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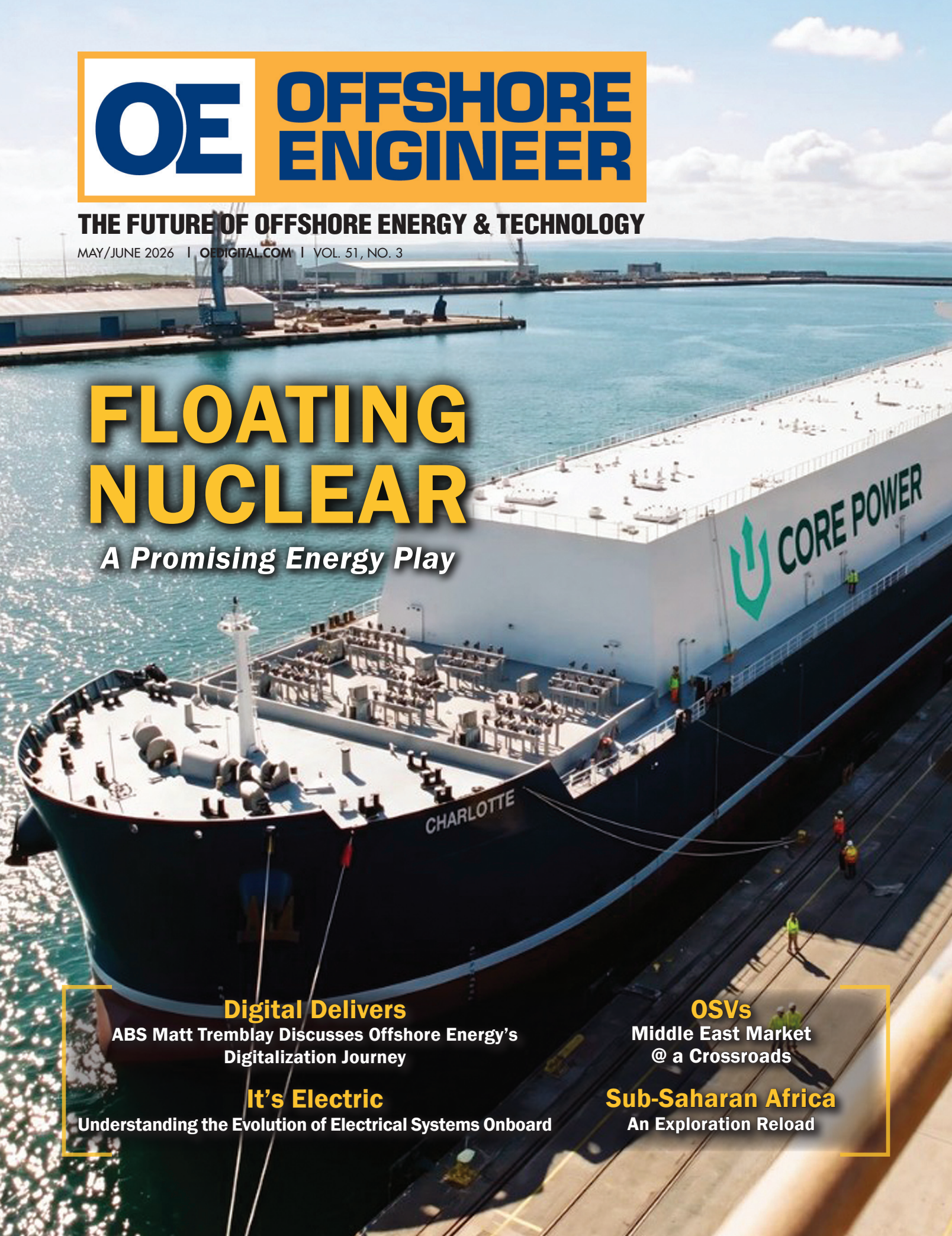
FLOATING NUCLEAR

