The Information Authority for the Workboat • Offshore • Inland • Coastal Marine Markets

Volume 34 • Number 10

Marine News

OCTOBER 2023
www.marinelink.com

Offshore Energy

Vessel Bottlenecks Loom

Alternative Fuels
Hydrogen Demo Project In San Francisco

Deck Machinery
One-on-one with Markey CEO Blaine Dempke

Inland Waterways
Making Progress on Big Infrastructure Projects

When you're working offshore, keep boat crew communications on course.

David Clark OSV/CTV Marine Headset Systems

Crews on board Offshore Service and Crew Transfer vessels perform a variety of complex operations. Communication is critical to ensure the safe and efficient transport of cargo, equipment and personnel. David Clark Marine Headset Systems offer clear, reliable communications in the harshest marine environments, while enhancing the safety and situational awareness of crew members.

Call **800-900-3434** (508-751-5800 Outside the USA) to arrange a system demo or visit **www.davidclark.com** for more information.

Series 9100 Digital Communication System
Scalability · Versatility · Simplicity

David Clark

WWW.DAVIDCLARK.COM

An Employee Owned American Company

DMWMARINEGROUP

marine cranes

www.dmwmarinegroup.com
610.827.2032

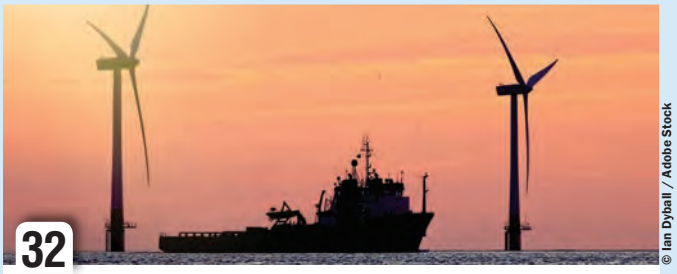
Contents

Marine News October 2023 • Volume 34 Number 10

Features

© muddymari / Adobe Stock

Michel Sauret / USACE



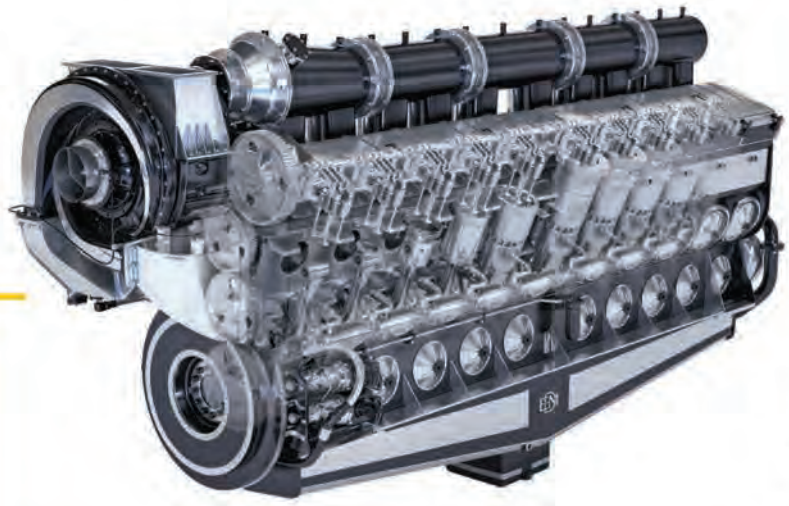
© Ian Dybalt / Adobe Stock

On the Cover

OSV demand has picked up with increased activity in offshore oil and gas. But more opportunities await in offshore wind. Will there be enough vessels to go around?

(Photo: © Vladimir / Adobe Stock)

Marine Systems, Inc.



The E 23 (IMO II-EPA T3) and E 23B (IMO III-EPA T4F) are available in 8, 12, 16 and 20 cylinder configurations with power ratings from (1675 hp) to (5500 hp).
*"Please consult MSI for specific application ratings"

TWO CYCLE ADVANTAGE

ENDURING DESIGN. LEGENDARY HERITAGE.

BEST IN-CLASS TRANSIENT RESPONSE

- E 23 offers the performance of a high speed engine with the durability advantage of a medium speed engine.
- Ample power margin throughout the entire operating speed range allows for optimized engine sizing and a single speed reduction gear.
- Avoids engine lugging under demanding vessel maneuvers.
- Accepts 100% block load in constant speed applications.

TOTAL COST OF OWNERSHIP ADVANTAGE

MAXIMUM UPTIME.

PARTS – LABOR – FLUIDS

Downtime is expensive. EMD engines are designed to minimize the amount of time needed for maintenance and repairs in order to maximize your productivity, keeping operational costs to a minimum.

- Reduced fuel consumption over previous models due to EPA T4F / IMO III technologies and low idle speed.
- Easy non-invasive inspection of cylinder components for simple predictive condition-based maintenance.
- Simple overhauls to minimize downtime – Power Assembly (head, liner, piston, rod) can be removed and replaced as one unit.
- Closed loop dosing control system optimizes (Diesel Exhaust Fluid) DEF usage.
- No oil change required between overhauls unless indicated by oil sample analysis.
- Lowest life cycle cost per horse power / hours of operation.

Ph: (985) 223-7100 • www.marinesystemsinc.com

Editor's Note

Eric Haun, Editor,
haun@marinelink.com

- Low Interest Shown in US' First Gulf of Mexico Offshore Wind Auction
- US Offshore Wind Projects Seek Looser Subsidy Rules in Fight for Survival
- Orsted CEO Says Abandoning US Wind Projects a 'Real Option'
- Biden's Offshore Wind Target Slipping Out of Reach as Projects Struggle
- BOEM Postpones Oil and Gas Lease Sale 261
- Biden's Five-year Offshore Oil Plan to Have Historically Few Lease Sales

The list goes on…

While many of the recent headlines have been far from positive for the U.S. offshore industry—including wind and O&G—there is still plenty to be optimistic about. This of course depends on your point of view, but my position is one of someone in favor of a more active U.S. marine industry, from shipyards and suppliers, to vessel owners and operators, and everyone in between.

Oil and gas activity in the Gulf of Mexico continues to increase following a very long downturn, and vessel utilization is picking up. The U.S. Energy Information Administration (EIA) is expecting continued growth in U.S. crude oil production, exceeding 13 million barrels per day for the first time in early 2024.

And while offshore wind is challenged (to say the least), progress toward the 30GW by 2030 goal is being made every single day—which is more than could have been said just a few years back. New offshore wind areas are being announced, opening up new waters for development. New ports and terminals are being developed, ships are being built, and steel is entering the water. Yes, there are going to be more bumps along the road—all industries have them. But long-term prospects remain solid.

Marine News (ISSN# 1087-3864) is published bi-monthly (6 times per year) by Maritime Activity Reports, Inc. 118 E 25th St. New York, NY 10010-1062. Periodicals Postage Paid at New York, NY and additional mailing offices. POSTMASTER: Send all UAA to CFS. NON-POSTAL AND MILITARY FACILITIES send address corrections to Marine News 850 Montauk Hwy. #867 Bayport, NY 11705

Marine News

(ISSN#1087-3864) (USPS#013-952)

New York: 118 E. 25th St., New York, NY 10010
tel: (212) 477-6700; fax: (212) 254-6271
www.marinelink.com

CEO
John C. O'Malley • *jomalley@marinelink.com*

Publisher & Editorial Director
Greg Trauthwein • *trauthwein@marinelink.com*

Editor
Eric Haun • *haun@marinelink.com*
Tel: 212-477-6700

Contributing Writers
Tom Ewing, James Kearns, Barry Parker, Jeff Vogel

PRODUCTION
Production & Graphics Manager
Nicole Ventimiglia • *nicole@marinelink.com*

SALES
Vice President, Sales & Marketing
Terry Breese • ***breese@marinelink.com***
Tel: 561-732-1185 Fax: 561-732-8414

Advertising Sales Managers
Lucia Annunziata • ***annunziata@marinelink.com***
Tel: 212-477-6700 **ext 6240** Fax: 212-254-6271

John Cagni • ***cagni@marinelink.com***
Tel: 631-472-2715

Frank Covella • ***covella@marinelink.com***
Tel: 561-732-1659 Fax: 561-732-8063

Mike Kozlowski • ***kozlowski@marinelink.com***
Tel: 561-733-2477 Fax: 561-732-9670

Gary Lewis • ***lewis@offshore-engineer.com***
Tel: 516-441-7258

CORPORATE STAFF
Manager, Marketing
Mark O'Malley • *momalley@marinelink.com*

Accounting
Esther Rothenberger • *rothenberger@marinelink.com*
Tel: 212-477-6700 **ext 6810**

Manager, Info Tech Services
Vladimir Bibik

CIRCULATION
Kathleen Hickey • *k.hickey@marinelink.com*
Tel: 212-477-6700 **ext 6320**

TO SUBSCRIBE:
Subscriptions to ***Marine News*** (6 printed issues) for one year are available for $50.00; Two years (12 printed issues) for $80.00.
Send your check payable to:
Marine News, 118 E. 25th St., New York, NY 10010

Member
BPA WORLDWIDE BRAND REPORT
Business Publications Audit of Circulation, Inc.

THE MARITIME NETWORK

THE MARITIME INDUSTRY'S LARGEST SOCIAL MEDIA PRESENCE

Maritime Reporter **and** ***Marine News*** **magazines are members of the Marine Media Network, the industry's largest network of websites, publications, and social media sources.**

All data current as of 10/25/2021

MARITIME REPORTER AND ENGINEERING NEWS

59,236

Followers

THE MARITIME NETWORK

179,981

Members

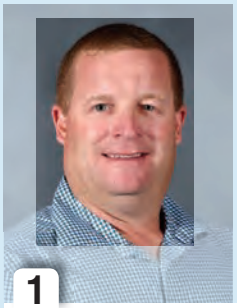
@ShipNews

50,040

Followers

WWW.MARINELINK.COM

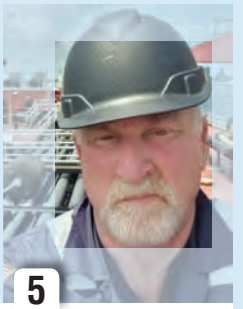
Contributors


1


2

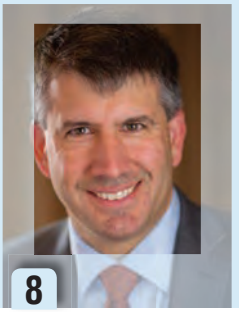

3

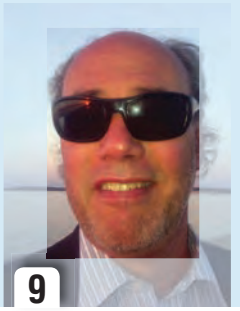

4


5


6


7


8


9


10

1 Jim Bunsey
is the director of commercial business development at the Propane Education & Research Council.

2 Tom Ewing
is a freelance writer specializing in marine, energy and environmental issues. He contributes regularly to this magazine.

3 Chad Fuhrmann
is the founder of Chaos Ready Inc. With 25 years of industry experience, he provides a variety of specialized maritime engineering and operational services as a consultant with Core Group Consulting. He is also a writer and a volunteer with national and international industry organizations.

4 Jim Kearns
of Jones Walker LLP is special counsel in the firm's maritime practice group, where he focuses on maritime transactions. He sits on the Board of Directors for Inland Rivers, Ports, and Terminals Inc.

5 Robert Kunkel,
president of Alternative Marine Technologies and First Harvest Navigation, served as the Federal Chairman of the Short Sea Shipping Cooperative Program under the DOT's MARAD from 2003 until 2008. He is a past VP of the Connecticut Maritime Association and a contributing writer for *Marine News* and **MarineLink.com**.

6 Edward Lundquist
is a retired naval officer who writes on maritime and security issues. He is a regular contributor to New Wave Media titles.

7 Jennifer McQuilken
is a freelance writer and communications professional focusing on the maritime industry and energy sector. She also shares her hands-on marine experience by teaching recreational boating safety and boat handling skills.

8 Erik Milito
is a veteran energy industry association executive is president of the National Ocean Industries Association (NOIA), a trade group representing America's offshore energy industry.

