













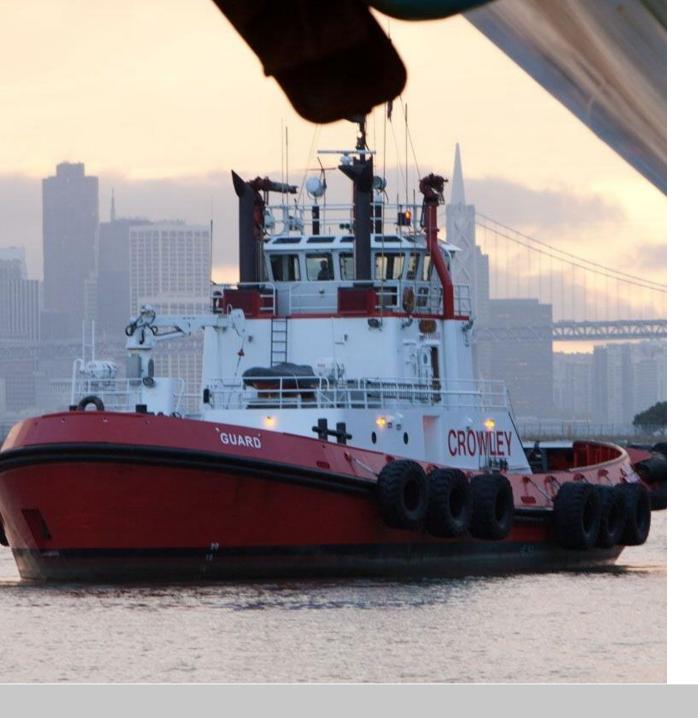




TOWARD DECARBONIZATION: THE FUTURE OF MARINE ENERGY AND PROPULSION

A U.S. Owner, Operator Perspective

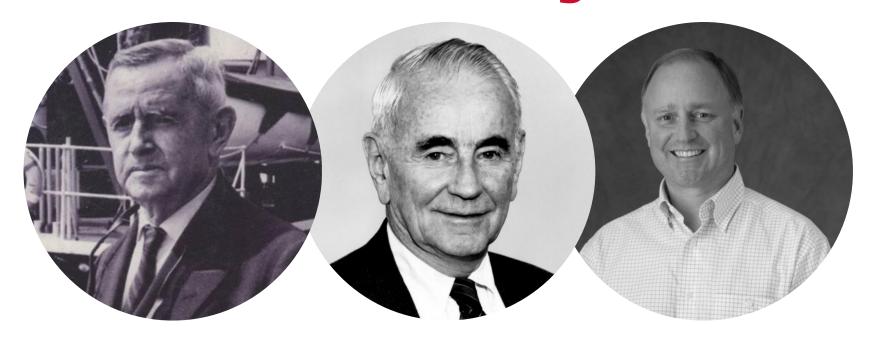




Objectives

- 1. Introduce Crowley
- 2. Set the Stage for Decarbonization: Part of a Sustainability Journey
- 3. Dive into Opportunities, Risks, Rewards, and Blockers of Achieving Maritime Decarbonization in the U.S.

Who is Crowley:



Founded in 1892, Crowley is a privately-held, U.S.-owned and operated logistics, government, marine and energy solutions company headquartered in Jacksonville, Florida. Services are provided worldwide by four primary business units — Crowley Logistics, Crowley (Government) Solutions, Crowley Shipping and Crowley Fuels.

Our Purpose: "Enriching Lives Through Innovative Solutions Done Right"

PURPOSE 💥



Enriching lives through innovative solutions done right

ESGs

- Environment
- Social
- Governance

SUSTAINABILITY AMBITION STATEMENT

By 2025, Crowley will be the most sustainable and innovative maritime and logistics solutions company in the Americas.

U.S. Owner / Operator Perspective on Decarbonization



Crowley is the largest U.S. Jones Act operator with over125 self-propelled vessels across an extensive operating area:

- From the North Pole to West Africa, Puerto Rico to the Houston Ship Channel. . .
- Liner, bulk, break-bulk, ATBs, tugs, Con/Ro,
 OSVs, Military Sealift Command, etc.
- Significant blend of owned, managed, chartered, and JV fleet
- Tier IV, dual fuel LNG engines to eTug battery power. . .

Complex Regulatory Roadmap

- International [IMO 2050]
- Federal [Coast Guard MEPC 77 + poly-fuels]
- State [CARB]
- City [LA/LB]

Challenges Rewards I. Lack of Regulatory Certainty & Agility I. Sustainable Customer Solutions Drive II. Lack of a Coordinated Industry and **More Market Penetration and Share** Government Approach II. Partnerships and JVs III. Lack of Access to Incentives Available III. Competitive Advantage to Other Transport Modes **Navigating Decarbonization** in the U.S. **Opportunities** Risks I. Do Right: Enrich Lives I. Willingness of Customers to Adapt II. Improve the Value we Bring to our II. Cost of Betting on "Wrong Horse" Stakeholders Through Innovation III. Adapting to slowly, or too quickly III. Future-Proof our Business

There is Movement

"This legislation will make approximately \$17 billion worth of funding available to the domestic maritime sector over the next five years"

- David Hume, U.S. DoE Pacific Northwest National Laboratory (PNNL), Marine Energy Manager



LA City Council adopts world-first resolution calling for zero emission shipping at America's top two ports by 2030

Amazon, Ikea and Unilever pledge zero-carbon shipping by 2040





Public, Private Partnership: Crowley's e-Tug

- Crowley invested \$18 million to build the first zero-emissions electric tug in the United
 States. The e-tug will operate at the Port of San Diego and be operational by mid-2023.
- Over the first 10 years, will reduce 178 tons
 of nitrogen oxide, 2.5 tons of diesel
 particulate matter and 3,100 metric tons of
 carbon dioxide versus a conventional tug.
- Will eliminate the 30,000 gallons (114,000 liters) of diesel per year.



Progress Requires Partners Across the Value Chain:

From NGOs to Regulators, Customers to Trade Associations















PARTNERS IN TRADE



TRIDENT **ALLIANCE**











The American
Waterways Operators









Thank you and Q&A

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