A Promising Energy Play



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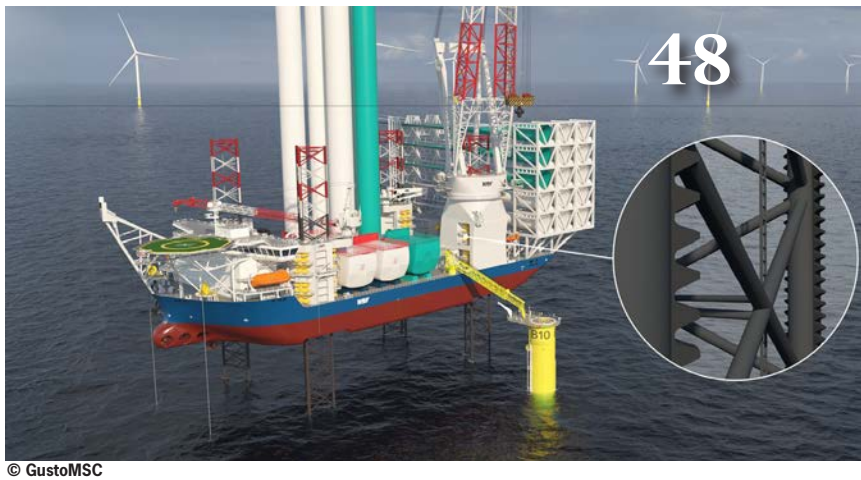

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I was born in the 60's, so "the nuclear option" doesn't harken memories of clean, sustainable power; rather walking by the signage pointing to a nuclear fallout shelter, much like a fire drill. But nuclear and all that it entails – with modern, compact reactor units and clear potential to effectively feed clean energy to a power-hungry world. This month **Alisa Reiner** takes a deep dive into Floating Nuclear, a new and fast-emerging offshore energy frontier. For decades, floating nuclear power occupied a niche position in the energy debate – technically feasible, strategically intriguing, but commercially marginal. Today, however, combined pressures of decarbonization, energy security, land constraints, rising electricity demand and water scarcity are making floating nuclear power a more serious proposition for policymakers, utilities, and infrastructure. In evaluating potential markets, the strongest case emerges in remote coastal regions and small island developing states where the challenge is not only decarbonization, it is the high cost of imported fuel, the vulnerability of supply chains, and the difficulty of scaling grid infrastructure.

Nuclear is the emerging technical topic impacting multiple energy fronts, but geopolitical conflict … wars … are the lingering and bigger energy sector driver. While peace in the Middle East is never a sure thing, it appears that the U.S./Israel war with Iran could be drawing down after fast start earlier this year, and now is the time to take a look at the immediate and longer term, deeper impacts of this conflict and Russia's lingering 4+ year war with Ukraine have on energy production, transport and consumption. Throughout this edition – from OSVs to Rigs to Exploration & Production – OE's contributing markets experts weigh in on the pace and direction of key markets as political focus shifts from war to commerce.

Check out the 2026 Media Kit via the QR Code Below

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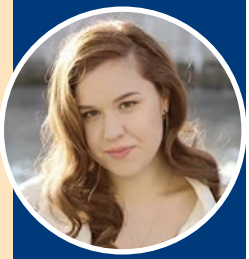
Lewis


Milito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Mitigating Offshore Integration Risk as Project Complexity Grows

GLO Marine's investment in its production facilities benefits offshore owners, providing a single source of contact, from engineering to deck, with control and visibility through the entire project chain.

Over the past five years, GLO Marine has worked with some of the most demanding names in offshore — Tidewater, DEME, Bourbon Offshore, VARD, OSM Thome, Bluewater — delivering more than 200 end-to-end retrofit projects, including more than 50 vessel mobilisations and conversions, in the most demanding charter and class environments offshore work presents.

That body of work has produced one consistent lesson: offshore service work is fragmented. Engineering, structural fabrication, electrical scope and onboard installation typically live in different companies, and the integration risk between them sits with the owner.