9 Barry Parker
of bdp1 Consulting Ltd provides strategic and tactical support, including analytics and communications, to businesses across the maritime spectrum. He is a freelance writer and regular contributor to this magazine.

10 Jeff Vogel
is a partner in Cozen O'Connor's transportation & trade group. He focuses his practice on strategic and operational matters affecting the United States maritime industry and on government contracts across all industries.

By the Numbers

Big Money Needed to Develop US Offshore Wind Ports

Much has been written about potential bottlenecks in store for various parts of the U.S. offshore wind industry, from vessels to monopiles. A new report published by the Business Network for Offshore Wind (BNOW) outlines the need for significant investment in and development of port infrastructure to support the industry in its goal of 30 gigawatts (GW) of offshore wind power by 2030 and 110 GW by 2050.

The good news is that more than 35 new offshore wind port projects have gone into development or began commercial operations in the U.S. over the last five years—the majority of which are in the Northeast and Mid-Atlantic, according to BNOW's report, "Building a National Network of Offshore Wind Ports: A $36B Plan for Domestic Clean Energy Infrastructure".

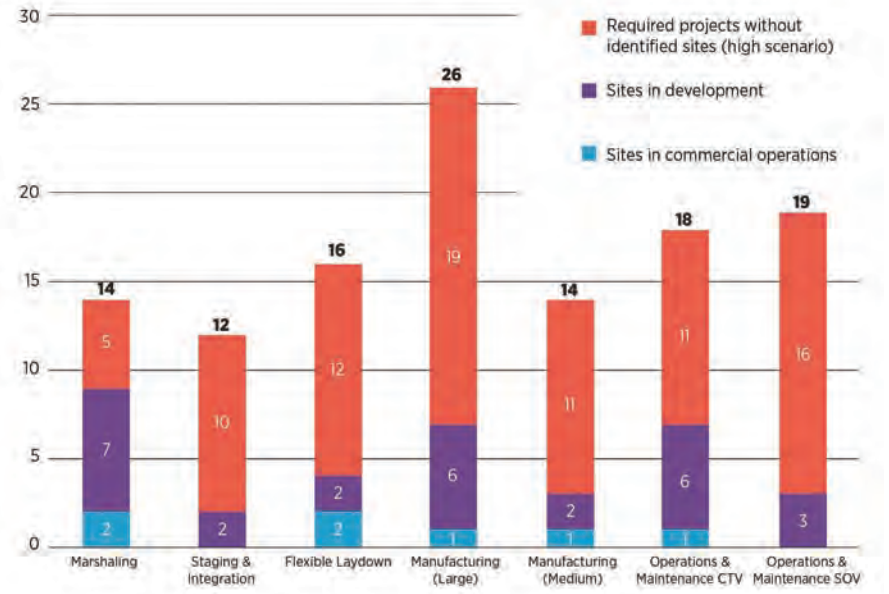
But that's only the tip of the iceberg. The report's authors estimate that the U.S. needs a total of 99 to 119 port development sites across the East Coast, West Coast and the Gulf of Mexico to meet its 2030 goal and lay the foundations for 2050. This means the U.S. is currently facing an offshore port infrastructure gap of 64 to 84 projects.

The industry needs a network of port facilities to efficiently manufacture, store, stage, install and maintain offshore wind turbines. Port types include marshaling ports, staging & integration ports, flexible laydown ports, manufacturing ports, operations & maintenance ports.

BNOW estimates that the total cost to address the nation's offshore wind port infrastructure gap, assuming 2023 construction prices and no financing costs, is between $22.5 billion and $27.2 billion. This construction funding gap is approximately 3.4% to 6.2% of the total capital needed for project deployment through 2050.

After estimating the timing of projects over the next decade, and accounting for construction inflation, the upper bound of capital required to address the offshore wind port infrastructure gap escalates from $27.2 billion ($ 2023) to $36 billion ($ Year of Expenditure (YoE)). According to BNOW's report, the financial costs associated with developing these projects is estimated to be an additional $7.2 billion ($ YoE) over 10 years.

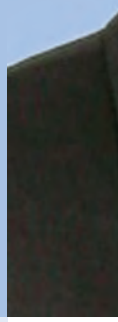
Offshore wind port infrastructure requirements by port type and project status



Source: Business Network for Offshore Wind, "Building a National Network of Offshore Wind Ports: A $36B Plan for Domestic Clean Energy Infrastructure"

Blaine Dempke

CEO, Markey



Established in 1907 as the Industrial Revolution arrived to Seattle, Markey is the oldest privately-held winch manufacturer in the United States today. The company was formed in the Georgetown District of what later became known as King County, Wash. The Markey sign above its original manufacturing plant, on Horton Street, is still retained, although Markey has since moved to its current facility on 8th Avenue South.

All images: Markey

Markey was a major supplier to the U.S. Navy in both world wars, its employment peaking at near 400 in WW2, with 24/7 operations, as the company built winches for jeep tugs and mercy ships especially.

At this time its outstanding efforts, in fulfilling orders, were acknowledged at the highest level in the form of the Army-Navy E Award (February 1943). During WW2, Markey built winches for jeep tugs and mercy ships especially.

In 1978, Blaine Dempke and Bob LeCoque joined the company, starting out at the bottom. LeCoque was a helper in the machine shop, while Dempke was a drafter-in-training in the engineering department, later undertaking an intensive business course curriculum at the University of Washington. Both men were promoted as they gained experience, ultimately moving into the top positions: Dempke was appointed president, and LeCoque executive vice president, in 1996. In 2000, the two men bought out the Markey family, which had owned the enterprise since its founding. Now partners, Dempke and LeCoque were united in their mission—of continuing the advance of Markey products' high quality and engineering excellence. Indeed, these had become the hallmarks of Markey products over many decades. A number of new ideas were implemented to improve the business, thus gaining efficiencies through changes necessary to keep Markey competitive in its second century of operations.

Markey's technical innovations have won acclaim, garnering a number of industry awards—and perhaps more importantly, repeat business from its faithful customers in the hard-working maritime sector.

Markey announced last year that it lined up outside investment to help grow the company. How did this deal come to be, and what do expansion plans look like?

We didn't view this so much as a way to help grow the company, although this is certainly happening now, only 12 months after taking those steps. More so, we were committed to taking the steps necessary to ensure continuity and survivability, something of a challenge for what was at that time a small closely-held family business. By this time, my son, Jeff Dempke was more involved in day-to-day operation and helped immensely in our pursuit of the "perfect buyer", not your typical private-equity buyer looking to maximize profits in the short term but rather a person or company that was in it for the long haul, that recognized there are times that profits have to be set aside in order to get the job done and meet our own high standards. After almost four years of talking to a lot of people, we were fortunate to run into Christian Schiller and Brian Bogen, Seattle-natives themselves, both aware of the marine industry and Markey's reputation for quality. Six months later we had new majority owners. I continue to hold a minority interest and run the business, along with Jeff, day-to-day. With our new ownership we have access to new resources and skillsets that will serve the company well as we grow and adapt to the ever-changing business demands. We are considering several logical market subsectors for expansion opportunity, such as floating offshore wind.

Insights

How is the company investing to ensure future success?

I usually tell people, when they ask, that "We're an engineering firm that happens to build winches." Our focus is engineered solutions that meet the real-time needs of the crew on the front lines—those operators actually running the boats, we listen carefully to them, and the majority of improvements we've made in the last couple decades are a direct result of being immersed in this community. We will therefore continue to invest in those resources that will keep us at the forefront, in the minds of the operators, on board.

How is business today? What types of projects is Markey working on? And looking ahead, where do you see greatest areas of opportunity?

The changes in ownership structure have created opportunity for growth. Among several products of note, our electric and hydraulic bow hawser winches—for harbor-assist and escort—seem to be particularly in demand, especially for customers needing the safest and most reliable means of handling large tankers, as those associated with new LNG plants now under construction. Immodestly put, we sense that in this particular product area, Markey has no peer in the quality and reliability of our bow hawser winches, for which reason we have so many orders of scale.

Looking ahead, tug fleet replenishment, new port terminal expansions, and new vessels associated with offshore wind and the uptick in traditional oil and gas all appear to mark important developments.

Do you see appetite in the market for new products and innovation? If so, what are customers asking for?

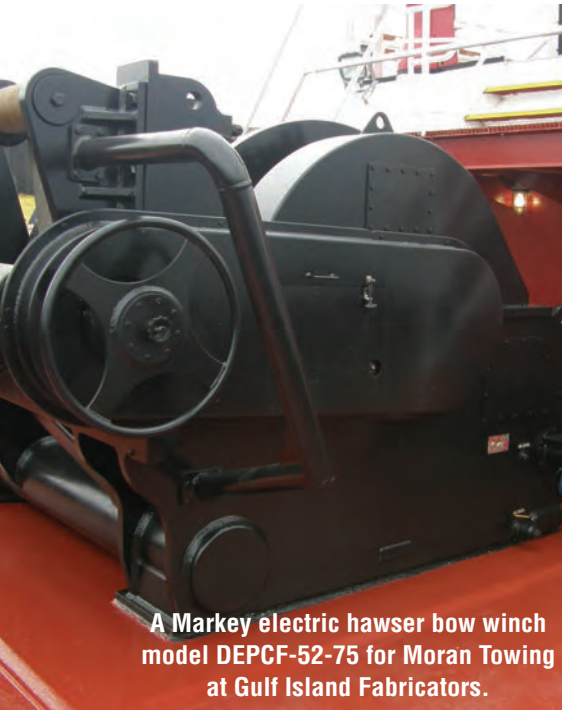
Specific to hawser winches, we very recently responded to requests for a lighter product that had a modified footprint, to satisfy a new tug design with little distance between the forward staple and the winch on the bow. The result was our new Agile Concept—a winch developed for four key customers of ours, featuring a 16.4% reduction in overall weight, a slimming-down of the footprint dimension, inclusion of the gearbox integrally with the winch, and other improvements. This new Agile Concept design is the latest improvement to our Class III hawser winch line, and our customers have responded favorably.

Markey Mooring winches aboard a Crowley vessel.

A Markey CAST-6 Oceanographic Winch.

What's your top, most pressing challenge as Markey CEO, and what's being done to address it?

Markey, like all other firms in our marine industry, is faced with the reality that young people are simply not entering our industry the way they once did. For this reason, we are paying particular attention to hiring good candidates when they appear. We see that in order to continue a 116-year history of quality and engineering excellence, "new thinking"—including new approaches to old dilemmas—is a vital component of our continued growth as a company. At the same time, I recognize that it may not be so simple to replace older workers, with their experience and skills, as it once was. Markey this year has expanded staff by over 10%, younger people being the main component, and we are



A Markey electric hawser bow winch model DEPCF-52-75 for Moran Towing at Gulf Island Fabricators.

seriously considering several small business acquisitions to expand our offerings to the market.

Over the course of your career, what have been some of the biggest or most impactful changes to take place at Markey—or in the marine business in general?

The aforementioned change in ownership structure, just a year ago, marks a unique event in Markey's 116-year history. Speaking technically, the successful launch of Markey's Asymmetric Render/Recover in 2004, which forever changed the world of winch control, was an unforgettable game-changer on my watch. "Render/recover" (as on a tugboat) has since become a standard term in the English technical parlance. The steady improvements in electric winching over the recent decades, including regenerative functions and improvements in control, have been unmistakable and key milestones for the industry.

Several tools have allowed the operator improved ease of use. For example, the 1990s brought our first line-tension displays, allowing operators to view actual line tension from the wheelhouse.

Many of our innovations in fact date from the 1990s, during which time we had Barry Griffin, manufacturer's representative, working at Markey. Barry was especially keen to listen carefully to the operators, spending an astonishing 5,342 hours aboard customer vessels. He was responsible especially for the development of our first hydraulic render-recover controls, working steadily to make them ergonomically sound. Decades later, today's render/recover controls for Markey's Class III winches bear a remarkable likeness to the first control systems Barry developed.

Left to right: Scott Kreis, vice president of sales and engineering; Jeff Dempke, general manager; Robert LeCoque, technical manager; and Blaine Dempke, CEO.

