are competitors and don't want to share information or be compared with each other.
- d. Do we also include particulate matter, noise and sound pollution – a very real issue in Detroit. Yes!





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**GET AN EXPERT
WHO HAS DONE IT! (RFP)**



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**Get a community partner – the plan
is about health of the community,
workers and visitors in port region**





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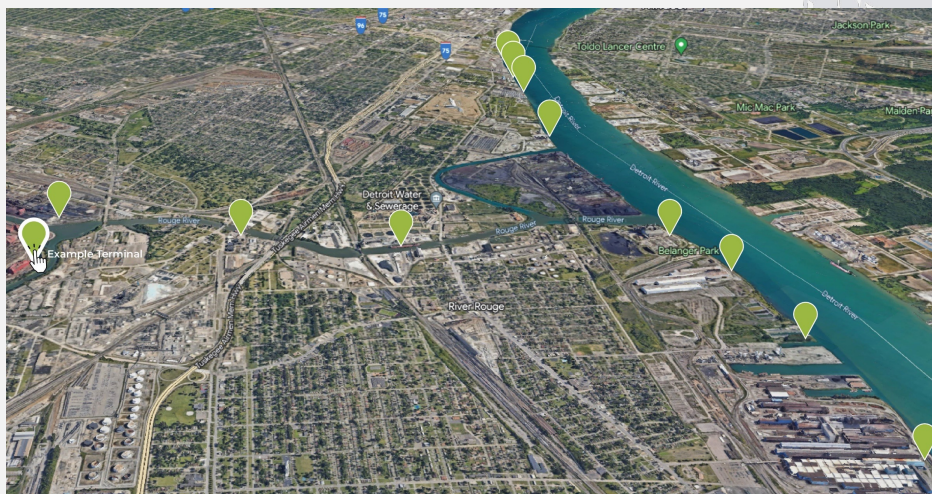
Strategies... so far

- Demonstrate commercial benefits
 - Cost-benefit analysis
 - Availability of grants
 - Market share
 - Community relations
- Address Business Concerns
 - Non-disclosure agreements
 - Listen to concerns before suggesting outcomes
- Include improvements to air quality, decrease in truck traffic, noise etc.,
- Personalized engagement.



Project Aims Development Toolkit

- Roadmap to Net Zero for Port activities by 2040
- Inclusion of all Port Terminals
- CO₂e and air quality
- Values given until 2040 for carbon reduction strategies



Example Terminal	2023	2026	2029	2032
CO ₂ e (tonnes/yr)	xxxx*	xxxx*	xxxx*	xxxx*
NO _x (ug/m ³)	xxxx*	xxxx*	xxxx*	xxxx*
SO _x (ug/m ³)	xxxx*	xxxx*	xxxx*	xxxx*
PM (ug/m ³)	xxxx*	xxxx*	xxxx*	xxxx*

*xxxx - Your data will be collected and in-putted here.



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Scope 2
Energy
Indirect

In Scope

Drayage



Fugitive Emissions

Moving goods



Ship Emissions from
Departure and at Berth



Tug Boat
Operations



Rouge River

Detroit River

Detroit River

Out of Scope

Industrial
Processes



Goods traffic solely for industrial processes

All Scope 1 (Direct) and Scope 2 (Energy Indirect) emissions associated with shipping transport.

Excludes industrial emissions and scope 3, and activities solely associated with industrial activities.



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07 July 2023

Revised GHG reduction strategy for global shipping adopted



- Net Zero by 2050 now the global standard
- Intermediate targets for 2030 and 2040

<https://www.imo.org/en/MediaCentre/PressBriefings/pages/Revised-GHG->

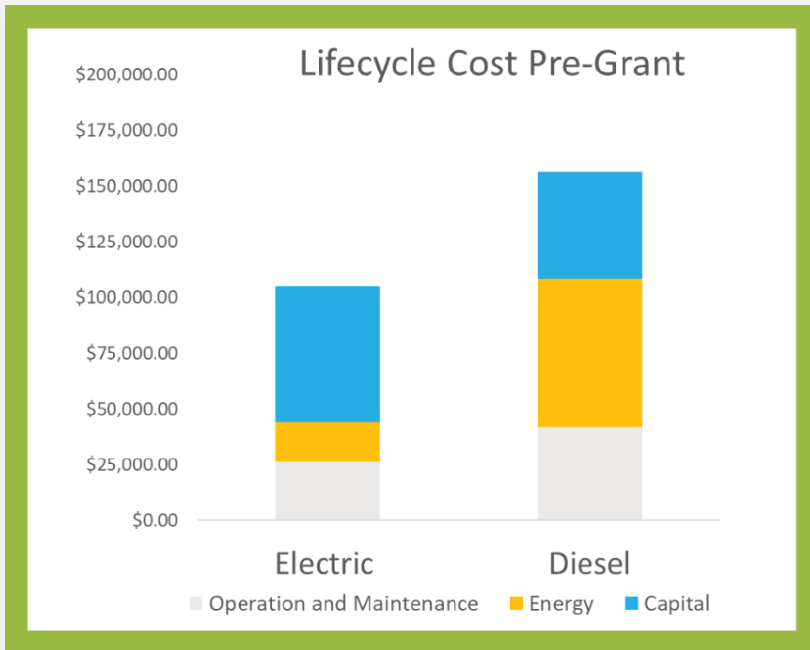


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Cost?

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Grants

- EGLE – 50% capital expenditure for low carbon goods handling equipment
- EGLE – Clean Diesel Grant
- Department for Transportation (x5)
 - E.g., Reduction of Truck Emissions at Port Terminals & Congestion mitigation and Air Quality

Cost savings of electrification – LCA analysis

<https://forklift.epri.com/>



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Tunley Engineering - About Us



- PhD Scientists!
- Over 120 assessments completed
- We are Net Zero
- 1:7500 intensity ratio
- Published more than 150 times in 2 years
- Target 1bn kg CO₂e by 2025
- Excellent marketing knowledge
- \$1 Million Saving, Green Award
- [Tunley Website](#)



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Thank You!

Any Questions?