For straightforward projects, this still works. For complex multi-discipline scopes — mobilisations, mission-equipment integration, electrical retrofits — it increasingly does not.

The cost of that fragmentation is rarely abstract. A foundation arrives at the yard eight millimetres out of tolerance against the equipment supplier's bracket. The welder waits. The class surveyor, who flew in for the integration sign-off, flies home. The owner pays for both — and for the three days of berth time that follow. On a modern OSV, that is the difference between profit and loss.

What owners are asking for, what GLO Marine provides, is one accountable team and the agility to absorb scope changes without renegotiating five contracts.

Closing the Chain: From Feasibility to Deck

A complex offshore upgrade has four stages: feasibility, engineering, fabrication, and onboard installation and commissioning. GLO Marine has been delivering three of them in-house for years. The investment in the Technology Centre in Galați — operational from October 2026 — will close the fourth.

This is what changes for the client.

- **One company is accountable for the entire project flow.** The same project manager who scopes the feasibility study owns the engineering, the production schedule, the riding-crew mobilisation and the class sign-off. There are no contractual seams between disciplines, and no commercial conversation to have when something needs to move.

- **Coordination becomes a single internal process, not a multi-party negotiation.** One drawing set covers structural, electrical, mechanical and hydraulic scope. Production capacity in Galați is allocated against the same project plan as the engineering hours and the riding-crew schedule. When the design changes — and on complex offshore work, it always changes — the change propagates inside one organisation in days, not across five contracts in weeks.
- **Risk is taken off the owner.** The interface risks that historically sit in the gaps between contractors — dimensional mismatches, untested electrical interfaces, conflicting class documentation — are resolved in the workshop, weeks before the vessel arrives at the yard.
- **Vessel downtime compresses.** Fabricated assemblies arrive at the yard fully tested, dimensionally verified against the equipment they will connect to, and installed by the same team that built them. The yard window collapses from weeks of build-and-debug into days of bolt-and-commission.

The argument is not theoretical. It comes from five years of doing the work and seeing where the model breaks. Two areas in particular benefit most directly from in-house production capability: offshore mobilisations and electrical retrofit packages.

Mobilisations and Mission-equipment Integration

A walk-to-work installation, a LARS foundation, a vertical lay system, a mission deck conversion — each is technically a structural scope with significant electrical, controls and class dimensions. Each historically passes through three or four different companies before reaching the vessel.

With the Technology Centre, the change is concrete. Structures are engineered, fabricated and verified in-house before they leave Galați. A gangway foundation is dry-fitted against the equipment OEM's mounting bracket in the workshop, weeks before the vessel arrives at the yard. Structural reinforcements are FEA-validated and class-documented under GLO Marine's own naval architecture team. Electrical interfaces are tested against the actual equipment they will connect to.

The integration is pre-rehearsed in the workshop, not improvised on the vessel.

GLO Marine's track record on this work runs through 80-90 tonne gangway installations on OSVs under fast-track class approval, integration of a 325-tonne vertical lay system on a 157-metre construction vessel, and PSV conversions with new structural accommodation modules and mezzanine extensions. The Technology Centre extends that delivery model across the full scope of offshore mobilisation work: gangways, W2W systems, LARS, A-frames, mission decks, ROV spreads, containerised accommodation, towers and deck structures.

Three Electrical Retrofit Packages

Offshore vessels built between 2000 and 2010 are reaching electrical half-life, and OEM end-of-support cycles are forcing the conversation. The Technology Centre's electrical line is dimensioned around three packages that account for the majority of recurring offshore demand.

What separates GLO Marine on this work is not the electrical scope alone. It is that the same workshop, the same project team and the same drawing set cover electrical, mechanical, structural and hydraulic disciplines. Retrofit problems rarely respect those boundaries. A switchboard replacement requires structural modifications to the room it sits in. A BESS integration depends on hydraulic and ventilation interfaces. A VFD upgrade touches drive shafts and propulsion mounts. Solving those problems efficiently requires the disciplines under one roof, working off the same plan.