Column

Washington Watch

The Headwinds of Offshore Wind Development

By Jeff R. Vogel, Partner, Cozen O'Connor

On March 29, 2021, President Biden announced his ambitious plan to deploy 30 gigawatts (GW) of offshore wind power – enough energy to power 10 million U.S. homes – by 2030. The plan would leverage authorities under the Department of Interior, Energy, and Commerce to guide "more than $12 billion per year in capital investment in projects on both U.S. coasts, create tens of thousands of good-paying, union jobs, with more than 44,000 workers employed in offshore wind by 2030 and nearly 33,000 additional jobs in communities supported by offshore wind activity." The U.S. maritime industry, of course, enthusiastically responded to the Administration's goal, anticipating the numerous opportunities to develop jobs throughout the construction and operation phases of this emerging industry. Vessel construction contracts were signed, terminal space was identified for development, environmental permit applications were filed, and new joint ventures were formed to bring together the unique expertise of Jones Act vessel operators with foreign experience from European offshore wind markets.

However, two-and-a-half years later, there are signs that

© nblxer / Adobe Stock

the Administration's 30 GW goal may be slipping out of reach. Increases in interest rates, supply chain costs, and local opposition have raised questions as to whether the federal government is doing enough to sustain the development of the offshore wind industry.

The Inflation Reduction Act of 2022, Pub. L. No. 117-169, (the IRA) signed into law on August 16, 2022, has been the focal point of federal government support for offshore wind development. Among other offshore wind provisions, the IRA's energy investment tax credit (the ITC) provides a maximum 30% tax credit for any offshore wind project that begins construction prior to January 1, 2026. The ITC begins at a base credit of 6%, rising to 30% for offshore facilities that pay prevailing wages and meet certain apprenticeship requirements. In addition, projects that meet certain domestic content requirements also would be eligible for a bonus tax credit ranging from 2% up to 10%, depending on whether the project also meets wage and workforce requirements.

In May, the U.S. Treasury issued guidance on the domestic content requirement, to much consternation. The guidance provides that to obtain the bonus credit, the eligible project must meet both a "steel or iron requirement" and a "manufactured products requirement". Under the first requirement, with limited exception, all manufacturing processes for a project's structural steel and iron must occur in the United States. In turn, the manufactured products requirement has a sliding scale, which requires 20% of products used on a project to be manufactured in the U.S. starting in 2023, with such percentage increasing to 55% after 2027. The general view of offshore wind developers has been that these goals are unachievable given current U.S. manufacturing production levels.

To offset the costs of manufacturing these products domestically, the IRA also contained a manufacturer tax credit, including a credit for the construction of offshore wind construction and operation vessels, equal to 10% of the sales price. Other manufactured components (such as blades and towers) are eligible for a tax credit based upon the total rated capacity of the project for which they are used.

In addition to the these IRA tax credits, maritime operators looking to construct vessels for deployment in the offshore wind industry can also take advantage of attractive financing terms offered under the Maritime Administration's (MARAD) Title XI Federal Ship Financing Program. Specifically, on June 23, 2022, MARAD designated vessels primarily used in the construction, service, or maintenance of offshore wind facilities as "Vessels of National Interest", which gives such vessels priority in terms of application review and funding. Although it can be challenging to get through the application process, the Title XI program generally offers far more attractive interest rates and longer maturities (up to 25 years) than commercial lenders. MARAD currently has $35.4 million available in Title XI subsidy, which can support up to $475 million in loan guarantees, depending upon the specific elements of such guarantees. The industry has responded positively to this designation, resulting in the following offshore wind vessel applications pending before MARAD:

- A $90 million loan guarantee for the construction of a service operation vessel (SOV) for the operation and maintenance of Revolution, South Fork, and Sunrise wind farms;
- A $104 million loan guarantee for the construction of 10 crew transfer vessels (CTV) for operation in support of the Vinyard Wind I project;
- A $95 million loan guarantee for the construction of "plug-in hybrid" SOV for use in support of the Empire Wind I & Empire Wind II wind farms;
- A $216 million loan guarantee for the construction of a subsea rock installation vessel (SRIV);
- A $708 million loan guarantee for the construction of one a wind turbine installation vessel - light (WTIVL), piling installation vessel (PIV), and SOV; and
- A $146 million loan guarantee for construction of an SOV.

To provide the requested guarantees, MARAD will require significant additional appropriations for the Title XI program. Historically, this has proven difficult as the program has not received funding from Congress since 2018 and no Presidential budget request has included MARAD funding for the last 23 years.

Despite the IRA tax credits and interest in using Title XI to support the construction of offshore wind vessels,

the development of the U.S. offshore wind industry appears to be stalling. As was widely reported, in early September the CEO of Orsted – the world's largest offshore wind developer – stated that walking away from the company's U.S. projects was a "real option" due to the economic challenges of such projects. Developers such as Orsted are actively lobbying the Biden Administration to loosen Treasury's rules governing the IRA's domestic content requirement bonus tax credit, outlined above. State governments are feeling the squeeze as well, many of which have laid out millions of dollars in state funding to encourage offshore wind projects to get off the ground. A coalition of governors from New Jersey, New York, Connecticut, Maryland, Massachusetts and Rhode Island recently urged President Biden to take significant steps on tax credits, revenue sharing, and environmental permits to mitigate the risk that these fledgling projects will fail.

Whether the Biden Administration or Congress take further action to support the offshore wind industry remains to be seen. At the time of writing another government shutdown looms large, with increasing disagreement on spending levels across government programs. Accordingly, it seems unlikely that any further spending on the oft-controversial offshore wind industry will occur, particularly as we enter a Presidential election year. Thousands of U.S. mariner and shipbuilding jobs hang in the balance, waiting to see which way the political winds blow.

Column
Offshore

Delayed Lease Sales, Delayed Progress: Our Offshore Energy Predicament

By Erik Milito, NOIA

This fall, the offshore energy industry faces significant uncertainty regarding the resumption of the federal offshore oil and gas leasing program. While uncertainty is not uncommon in our industry, the current situation is particularly perplexing.

For some time now, we've eagerly awaited the launch of the upcoming federal offshore oil and gas leasing program, mandated by law. Astonishingly, a replacement program was not in place when the previous leasing program expired in June 2022. As of writing, the next offshore oil and gas leasing program remains unreleased, although we anticipate its arrival shortly.

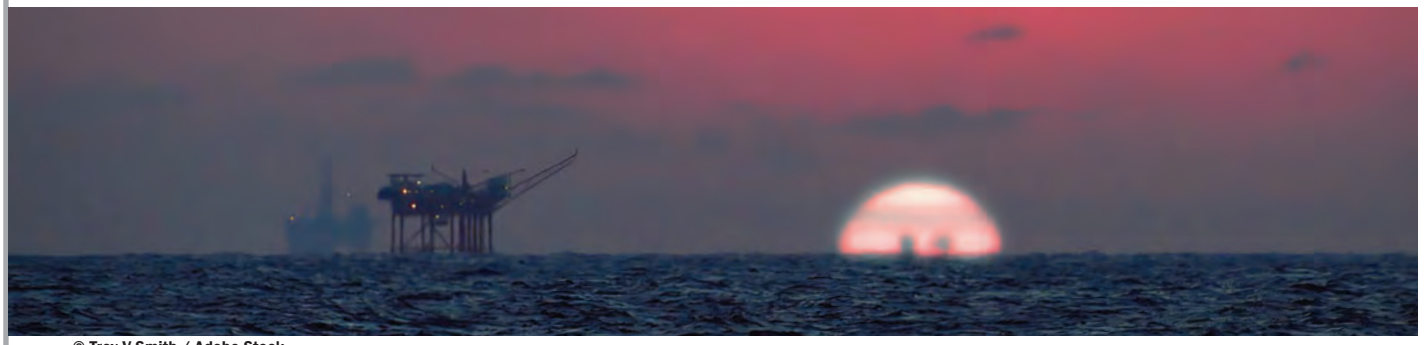
This uncertainty poses substantial challenges for our industry, impacting our ability to plan for the future, make investments, and ensure the continued production of a historically reliable source of American-made energy.

Traditionally, the environmental work necessary for offshore lease sales proceeds concurrently with the leasing program's development. This ensures the timely completion of essential environmental studies, facilitating predictable lease sales. However, the Department of the Interior has indicated they will not initiate this environmental work until after finalizing the leasing schedule. This deviation from established practice holds significant consequences, all but ensuring no lease sales in 2024 and a likelihood of delay through 2025.

On top of that, the looming threat of meritless litigation came to the forefront in July 2023 when the Biden administration reached a voluntary settlement with activist groups regarding protections for the Rice's whale, a species already protected under the Endangered Species Act (ESA) and the Marine Mammal Protection Act (MMPA).

This agreement allowed the administration to bypass Congress, the public, and the regulatory processes, disregard scientific input, and impose extensive restrictions while removing millions of prime acres from the September 2023 Gulf of Mexico oil and gas lease sale, which is the last lease sale on the horizon without the next leasing program taking effect. These restrictions deviated substantially from established best practices and introduced vessel speed limits, along with restrictions on night travel and travel during periods of low visibility, across a vast area that extends throughout the entirety of the Gulf of Mexico.

A last-minute preliminary injunction, just days before Gulf of Mexico Lease Sale 261 was scheduled, struck down these restrictions and restored the acreage for lease sale. The U.S. District Court for the Western District of Louisiana's determined that the challenged actions were procedurally invalid, and Interior's decision was arbitrary and



capricious. Notably, the court wrote:

The process followed here looks more like a weaponization of the Endangered Species Act than the collaborative, reasoned approach prescribed by the applicable laws and regulations. Even when an agency's decision is based on political considerations, it is not excused from justifying the position—particularly when the decision is a pivot from a prior policy. Failure to do so leads to a 'surprise switcheroo' by an agency against regulated entities.

The U.S. Court of Appeals for the Fifth Circuit granted an emergency stay in response to the preliminary injunction. However, they upheld the injunction and only allowed Lease Sale 261 to be delayed to November 8, 2023, instead of its originally scheduled date of September 27, 2023.

These actions have far-reaching implications, affecting not only our industry but also the broader economy, energy security, and environmental stewardship for the country.

The offshore energy industry's monumental uncertainty impacts companies' ability to make investment decisions and plan for future projects. This lack of clarity stifles innovation, hinders economic growth, and may divert investments to other regions around the world.

The U.S. Gulf of Mexico, despite its prolific reserves, skilled workforce, and robust infrastructure, risks losing its attractiveness for energy development without access to new acreage and energy projects. The region currently supports hundreds of thousands of jobs, billions of dollars in investments, and generates substantial annual government revenue, which will diminish without continued development.

Amid soaring inflation, especially in energy prices, and global instability, the U.S. and our allies lose a strategic advantage if production in the Gulf of Mexico falters.

Moreover, emerging offshore energy sectors, such as offshore wind and offshore carbon sequestration, depend on the expertise of companies integral to the offshore oil and gas industry. These areas involve marine construction and vessel support, and the success of the Gulf of Mexico's oil and gas sector impacts the potential for new American offshore wind farms and Gulf of Mexico carbon sequestration projects.

In addition to the growing number of offshore wind projects along the Atlantic coast – many of which now have steel in the water - there have been lease sales off our Pacific Coast as well as in the Gulf of Mexico. Offshore wind project development, construction and operations are expected to support up to 83,000 American jobs by 2030, with industry investment set up to deliver $25 billion per year in economic output.

However, there's a significant condition attached to the success of offshore wind. While the offshore wind industry and offshore oil and gas companies have a strong synergy and overlap, the leasing process for offshore wind is legally connected to offshore oil and gas lease sales. Due to the Inflation Reduction Act, offshore wind leases can only be granted if there has been a sufficiently large offshore oil and gas lease sale, or sales, within one year prior. In simpler terms, if offshore oil and gas lease sales don't continue, it could result in a sudden halt to offshore wind leasing.

To address these challenges, we must engage in constructive dialogues with policymakers, regulatory agencies, and stakeholders. We must work together to find solutions that balance energy development, environmental protection, emissions management, and economic growth. Our work must continue with leaders in Washington on both sides of the aisle and on both ends of Pennsylvania Avenue to address our energy policy through the lens of our energy realities.

Column

Offshore

Diverse Resources in Desperate Times

By Chad Fuhrmann

Offshore services vessels are designed for myriad activities in the maritime industry. But as multifunctional assets, they not only offer utilitarian capabilities that are indispensable for commercial diving, subsea construction, mining, and countless other activities, they can simultaneously serve critical crisis response functions in the aftermath of a disaster.

Chaos Ready Inc., a new non-profit marine industry initiative, quantifies and coordinates these versatile resources and their capabilities – both designed and inherent – for application as elements of an expansive network capable of responding to diverse crises anywhere in the world.

The case for action

As natural disasters increase in frequency and impact, governments and response organizations must be able conduct and support activities in response to an unpredictable variety of crises. The maritime industry resources dedicated to response activities, although absolutely essential, are limited by location and in number and versatility. Unlike these limited assets, OSVs and other commercial resources are far less constrained in their availability by virtue of their global presence. What they potentially lack in regard to concentrated response focus they compensate for in number and, in the case of OSVs, diversity of functions.

The international maritime industry thereby represents a frequently overlooked resource that can be leveraged in the event of an emergency. The Chaos Ready approach exploits the ubiquity and flexibility of these assets to complement and support existing resources, not as a replacement to them, but rather as immediate though temporary means of addressing the "gap of pain" between the onset of a crisis and arrival of requested specialized resources.

The concept

Chaos Ready represents a comprehensive effort to establish and maintain an infrastructure comprised of existing assets. This is based on cooperation and collaboration across all concerned stakeholders and includes advocacy within international governments, industry groups, and vessel owners and operators. By working across these boundaries, Chaos Ready helps to ensure that regional economic interests, national security, and commercial viability are protected.

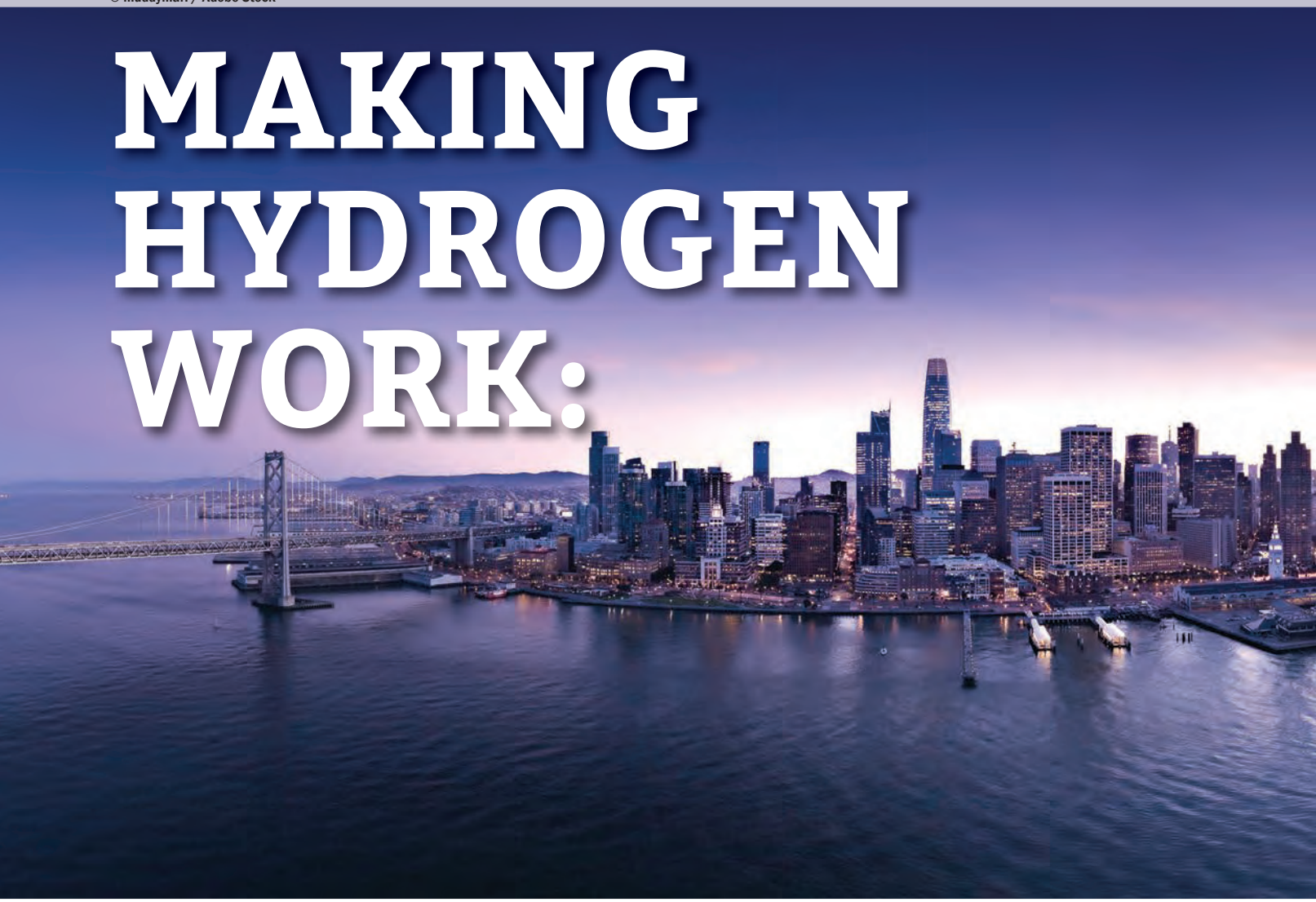
The most tangible outcome of the non-profit's work, however, is the development of an app that allows response entities to locate needed resources within a prescribed radius from a disaster location. Beyond the normal functions of platforms such as AIS, organizations responding to crises can use the Chaos Ready app to locate specific capabilities and coordinate with vessel owners and operators to relocate them to disaster affected regions.

A new precedent

Historically, infrequent and remote disasters have resulted in short-term and/or unpublicized use of commercial maritime assets for response. Each time, however, when called to react to wildfires and environmental spills or to support mass evacuations and transport of emergency supplies, these resources have demonstrated their utility in response operations. With developing nations' need for energy, both from oil and increasingly from renewable energy sources, OSVs and other industrial workboats are seeing more universal application within and across existing and developing economic zones. An approach utilizing these valuable assets in crisis situations is a concept worth exploring.

Serving as the catalyst between recognized response needs but unrecognized response capabilities, Chaos Ready can be an effective tool in crisis response regardless of type, magnitude, or location. Rather than rely on overly specialized and narrow-purpose resources, the Chaos Ready concept aims to capitalize on the maritime industry's innate capability to perform many response activities as an unintended consequence of their wide variety of industrial missions.

The elements of a better disaster response mechanism already exist within the maritime sector. Industry efforts have created potential avenues of cooperation and technology exists that can connect resources with the stakeholders that require them. By encouraging collaboration between entities, Chaos Ready Inc. fosters the development of a critical response infrastructure based on existing resources. A network which reaches across industrial, commercial, and regional boundaries.



MAKING HYDROGEN WORK:

Demo Project in San Francisco Port

By Tom Ewing

Hornblower Energy LLC, in partnership with the Port of San Franciso, the U.S. Department of Energy and six corporate partners, including Air Liquide and Glosten, is leading a project to demonstrate the feasibility and viability of using hydrogen (H2) as a maritime fuel.

The project is located at Pier 68 in San Francisco. DOE selected the project for funding in 2020. It's supposed to be completed in 2025 but there are important decision dates before then. So far, project activities have concentrated on planning and modeling. It's not clear when actual construction might start.

One important go/no-go decision is due at the end of 2023. The project exists within a larger NEPA (National Environmental Policy Act) context and process. The initial first phase design and safety work will be reviewed at year's end and that review will inform decisions about moving forward to implementation. Total Project funding is $16 million. DOE's share is $8 million.

Hornblower and its partners want the Waterfront Maritime Hydrogen Demonstration Project to demonstrate bunkering of fuel-cell vessels with green hydrogen. Hydroelectric power from the Hetch Hetchy Reservoir will provide "green power." The project seeks to establish a technical foundation for "maritime H2 production, compression, storage and over-the-water fueling." A larger goal is to catalyze a "green hydrogen ecosystem" (both marine and landside) in the SF Bay Area, and also pave the way to large-scale implementation across the United States. If successful, project leaders believe that local H2 production could substantially reduce costs.

Additionally, the project will develop a "new and novel hydrogen barge" for over-the-water vessel refueling. The barge is expected to be ready in 2025.

Project update

In June 2023 Hornblower presented its Annual Merit Review (AMR) update report to DOE. This complex project has four broad phases, starting with local permitting, buying equipment, technology demonstrations and, finally, Coast Guard inspection. One important concern in Phase II is to mitigate "inflation-driven budget impacts to ensure the project's economic viability." Inflation has increased almost all costs about 30% beyond budget and supply lead times are longer than expected.

The 2023 AMR does not present detailed budget numbers, but a 2022 report shows that project spending was just $34,770 from DOE and $45,530 from the partners. The biggest expenses lie ahead as work shifts from R&D to pier reconstruction, buying equipment, barge construction, installing or upgrading electrical systems and undertaking a pile driving project needed to secure the pier and the H2 infrastructure. The pier footprint is 160' x 40' x 7'.

Potential H2 customers could include: the new vessel Sea Change, slated to be the first H2 ferry; the Discover Zero, a Hornblower hybrid diesel-battery-H2 vessel; land-based H2 gas tube trailers; and the San Francisco Airport.

However, the AMR notes there are no commitments now from any vessel owners or gas companies for H2 offtake.

In summarizing work so far, the AMR states that "overall, the design is progressing well and on time." Various reports, for example, on barge design studies have been submitted to DOE. Most project reports, though, are not publicly available because of proprietary content. The initial barge design is complete as well as H2 flow diagrams for how the barge will work. Preliminary modeling is done for filling 250-bar tanks on H2 ferries ("bar" is term referencing a unit of pressure). Electrical systems at Pier 68 appear adequate, although some additional work is needed.

H2 and safety

Hydrogen is extremely combustible and explosive. Safety is critical. The Hornblower project is being designed to comply with NFPA 2, that's the section of the National Fire Protection Association dealing with safeguards for the "generation, installation, storage, piping, use, and handling of hydrogen in compressed gas (GH2) form or cryogenic liquid (LH2) form."

Officials are confident that existing standards are adequate for safety. Richard Berman, an executive with the San Francisco Port, is on the project team. In an interview, Berman said that H2 has been used for decades. H2 is not novel, particularly in San Francisco and California where there are already a few public facilities used for hydrogen automobiles. Berman noted that the fire department will set safety criteria.

Berman noted further that the project site is in a heavily industrial area with a quarter-mile separation between the H2 site and other pier activities. He said that H2 is a material with risks similar to gasoline or compressed gas. "All fuels have accidents," he commented, adding that there are "natural gas fires, there are risks. But I'm comfortable with

In addition to using solar power, wind power, and low-emission diesel, the New York Hornblower Hybrid—christened in 2012—runs on hydrogen fuel cells,

making it the first hydrogen hybrid ferry in the world.

Cameron Clark / CC BY-SA 3.0

the science here, its use, codes and protocols to ensure safety."

Getting the permits

In a section referencing "Proposed Future Work," still for 2023, project managers will seek to finalize design and development and pursue permitting "from authorities having jurisdiction."

In the 2023 AMR a section under "Innovation" references "breaking new ground" with SF fire marshals. This is referenced further in a listing of project accomplishments: the installation of a test H2 refueling platform and receipt of a permit from "the local Fire Marshal." That permit reference, though, apparently isn't from SFFD. Rather, it's a reference to Air Liquide fueling tests at a facility in Delaware, research necessary for the SF project.

SFFD was asked about permits for the SF H2 work. To be clear, the permitting references in the AMR are to note the start of discussions with the Fire Department. No SFFD permits have been issued yet.

The status and clarity of permitting is important and permitting remains as one top challenge. One accomplishment cited is that project leaders have "formulated the regulatory path." Project approval requires engagement with 12 regulatory agencies, from the Port itself to the Army Corp to National Marine Fisheries.