- **Power & Control modernisation.** Main switchboard plus power management system upgrade, sold as a combined package. Switchboards and control panels are built in Galați against the vessel's specification and FAT-tested as complete assemblies on the workshop floor — fully wired, function-tested and signed off against the integration drawings before the cabinet leaves Romania. GLO Marine's own riding crew then installs them on the vessel, which means the same people who built the assembly are on board when it is connected.
- **Propulsion drive and thruster VFD retrofit.** Drive systems from the mid-2000s are at their 15–20 year replacement window, and modern drives deliver 15–25% energy savings — direct CII improvement and measurable fuel reduction in DP operations. VFD cabinets are fabricated, mounted, wired and pre-commissioned in the workshop, then shipped as complete assemblies. Many scopes can be executed alongside without a drydock window — agility that matters when fleet managers are scheduling against tight charter windows.
- **Hybrid Power Upgrade (BESS integration).** Battery integration on DP-heavy OSVs delivers 20–25% fuel saving in DP operations, plus peak-shaving in transit and standby, and increasingly meets charter compliance requirements from offshore wind operators specifying hybrid capability. Containerised battery rooms with A60 fire boundaries, off-gas ventilation, BMS interfaces and DC link panels are fabricated in Galați as integrated assemblies, then connected to the vessel's switchboard and PMS on board. BESS integration depends on modern switchboard architecture and power management, which is why most operators plan it as the second phase of a multi-year electrical roadmap.

The Commercial Conclusion

Owning the production base is what lets GLO Marine take the integration risk off the owner. One project manager, one engineering team, one workshop, one riding crew — from drawings to commissioning.

The next time a complex offshore upgrade lands on a fleet manager's desk, the question worth asking isn't who can deliver each scope. It's who can take responsibility for all of them.

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MIDDLE EAST OSV MARKET AT A CROSSROADS AFTER GULF CONFLICT

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After several years of strong activity, the Middle East offshore market has become more volatile, with geopolitical tensions disrupting day-to-day operations. Following US and Israeli military action and subsequent Iranian attacks on neighbouring Gulf states, operators introduced precautionary measures, including temporary rig suspensions and down-manning in Saudi Arabia, the UAE and Qatar.

By Theodor Sørlie, Senior Analyst at Fearnley Offshore Supply

This triggered a sharp short-term slowdown from late February into March.

The April ceasefire allowed offshore activity to recover gradually, but fixing volumes remain at low volumes compared the historical average. Fewer active rigs and project delays have softened OSV demand, prompting some operators to seek standby terms or rate reductions. With Hormuz transit constrained, owners have had limited redeployment options, leaving them exposed to lower day-rates and higher near-term availability.

Pre-war, leading macro advisors such as Rystad Energy expected OSV demand in the region to showcase low single-digit growth in 2026. Most industry participants viewed the healthy EPC market as a key absorber of tonnage, while NOC activity began to plateau, albeit at high historic levels. The demand in 2026 is now, somewhat unsurprisingly, heavily influenced by the duration of the war, with a worst case 12-month scenario potentially cutting

the pre-war demand forecast by more than 50%.

Moreover, the duration of the conflict is also likely to impact the pace of the return to normality, with a short conflict suggesting returning to pre-war levels already next year, while a prolonged conflict can lead to subdued activity throughout 2027 due to delays in final investment decisions and the constrained supply chain environment.

On the supply side, the current situation will likely add to the already aging fleet in the region, which have reached an average age of more than 16 years. Most shipowners have paused strategic growth plans and fleet renewals locally, which we see leading to another year of limited action to reduce the regional fleet age. Compounding the issue, some shipowners such as HEA Energy in the UAE and Milaha in Qatar face challenges, as their newbuilds in the orderbook remain blocked from entering the region, prolonging reliance on the older tonnage.