Critically, the Coast Guard is one of those 12 agencies. The AMR states that the new fueling barge is a first for Coast Guard review. Project leaders are working with the Coast Guard to establish a regulatory basis. One project milestone references work on a Coast Guard Design Basis Letter

(DBL), an effort that's "10% complete," according to the 2023 AMR. A DBL application was submitted to USCG in June 2022 and is under internal Coast Guard review.

In September the USCG was asked about its work on the project. A spokesperson wouldn't provide any specifics, only noting that "the Coast Guard is engaged with the customer at the local level and is in the early stages of reviewing the proposal. No decisions have been finalized and discussions are ongoing."

"Ecosystem development"

One task linked to a broader scope of regulatory and public officials is an effort to build out what the AMR calls "ecosystem development."

"Ecosystem" here is a reference to getting the word out. Ecosystem activities included meetings with the SF chamber of commerce, the California Air Resources Board and the Bay Area Air Quality Management Districts. Additionally, a report was prepared for the Governor's staff. And project personnel presented and described their work at a number of national energy conferences. Rich Berman provided the first public briefing at the SF Port's Southern Advisory Committee meeting on March 29. It should be noted, though, that public attendance at the Committee meeting was quite small (13 individuals, two from the H2 team) and may not be indicative of broader public support.

For maritime: What demonstrates viability, feasibility?

Dave Lee is VP of Innovation & Technology with Maritime Partners, LLC, a maritime leasing and financing company based in Metairie, La. One of Maritime Partner's core focus areas is supporting the maritime industry's energy transition efforts.

Sea Change, built by All American Marine,

is slated to be the United States' first H2 ferry.

All American Marine

Lee was asked: as you review H2 as a possible new fuel, what indicators are you looking for that would demonstrate a H2 project's feasibility and viability for the maritime industry?

For context, Lee suggests that new fuels will require a bit of a shakeup in traditional thinking among mariners. That's because alternative maritime fuels will not present as a single solution across the industry. Lee points out that power demands across the maritime sector are far more varied than land-based or air transport. Vessels – and power required – range from a tourist ship in downtown Chicago to a Panamax container ship to a push-boat barge combination moving upstream on the Ohio River.

"With the large variation in size and power," Lee commented, "we all wish that one solution solves all challenges and remains similar to what we have been doing with fuel oil and diesel. But we all know that isn't the path forward to a more sustainable planet." Lee said that among the various alt-fuels suggested for maritime – e.g., ammonia, methane or biofuels – it's his assessment that H2 "is definitely in the upper range as you see H2 technology and adoption are increasing daily."

With alt-fuels, Lee focuses on energy density, cost and availability, as well as ideas and technology that are commercially viable versus ideas "that are great on paper alone." He said fuel and power issues are layered across vessel types, presenting various impacts across different vessels.

Lee notes that many companies – including Maritime Partners – are focused on H2. Still, making H2 work within a vessel and its systems presents big challenges. For example, because H2 is less energy dense than diesel, greater volumes of H2 need to be carried on a vessel. That's problematic if H2 is a gas. Liquification presents its own set of challenges with temperature and pressure. Maritime Partners is pursuing an on-vessel H2 reforming process because it works almost as an on-demand process, producing fuel as needed. Lee said this technology is already used in industry, one that "really opens the door to easier and quicker adoption for H2 as a fuel compared to other (fuels)."

Lee commented favorably about DOE's R&D maritime focus, which, he said, helps balance attention given to other transportation modes. He said this R&D will energize new marine technologies and "help keep the U.S. at the energy technology forefront versus adopting technology developed outside the U.S."

Michel Sauret / USACE

INLAND WATERWAYS: MAKING PROGRESS ON INFRASTRUCTURE

By Eric Haun

The United States' vast network of navigable inland rivers is vital to the nation's economy, serving as an aquatic superhighway for the efficient shipment of critical commodities like agricultural goods, energy products, building materials and industrial chemicals to destinations within the U.S. and to deepwater ports for export. The Waterways Council, Inc. (WCI), which advocates for a modern, efficient and well-maintained inland waterways, often describes the network as "the backbone of the transportation logistics system".

But much of the waterways' critical infrastructure—including locks and dams that are vital to maintaining navigable rivers and enabling the efficient flow of commerce—are in desperate need of maintenance and repair, or in many cases, flat-out upgrade. So WCI engages with industry and policymakers to help secure the funding that will move these waterways projects along, and ultimately improve the efficiency of the system at great benefit to the nation.

Breaking ground

In August, the U.S. Army Corps of Engineers Pittsburgh District held a groundbreaking ceremony at the Montgomery Locks and Dam facility to kick off the Upper Ohio Navigation Project, part of the National Eco-

nomic Development (NED) plan for improving the Emsworth, Dashields and Montgomery locks and dams with new expanded lock chambers. At each of the three sites, the auxiliary lock chambers, currently 56 feet wide by 360 feet long, will be replaced with new 110- by 600-foot lock chambers that will serve as the new main.

The fully-funded, total project cost for all three new chambers is $2.1 billion, which would be cost-shared jointly by the General Fund (65%) and the Inland Waterways Trust Fund (35%) (2021 Cost Level). Congress authorized the Upper Ohio Navigation Project in the Water Infrastructure Improvements for the Nation (WIIN) Act of 2016 (P.L. 114-322). A big boost came via the Bipartisan Infrastructure Investment Bill of 2021, which included $857 million for Montgomery construction and $77 million for Emsworth.

The BIL funded the district for about half of the required Montgomery cost up front, shortening the Corps' construction timeline significantly. Design work for Montgomery's new lock chamber is underway, and the first preparatory construction contract for Montgomery lock was awarded in 2020. The Corps said additional preparatory contracts are planned, and that it anticipates awarding the contract for new lock chamber construction in 2024.

"It's taken over a decade of dedicated effort from an interdisciplinary team to get us here today," said Colonel Nicholas Melin, who recently took over as USACE Pittsburgh District commander. "This team has developed and delivered a solid plan that we are now ready to execute."

The Corps' plan includes removing the auxiliary chamber to expand the lock size, which will cut into the gated dam currently on the river. The new lock at Montgomery will require about 400,000 cubic yards of concrete, or 1.6 billion pounds. Steve Fritz, the Mega Project program manager for the Pittsburgh District, said a batch plant will soon be brought on site, allowing concrete to be mixed and poured in place in a more efficient manner. The plant will produce nine different concrete mixes used in various types of construction, such as underwater, structural and mass concrete, among others, Fritz said. An onsite laboratory will sample and test the concrete to ensure quality.

According to the Corps, the groundbreaking "sets the stage for updating the Ohio River's oldest navigation system". Emsworth, Dashields and Montgomery—the first three locks and dams on the Ohio River downstream of the Point of Pittsburgh—were each constructed prior to 1936 and have the oldest and smallest lock chambers on the Ohio River.

Of course, replacing old infrastructure with new has its obvious benefits, but the new larger lock chamber will also boost efficiency by allowing operators to pass through with larger tows. "The upgrades we are making at Montgomery Locks and Dam are just the first of three major investments to modernize the upper Ohio River navigation system," Fritz said. "We are building larger, newer, better locks that will provide a resilient navigation system in the Pittsburgh region for the next 100 years."

Desperate need & vital importance

The auxiliary lock at Montgomery has reached the end of its operational lifespan and is experiencing structural aging, according to Chris Dening, the project manager for the construction of the Upper Ohio project. "Many of the walls have significant cracking along and across their lengths. We have observed leaking within the lock walls during operation, which confirmed the seriousness of the situation," he said.

The Upper Ohio navigation system sees 15 to 20 million tons of materials pass through its river chambers annually, according to the USACE. If one of the lock walls at Montgomery failed, it would impact operations for several months, leaving shippers scrambling to find new ways to reroute shipments. A one-year closure at Montgomery Locks and Dam would cost the U.S. economy nearly $180 million, the Corps said.

Denning said the Pittsburgh District is working to avoid sudden failures through more frequent engineer inspections and noted that contingency plans have been developed for potential emergencies. "Those contingency efforts are costly, which is why we need to recapitalize the lock with a new construction," he added.

Maty Hettel, vice president of government affairs at American Commercial Barge Lines (ACBL) and a member of the Inland Waterways Users Board, said the barging industry ranks Montgomery among priority river infrastructure projects. "The way our capital investment strategy is put together, we rate these projects on risk of failure and value to the nation, and certainly this one's got a big risk of failure with that center wall subject to possible failures. If we lose that center wall, needless to say, we can lose this whole

pool, which would shut down navigation," he said.

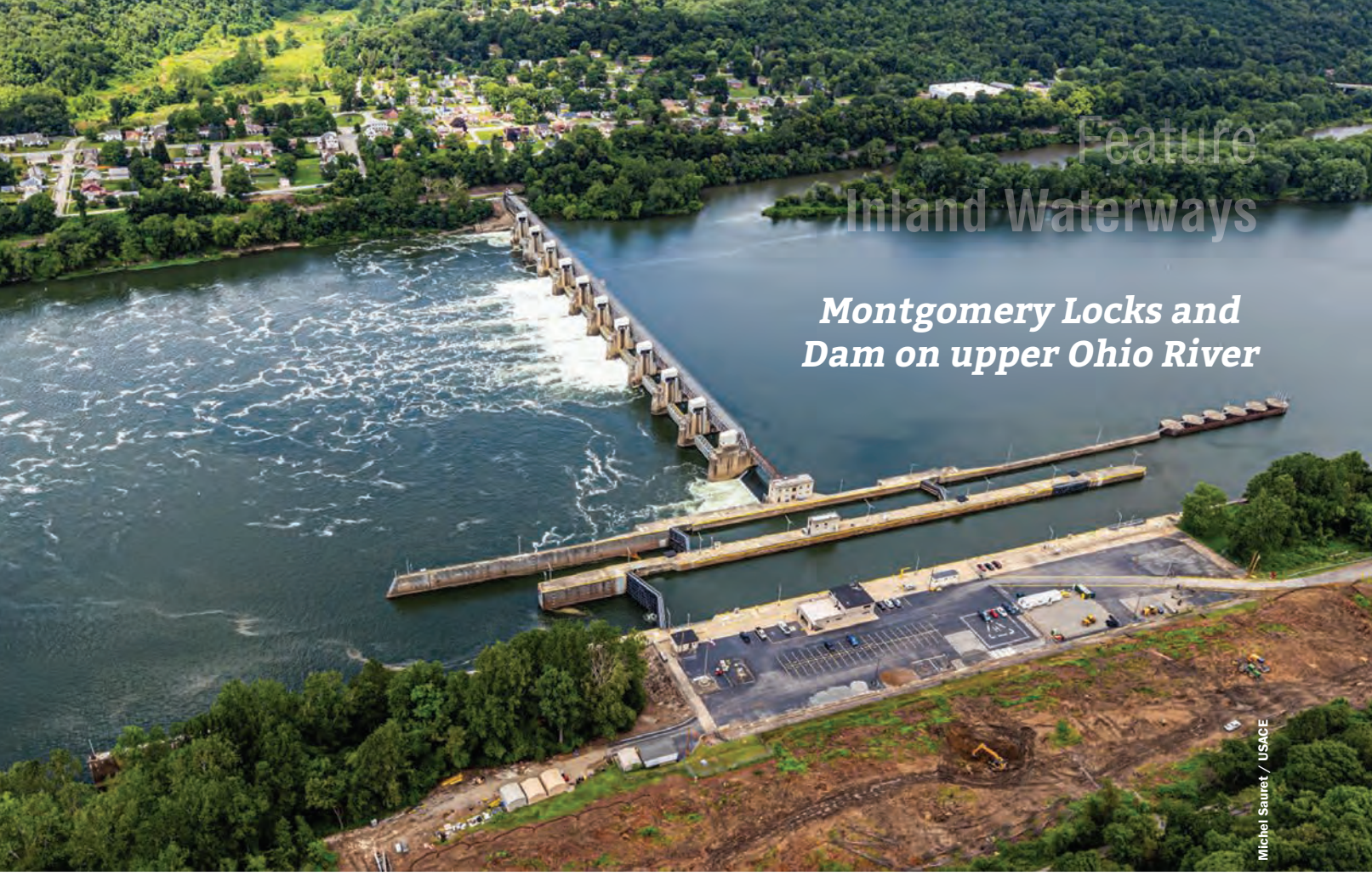
Hettel noted that it's crucial the project be funded to completion and that the Corps be able to stay on schedule to finish the job on time, referencing other projects such as the Olmsted and Kentucky Lock projects that have been drawn out over several decades. "The timeframe to build these projects has got to stay shortened; as they used to say, move it to the left as much as they can. We understand it takes a long time . . . but we don't need to fall in that scenario with these other projects. Hopefully we have the labor, and the Corps can finish this in 10 years as they plan."

Peter Stephaich, chairman and CEO at Campbell Transportation Company, Inc., said his company is probably the largest user of the Upper Ohio system and that the completed upgrades would improve reliability significantly.

"We won't have to suffer all the delays; this lock [Montgomery] has been closed to required maintenance many times," Stephaich said. "Earlier this year, we were waiting 10 days with fully crewed boats on either side to try to get through here, which is extremely disruptive and extremely expensive. We don't get paid for that time. It has cost our company directly millions per year having to deal with these delays."

Austin Davis, the Lieutenant Governor of Pennsylvania; Col. Nicholas Melin, the commander of the U.S. Army Corp of Engineers Pittsburgh; U.S. Sen. Bob Casey of Pennsylvania; Jaime A. Pinkham, the Principal Deputy Assistant Secretary of the Army for Civil Works; Mitch Landrieu, Senior Advisor to the President and White House for Infrastructure; Mary Ann Bucci, the executive director of the Port of Pittsburgh Commission; and Mark Gentile, the president of Trumbull Corps; participate in a groundbreaking ceremony at Montgomery Locks and Dam in Monaca, Pennsylvania, Aug. 11, 2023.

Michel Sauret / USACE



Montgomery Locks and Dam on upper Ohio River

Michel Sauret / USACE

"We look forward to the day that we have not just a groundbreaking, but a ribbon cutting when we'll be able to achieve the full benefits of this system," Stephaich said.

Mary Ann Bucci, executive director at the Port of Pittsburgh, described the locks as the river gateway for commerce moving in and out of the city. "If any of these locks, starting with the Montgomery, should shut down, we would lose the entire pool for the entire district, and commerce wouldn't move; that would be detrimental. And for all the freight that's moving through these locks and dams, there's trucks that aren't on the road. It's lesser emissions, it's a safer mode of transportation, and it gets all the cargo delivered to where it needs to be. So, improving this infrastructure is very important."

OFFSHORE WIND: Support Vessel Bottlenecks Loom

By Eric Haun

An offshore wind industry is growing in the U.S. with an aim to meet the Biden Administration's goal of 30 gigawatts (GW) of offshore wind by 2030, and eventually 110 GW by 2050.

But as is the case for any new industry that is building up, there are going to be bumps along the way. The U.S. offshore wind industry is currently grappling with rising costs amid unprecedented supply chain issues and inflation, among other issues.

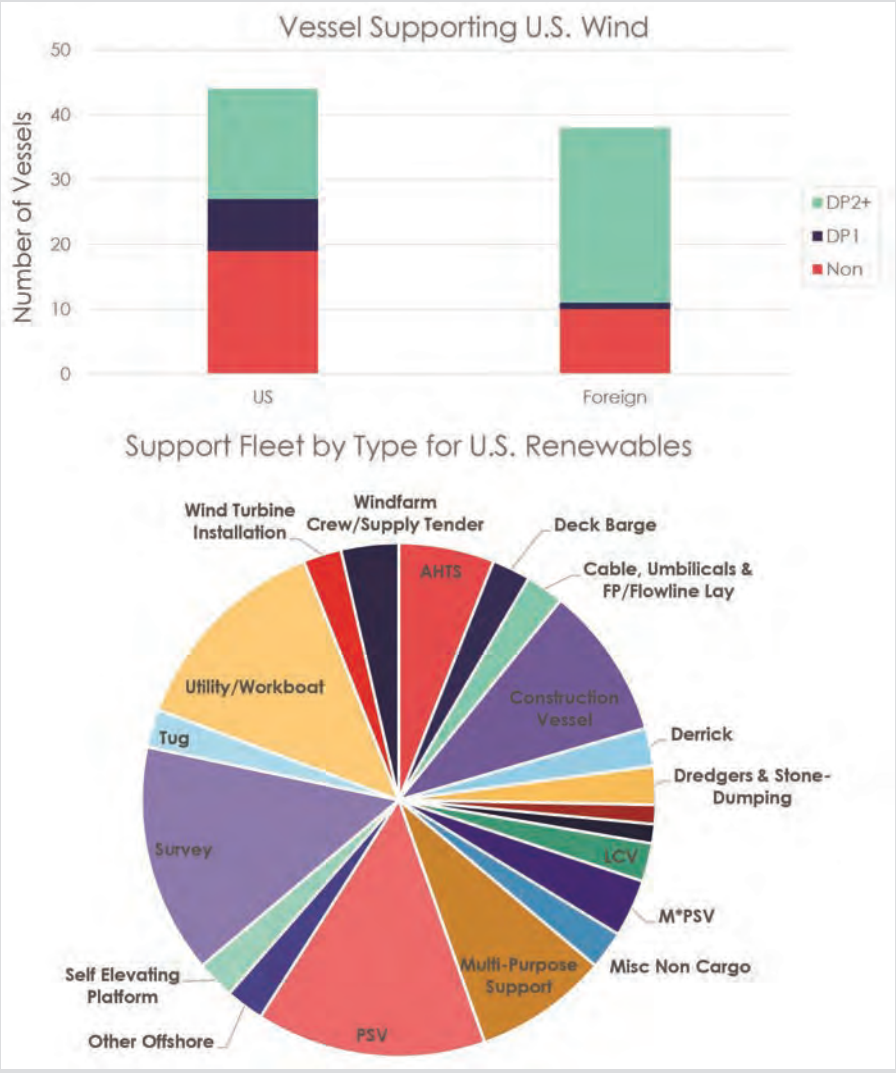
One of the main challenges unique to offshore wind is a shortage of vessels. It will take a large fleet of U.S.- and foreign-flagged ships to lay the groundwork for and then construct and operate a growing pipeline of projects along the U.S. East Coast, and later on off the West Coast and in the Gulf of Mexico.

Much has been written about these vessel bottlenecks that could hamper the offshore wind industry in the years ahead. "The U.S. fleet is under-prepared for the majority of offshore wind scopes," said Jonathan Lints, head of U.S. offshore and director of subsea and renewables at Clarksons, noting that there are sectors in particular that are often overlooked. "I think a lot of discussion, primarily, is on commissioning service operation vessels (CSOV), wind turbine installation vessels (WTIV) and crew transfer vessel (CTV) markets, but there are a lot more vessels than that are needed for these types of operations."

In fact, of all vessels currently working in support of the U.S. offshore wind industry, the majority can be classified as utility, survey and platform supply vessels (PSV). Speaking at the Business Network for Offshore Wind's Ports & Vessels Summit in New Orleans in September, Lints said the industry has already been turning to temporary and permanent conversions of U.S.-flagged PSVs "[making] the jump into renewables on the East Coast" for survey-type work, bubble curtain work and walk-to-work activities.

Companies such as Tidewater, Edison Chouest Offshore, Hornbeck Offshore, Guice Offshore, Northstar Marine, Odyssea Marine and Atlantic Oceanic are all operating PSVs that have shifted for work in U.S. offshore wind.

Problems start to arise when looking longer term at project pipelines versus fleet availability. PSVs that are both suitable for the work and available for hire are becoming increasingly hard to come by. Lints noted that there are currently 52 stacked U.S. DP2 PSVs, a decrease of about 8% from a year ago. However, the largest of these vessels



Source: Clarksons

© Ian Dyball / Adobe Stock

is 280 feet, meaning there are no large (+300-foot) PSVs currently in stack amid an uptick in an offshore oil and gas sector that shows no signs of slowing down. "It's not easy to just bring up PSVs from cold stack and bring them into renewables because [those that are available] are not the large ones you need for the work scopes," Lints said.

Making matters worse for offshore wind, oil and gas activity has been increasing, and vessel dayrates have risen in step with oil prices, leaving little incentive to transition outside of a market where the work has been readily available and profitable for multipurpose PSVs (MPSV) and other support vessels, including subsea.

"We've had some MPSVs migrate over to the renewables space, but not a huge amount because of the dayrates that they're getting in the oil and gas markets," Lints said. "That's having an impact on the cost, etc. of bringing some of these subsea vessels to do the support work in renewables."

Some of the Jones Act MPSVs that have gone north for offshores wind include Otto Candies' Cade Candies and Paul Candies, which relocated to the East Coast contracts that are more than a year long. Additional vessels such as Ross Candies and Wyatt Candies are also anticipated to leave the U.S. Gulf of Mexico to support offshore wind, Lints said. And Hydra's Subsea Responder I & II, while smaller and not U.S. flagged, are working as more commercially viable options for inspection campaigns in support of Dominion's Coastal Virginia Offshore Wind project.

Lints also pointed to a shortage of large subsea construction vessels for support work. "Subsea vessels are needed not for the big lifting of foundations," he said. "It's maybe installing concrete mattresses, it might be picking up boulders, it might be identifying [unexploded ordnance (UXO)] . . . cable lay support, trenching, grouting."

This additional work sometimes gets overlooked, Lints said. "A lot of these vessels weren't necessarily planned when looking at construction of the wind farm. I think that's something that the U.S. market needs to be ready for," he explained. "What happens when things go wrong? Unfortunately, they do, or there's delays, and other vessels and contingency needs to happen. But whether we have that contingency at the moment, I think, is going to be part of the challenge."


Clarksons

"It's inevitable that some of these vessels are going to be operating outside of the normal parameters, but I think that's just something we're going to have to accept."

– Jonathan Lints, Clarksons

Many of these vessels simply aren't present in the U.S. market, or they're too expensive or lack incentive to pivot away from oil and gas and up to the East Coast, Lints said. Why leave a healthy spot market in the Gulf of Mexico for another up north that is limited with less contingency and is more costly to operate in?

In the North Sea, there are currently 87 vessels operating with 10- to 25-ton cranes that can be used for this type of support work (60 when excluding SOVs), Lints said. The U.S. only has eight. And of the United States' six vessels with 26- to 50-ton cranes, only two are active heave-compensated.

"The North Sea started the same way as here [in the U.S.], where we needed to convert vessels because subsea vessels were too expensive," Lints said, noting that many of the European subsea vessels only transitioned to renewables as a result of the downturn in oil and gas. "We really are lagging at the moment in the U.S."

So, what's going to happen? "We know newbuilds are unlikely, or they haven't happened for a while—that's for sure," Lints said. "I think we'll see an increase in [sale and purchase (S&P)] activity; we're already seeing that at the moment. The problem with that is these vessels are not coming particularly cheap because the owners are seeing extremely good dayrates.

"What we'll see is a lot of vessel conversions and modifications. In order to bring ourselves up to speed, we're going to have to take large offshore support vessels (OSV) and [install] cranes, portable accommodation module (PAM) units, gangways, A-frames, winches, etc. for subsea. I don't see any other way it can be done," Lints said. "It's inevitable that some of these vessels are going to be operating outside of the normal parameters, but I think that's just something we're going to have to accept."

Blue Ocean Transfers: A New Jones Act CTV Player Emerges

By Eric Haun

There's a new player in the Jones Act crew transfer vessel (CTV) market: Blue Ocean Transfers (BOT), based on Long Island, N.Y.

The McQuilling-Partners-owned company is planning to build a fleet of CTVs to support the U.S. offshore wind industry as it ramps up to meet the Biden administration's goal of 30 gigawatts (GW) of offshore wind by 2030.

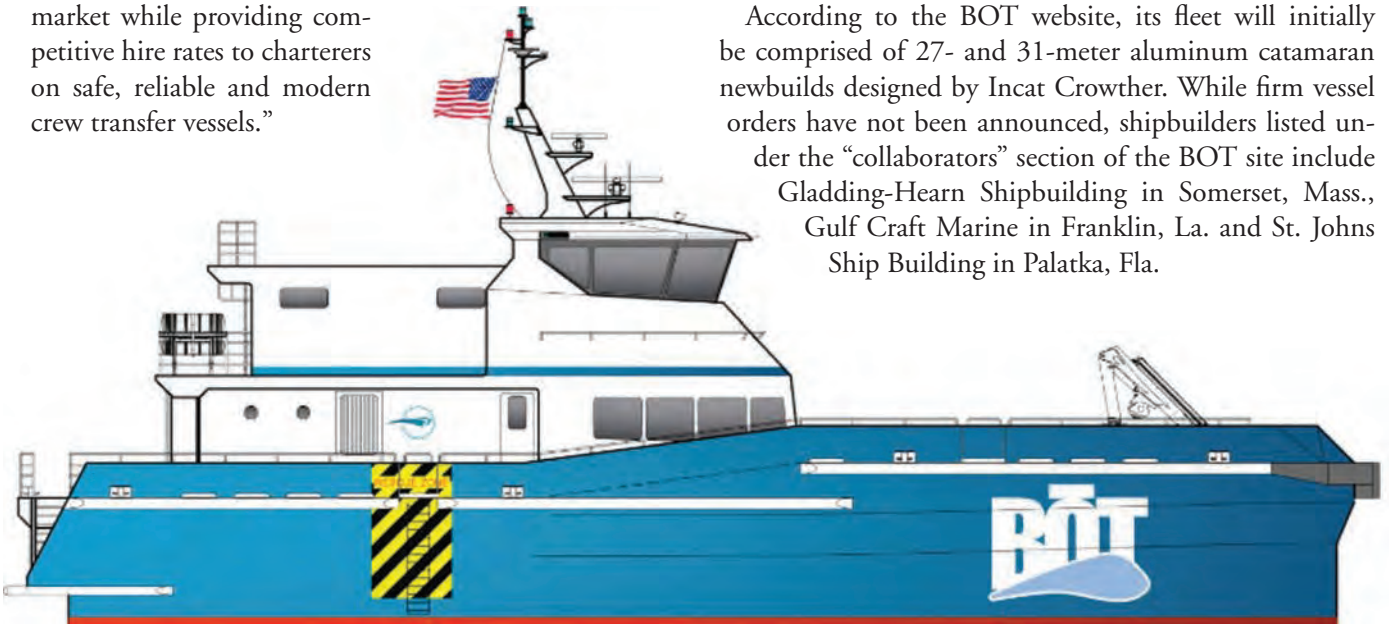
"BOT is a marine logistics equipment manager, whose equipment is chartered and deployed by wind field developers and their suppliers," the company said in a statement. "The BOT business model leverages the specific knowledge, experience and skills of different organizations. It brings together targeted expertise in capital deployment, financing, ship construction, vessel management and commercial employment and is designed to ensure scalability to support a growing CTV market while providing competitive hire rates to charterers on safe, reliable and modern crew transfer vessels."

Houston-based SEACOR Marine, an established operator of offshore vessels, will provide technical and operational management of BOT's CTV fleet under a ship management contract.

Used for ferrying personnel and light equipment to and from offshore wind farms, CTVs are among the Jones-Act-compliant vessels needed to build and service the pipeline of new U.S. offshore wind projects.

Analysts predict several hundred CTVs will be needed in the U.S. as the nation's offshore wind industry ramps up. However, there are currently only a handful of U.S.-flagged CTVs in operation, with about two dozen known to be on order at American shipyards. There have also been a handful of CTV conversions as American operators tap into an existing fleet of Jones Act crew boats and fishing vessels amid rising costs for newbuilds.

According to the BOT website, its fleet will initially be comprised of 27- and 31-meter aluminum catamaran newbuilds designed by Incat Crowther. While firm vessel orders have not been announced, shipbuilders listed under the "collaborators" section of the BOT site include Gladding-Hearn Shipbuilding in Somerset, Mass., Gulf Craft Marine in Franklin, La. and St. Johns Ship Building in Palatka, Fla.



Blue Ocean Transfers

Green Tech
Electrification

Skagit County Opens Bidding to Build Electric Ferry

By Eric Haun

Washington's Skagit County is inviting U.S. shipyards to bid for a contract to construct a new all-electric car and passenger ferry.

In 2017, Skagit County Public Works enlisted Glosten to design an environmentally friendly all-electric replacement for the diesel-powered ferry Guemes, which has serviced the half-mile route between Anacortes and Guemes Island since 1979.

After some funding-related delays, the county approved the Seattle-based naval architecture firm's preliminary design in 2021, and later that year Canal Marine & Industrial, based in Canada, was selected to serve as electrical systems integrator.

Glosten developed a 160-foot-long double ended ro-pax ferry with a propulsion plant consisting of twin Schottel L-drive azimuthing thrusters, electrically driven by a battery-electric system. The vessel's energy storage system (ESS) will be manufactured by Corvus Energy, with batteries sized for round-trip operations as shore charging will occur in Anacortes only. For auxiliary, the vessel will also be equipped with a Caterpillar C18 marine diesel genset. The steel-hulled Subchapter-T vessel will have an alumi-

Glosten

num superstructure and capacity for up to 28 cars.

Bidding shipyards are required to submit their proposals by December 4, 2023. The engineer's estimate range for the project is from $19.5 million to $22.2 million, and the winning yard must complete the vessel by March 31, 2026.

"This is an exciting milestone in the process to replace the current ferry," said Skagit County Commissioner Ron Wesen. "The ferry provides a vital transportation link to Guemes Island, and we're looking forward to finding a partner to help us deliver the first all-electric ferry in our community."

The shipbuilding project has received $14 million through Washington State's 2022 Transportation appropriations package, well below the latest engineer's estimate range.

"We have additional funding to help us reach the final amount needed from sources such as ferry ticket sales, grant funding from the Department of Commerce, and a federal grant from the FTA," Jenn Rogers, communications manager at the Skagit County Commissioner's Office told *Marine News*. "There is still a small gap we need to find funding for, but we have not made a decision as to how we will raise those dollars quite yet."

Skagit County has operated a vehicle and passenger ferry service between Anacortes and Guemes Island, Wash. since the early 1960s. Its current vessel, Guemes, is a 21-vehicle, 99-passenger ferry that was designed by Nickum & Spaulding and built by Gladding-Hearn Shipbuilding in Somerset, Mass. According to the county, the ferry operates 365 days a year and transports roughly 200,000 vehicles and 400,000 passengers annually.

Washington State Ferries Awards Vigor Contract to Convert Its Largest Vessels to Hybrid-electric Power

By Eric Haun

Washington State Ferries has tapped local shipyard Vigor to convert up to three of its Jumbo Mark II class ferries to low-emission hybrid-electric power.

Vigor's $150 million winning bid for the contract came in about $16 million under the second place bid from another Washington shipyard, but was still approximately $30 million above the state's $120 million estimate for the project. Vigor has been awarded approximately $100 million for the conversion of two vessels, with a fixed-price option to convert the third vessel in 2025.

WSF, a division of the Washington State Department of Transportation, is moving to reduce emissions at the direction of Gov. Jay Inslee and the Washington Legislature. The ferry system is the nation's largest, carrying tens of millions of people each year. But it is also the largest contributor of greenhouse gas emissions among Washington state agencies, burning 19 million gallons of diesel fuel in a typical year.

"This contract is a big step toward providing our ferry-served communities with better air quality and more sustainable service," said Matt von Ruden, WSF system electrification program administrator.

The Jumbo Mark II-class ferries were built between

© Stephen / Adobe Stock

1997 and 1999, at Todd Pacific Shipyards in Seattle. Each 460-foot-long ferry can carry up to 2,500 passengers and 202 vehicles, making them the largest vessels in the WSF fleet.

In September, Vigor kicked off the conversions with the first vessel Wenatchee at its Harbor Island shipyard in Seattle. The ferry is expected to reenter service next summer. The yard will then begin converting Tacoma in 2024. WSF has the option to extend the contract to convert a third boat, Puyallup, in 2025.

The conversion will remove two diesel generator sets from each of the vessels and replace them with batteries and associated support systems. The conversion will incorporate energy storage technology and rapid charging of the batteries from each applicable ferry terminal.

"We're tackling the biggest emitters in our fleet first, the Jumbo Mark IIs, which contribute 26% of our ferries' greenhouse gas emissions. When our terminals are electrified in 2026, we expect emissions from these three vessels to drop by roughly 95%," von Ruden said.

While converting the ferries, Vigor will also update aging propulsion system controls to increase reliability and extend the life expectancy of these vessels, which have been experiencing equipment failures while replacement parts for these older systems have been hard to come by. Siemens Energy will supply the propulsion control systems as well as alarm and monitoring systems.

Adam Beck, Vigor executive vice president of ship repair, said, "Our long history with WSF makes Vigor the best place to help propel our ferry system into a low-emission, sustainable future which supports family-wage jobs all across Puget Sound. We look forward to getting to work and getting these ferries back in service for the thousands of Puget Sound residents who rely on them."

The conversion contract is the largest in WSF's $3.98 billion electrification program, which will see WSF spend $3.7 billion to electrify or build new ferries and $280 million on terminals over the next 17 years. Working toward its goal of zero emissions by 2050, WSF currently plans to retrofit six current diesel ferries to hybrid electric, build 16 new hybrid vessels, retire 13 diesel ferries and add charging power to 16 terminals.

In fall 2023, WSF plans to post a new draft invitation for bid for up to five new hybrid electric Olympic class ferries.

To date, WSF has received $1.34 billion, with $1.03 billion from the 2022 Move Ahead Washington transportation package. This state funding builds on over $40 million in competitive grants.

Powering Ports with Alternative Energy Source: Propane

By Jim Bunsey, Propane Education & Research Council

Efficient, reliable power supply is essential to port operations throughout the world. As research into off-shore energy and alternative fuels continues, it's important to keep in mind the resources available now to provide prime and supplemental power for port operations. From portable generators and shore power to fleet vehicles, alternative energy sources like propane have the potential to power a variety of port applications.

Propane power generation

Whether planned or unplanned, power outages can happen at any time and ports can't afford extended periods of downtime. By incorporating a variety of power generation options, port authorities can mitigate the effects of hazards beyond their control.

Portable propane generators offer versatility in a port setting and can go wherever power is needed, whether or not an area is connected to the grid or another power source. Plus, propane won't degrade over time like diesel or other fuels, ensuring generators are always ready for use.

For a more permanent installation, propane standby generators provide power within seconds of a main power interruption and can handle a port's energy needs for days, unlike solar or wind-powered systems, making it an ideal backup or prime option for shore power.

Shore power provides power from the shoreline to a ship while docked, allowing ships to maintain fundamental vessel functions without running auxiliary engines and burning diesel fuel. Shore power is often connected to the grid but can also be powered by microgrids. A microgrid is a local energy grid with control capability, which means it can disconnect from the traditional grid and operate autonomously. Within microgrids are one or more kinds of distributed energy—solar panels, wind turbines, combined heat and power, and or, generators—that produce power during sudden or planned power outages. The quest for a more reliable, secure, and clean energy system is driving investment in microgrid technologies that can deliver superior reliability and resiliency for the nation's aging and vulnerable grid.


PERC

Propane-powered port vehicles

Propane can also efficiently and reliably power port vehicles. MAFI recently released its propane-powered port tractor that's proven to match its diesel counterparts' power output and last a full 8-hour shift without slowing down. With quick refueling, the propane-powered port tractor is able to continue operations while an electric port tractor requires 4-6 hours to fully recharge.

Not only can propane power port vehicles, it can reliably recharge electric vehicles. New innovations in electric vehicle charging utilize a propane-powered generator—in some cases along with wind and solar power—to recharge light-, medium- and heavy-duty vehicles, including forklifts and port tractors, independent of the electric grid. Additionally, solutions like Propane Fueling Solutions' portable dual-purpose standalone fueling system allows fleets with various alternative fuel vehicles to refuel with propane autogas or recharge with DC level 3 fast chargers.

As innovations in alternative energy technology continue to advance, ports have the ability to achieve a more efficient and reliable future. With propane-powered grid technology and cargo handling equipment, port authorities can make significant steps toward those goals now.

Vessels

Green Diamond

Corvus Energy

The U.S.' first plug-in hybrid electric inland towing vessel was christened at a ceremony in Houston in August. Kirby Inland Marine's Green Diamond will be time chartered by Shell Trading (US) Company, which will use the vessel to push barges throughout the Houston port region. According to Kirby, the vessel can achieve an estimated 80% reduction in fuel use and related emissions.

The first-of-its-kind vessel was constructed by San Jac Marine, Kirby's shipyard in Channelview, Texas. Another Kirby company Stewart & Stevenson Manufacturing Technologies designed and installed the power management, control and propulsion systems.

Propulsion is provided by two 575 KW Danfoss electric motors that can be driven either by the Corvus Orca series battery system, which provides 1243 KWH of power, or, if needed, onboard Caterpillar generators.

A Shell-owned Zinus charging system will be used for dockside charging of the battery system, allowing the vessel to complete trips within the Houston area without using its generators, Kirby said. Shell Energy Solutions will provide electrical power matched 100% by Green-e certified renewable energy certificates to charge the vessel's battery system.

Marcelle Melosira


Derecktor Shipyards

Derecktor Shipyards NY in Mamaroneck, N.Y. has delivered a new hybrid research catamaran to the University of Vermont (UVM). The innovative vessel, Marcelle Melosira, will serve as a floating classroom and laboratory, enabling advanced research operations and hands-on educational programs.

Designed by Chartwell Marine and built in collaboration with UVM and Chartwell, the 64-foot research catamaran has been crafted to fulfill the functions outlined by UVM's Rubenstein School of Environment & Natural Resources. These functions include low emissions, low fuel burn rates, a stable and safe platform for research, high maneuverability, and the ability to tow trawls sleds, and plankton nets. The vessel will also facilitate the launch and recovery of scientific equipment, small remotely operated vehicles (ROVs) and sediment sampling devices.

The Marcelle Melosira is equipped with a hybrid-electric power and propulsion system supplied and integrated by BAE Systems. The vessel is also equipped with dual control stations to maximize operability, and offers a large interior space and an expansive exterior aft deck area. Constructed of aluminum, the vessel is designed to operate on Lake Champlain in up to 1.5-meter Significant Wave Height conditions.

Jane McAllister

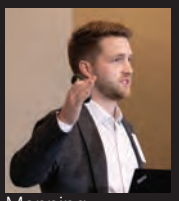

McAllister Towing

McAllister Towing's new tug Jane McAllister has entered service as one of the most advanced and powerful ship-docking tractor tugs operating in the Port of Virginia.

Recently delivered from East Boothbay, Maine shipbuilder Washburn & Doughty, the 6,770 horsepower vessel is equipped with 3516E Tier IV Caterpillar engines powering twin Schottel SRP 490 Z-drive units. The 93- by 38-foot tug features Markey winches on the bow and stern and achieved over 91 short tons during its ABS bollard pull certification.

McAllister president and CEO, B. Buckley McAllister, said the tug is the company's 10th with over 80 metric tons of bollard pull and escort capability.

People & Companies


Manning

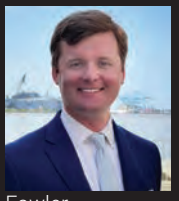

Blanchard


Alfultis


Britton


Murdaugh


Kruger


Fowler


Young


Blocker


Graves


Cullen


Craig

Diversified Marine Names Manning President & COO

Diversified Marine, Inc. has promoted Frank Manning to president and COO. The company's founder Kurt Redd, who has served as president and CEO for 43 years, will maintain sole ownership of the company and serve as chairman and CEO.

Blanchard Named Executive Director at Cooper

Cooper Consolidated named Chris Blanchard as executive director. Billy Fitzpatrick will continue to be the managing director for Cooper Consolidated Stevedoring and Sales groups.

SUNY Maritime's Alfultis to Retire

Rear Admiral Michael Alfultis will retire in 2024 after nearly a decade as president of SUNY Maritime College and more than 30 years in higher education.

Port of Corpus Christi Promotes Britton to CEO

The Port of Corpus Christi named CFO Kent Britton as its new CEO. Britton had served as interim CEO since Sean Strawbridge resigned.

Austal USA President Resigns

Rusty Murdaugh has resigned as president of Austal USA. Michelle Kruger, VP of global services and support, has been named acting president until a successor is named.

Crowley Hires Fowler

Crowley has appointed James Fowler as senior vice president and general manager of its shipping business unit.

Birdon Names Johnson Ship Design Director

Spencer Johnson has joined Birdon as the company's new ship design director.

Young Joins ACL

American Cruise Lines announced Susan Shultz-Gelino, VP of trade relations, has retired after several decades with the company, and that Melissa Young has joined the company as director of business development.

New Operations Managers at Two Ohio River Ports

Ports of Indiana has filled two key leadership roles at its Ohio River ports, naming Ashley Blocker and Michael Graves as operations managers in Mount Vernon and Jeffersonville, respectively.

Vineyard Offshore Promotes Cullen

Vineyard Offshore promoted Jennifer Cullen to director of labor, workforce and local content.

Port of Everett Hires Craig

The Port of Everett has welcomed Cara Craig as its new trade development director.

Products

1 **In-Mar Solutions**

2 **VETUS Maxwell**

3 **Yanmar**

4 **Perkins**

1. In-Mar Solutions: Wynn Marine Type C & Type D, HeavyDuty Straight Line Wipers

Wynn Type C (internal motor) and Type D (external motor) Straight Line Wipers offer the most advanced design of linear action window wiping systems for marine and other specialized applications. Optimum window coverage can be achieved and enhanced by utilizing a twin-bladed or dual-arm/blade design.

www.inmarsystems.com

2. HPW Series Waterlocks from VETUS

The heavy-duty HPW series of waterlocks from VETUS can handle extreme conditions above 500 °F. A cost-effective option, these waterlocks feature rotating bodies and hose connections, a high-capacity water lift design, and excellent sound attenuation.

https://vetus.com/usa/exhaust-systems

3. Yanmar Hydrogen Fuel Cell

Yanmar Power Technology has commercialized its marine hydrogen fuel cell system, initially targeted at passenger ships, workboats and cargo ships that navigate coastal areas. The low-vibration and -noise system achieves zero CO2, NOx, SOx and PM emissions. The standard system is rated for 300kW power output and weighs 3 tons. Yanmar participated in the development of Japan's safety guidelines for hydrogen fuel cell ships and the formulation of a roadmap for the use of hydrogen in the shipping sector. It has also conducted demonstrations on test boats and performed 70 MPa high-pressure hydrogen filling tests. The module has obtained AIP from ClassNK.

4. Perkins E44 and E70B

Perkins marine is set to launch its new Perkins E44 and E70B auxiliary engines for use on inland waterways, tugs, governmental, fishing and ferry services. The new Perkins E44, an electronic 4.4 liter, 4-cylinder engine, and the evolved E70B offer a broad range of power ratings and factory configurable power solutions. Customers can choose from multiple cooling options, depending on the application, repower and ease of integration. The E70B meets IMO II, U.S. EPA T3 and EU V emissions standards on ratings below 130 bkW, while the E44 meets U.S. EPA T3 and EU V – falling below the minimum requirement for IMO certification.

5. LubeMonitor

Currently used by Shell Marine Lubricants customers, LubeMonitor will become available to shipowners and operators through Kongsberg Digital's marketplace for maritime applications, an ecosystem of applications supported by Vessel Insight SaaS-based data infrastructure. LubeMonitor combines the data from onboard oil testing, engine operating conditions, Shell LubeAnalyst laboratory results, engine inspection photos and measurements. These are used to deliver insights based on OEM recommended guidance at a total fleet, vessel or cylinder level, supporting better management of reliability and informed decision-making.

Marine Marketplace

VESSELS FOR SALE / BARGES FOR RENT

NEW PRODUCTS

NEW PRODUCTS

ADVERTISER INDEX

Page	Company	Website	Phone#
27	Ahead Sanitation	www.aheadsanitationsystems.com	(337) 330-4407
19	All American Marine	www.AllAmericanMarine.com	(360) 647-7602
35	Appleton Marine, Inc	www.appletonmarine.com	(920) 738-5432
7	Clean Gulf	www.cleangulf.org	Visit us online
41	Creative Systems	www.ghsport.com	(360) 385-6212
C2	David Clark Company	www.davidclark.com	(508) 751-5888
21	Detyens Shipyards Inc.	www.detyens.com	(843) 308-8000
1	DMW Marine Group, LLC	www.dmwmarinegroup.com	(610) 827-2032
31	Environmental Marine, Inc.	www.envmar.com	(606) 561-4697
17	Fincantieri Bay Shipbuilding	www.fincantierimarinegroup.com	Visit us online
25	Gulf Copper MFG Corp	www.gulfcopper.com	(281) 752-4835
3	Marine Systems, Inc	www.marinesystemsinc.com	(985) 223-7100
39	McDonough Marine Service	mcdonoughmarine.com	(504) 780-8100
C4	R.W. Fernstrum & Company	www.fernstrum.com	(906) 863-5553
13	Scania, USA Inc.	www.scaniausa.com	(210) 403-0007
25	SEATAC Marine	www.seatacmarine.com	(206) 767-6000
27	Society of Accredited Marine Surveyors	www.marinesurvey.org	(800) 344-9077
7	Timberland Equipment Limited	www.timberlandequipment.com	(519) 537-6262

The listings above are an editorial service provided for the convenience of our readers.
If you are an advertiser and would like to update or modify any of the above information, please contact: nicole@marinelink.com

IGP

INTELATUS

GLOBAL PARTNERS

OFFSHORE WIND MARKET INTELLIGENCE PACKAGE

2022 U.S. Offshore Wind Outlook and Market Forecast

The monthly report and database contains all of the latest developments and information on the projects that will lead the U.S. to deploy 30 GW of offshore wind by 2030 and 110 GW by 2050. The report contains insights to support component manufacturers, shipyards, vessel owners and operators, service providers, ports and terminal operators, public agencies and financial institutions amongst others to better understand the opportunities and challenges presented by this growing segment.

Get all the information you need to access this growing multi-billion dollar market today!

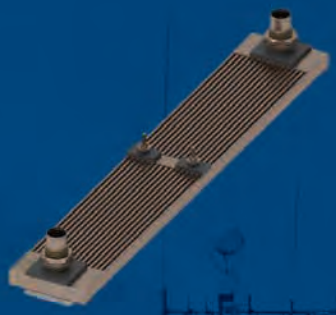
VISIT US

WWW.INTELATUS.COM

We take the heat, so you don't have to.

Cool. Because you need it.

So no matter where you operate, hot days and heavy loads will never slow you down.



GRIDCOOLER® Keel Cooler

- **One Piece Head Design** maintains greater structural integrity.
- **Higher Silver Content Braze Joints** resist fatigue and maintain the strength of surrounding material.
- **Better Penetration at Braze Joints** places more braze material with less heat, making joints stronger.
- **2-Year Warranty on Copper Nickel GRIDCOOLER Keel Coolers:** Industry-leading design, craftsmanship and materials create industry-leading products.
- **70 Years of Experience with Fully Assembled Packaged Keel Coolers**: Our focus is and always has been heat exchangers.

WEKA Boxcooler®

- **Over 20 Years of Experience with Copper Nickel Boxcoolers** offering longer product life cycle than standard coated tube units.
- **Manufactured in the USA and The Netherlands:** provides the greatest product availability.
- **Weka Guard and Protector** eliminate the need for bulky and costly copper sacrificial anodes.

Omega Laser Plate™

- **Omega Laser Plate** provides an efficient and cost effective alternative to traditional split pipe heating for bulk cargo, ballast and other applications.
- **Wide Variety of Materials** available for use in stainless steel, titanium, and a variety of exotic metals.
- **CNC Laser Welded Plates** allow for a wide range of customization to meet your specific application needs.

FERNSTRUM®
R.W. Fernstrum & Company

Join us at the **Pacific Marine Expo** booth 1306

fernstrum.com | 1.906.863.5553 | sales@fernstrum.com | ISO 9001:2015