Regional Markets Feel the Impact

In Qatar, activity has declined materially, as QatarEnergy declared force majeure twice since late February. With damages to the Ras Laffan LNG facility, we have seen a pause in offshore work since mid-March. Additionally, the number of jack-up rigs on contract herein is expected to fall from around 20 pre-war to mid-teens in the near term and several shipowners have been advised of off-hire periods, rates being reduced to OPEX levels or significant rate cuts. For example, North Field West, has reportedly postponed drilling from the second half of 2026 to the second half of 2027.

In the UAE, the market remains more stable, although some contractors have requested general dayrate reductions of roughly 25%. Shipowners are pushing back however, noting that both daily OPEX and war risk insurance costs have increased materially, leading to unsustainable vessel margins. Longer term, market sentiment remains positive, supported by the UAE's OPEC exit and the aggressive capacity push to 5 million bpd by 2027, combined with offshore electrification projects to reduce emissions from existing fields.

In Saudi Arabia, the market also remains broadly stable, with fewer shipowners reporting cancellations or dayrate adjustments. Suspended jack-up rigs are generally expected to return to contract once conditions stabilize. A tender for seven to nine additional rigs with expected start-up in the second half of 2026 had an original March deadline, but this has now been postponed.

More broadly, activity levels and payment capacity are being affected by contractors operating on lumpsum or milestone-based contracts, where delays in materials and offshore execution are contributing to lower fixture volumes. Other shipowners have also highlighted challenges related to GPS jamming, which is preventing certain offshore installation work from being carried out safely.

The near-term outlook is a pause, not a structural downturn. Owners with unplanned downtime can use the current window to accelerate vessel maintenance and special surveys, being well positioned for a potential upturn in activity.

While OSV dayrates reached multi-year highs through 2024 and early 2025 due to tight supply and strong EPC activity, forward indicators now point to a stabilizing rate environment once activity normalize. However, overall offshore operating costs are expected to increase, as owners have experienced higher daily crewing costs and insurance, while fuel costs have increased. In terms of incremental demand outside the major markets, Kuwait is expected to see up to four additional jackups on contract in the near term, which is likely to be postponed, yet serve as a key new frontier for activity

Owners Look Beyond Home Markets

The conflict is likely to accelerate regional diversification among major Middle Eastern OSV owners. This shift is already visible, with Astro Offshore expanding into West Africa through PSV and high-end subsea vessel acquisitions, while PIF-backed Zamil Offshore acquired Remøy Shipping last year to support international growth.

With structural oil supply shortages in the global market, we expect higher offshore activity in regions such as the Mediterranean, West Africa, Australia and North Sea in the coming years, encouraging major Middle Eastern owners to pursue growth outside their home markets. This could include both traditional OSV tonnage and adjacent segments such as European or APAC offshore wind, supported by the renewed focus on energy security.

That having been said, the Middle East OSV market currently experience a high degree of uncertainty. Utilization is likely to remain below pre-war levels in the near term, and a sustained recovery will depend on a durable long-term agreement. Until then, owners with balance sheet flexibility and regional diversification will be best positioned to navigate the uncertainty and benefit from the eventual recovery.

Stabbert Maritime ditches steel wire for synthetic rope on 6,000m deepwater vessel

Seattle-based operator Stabbert Maritime has retrofitted its multipurpose support vessel *Ocean Guardian* with a TechIce® synthetic hoisting system after steel wire rope began constraining crew access and workflow during continuous deepwater operations.

The vessel supports subsea survey and scientific work to depths of 6,000 meters, with lifting systems operating daily rather than intermittently. At those depths and frequencies, the behaviour of the rope started shaping how crews could work on deck, not just how loads were controlled.

Three problems drove the decision to move away from steel. First, snap-back risk required permanent exclusion zones around the line whenever it was under load, forcing task sequencing around the rope rather than around the operation. Second, the lubrication steel wire requires under cyclic loading migrated onto drums, sheaves, and deck surfaces, adding housekeeping burden as lift cycles accumulated. Third, the self-weight of steel wire at deepwater lengths increased stored energy during spooling, empty-hook recovery, and load transitions, requiring greater crew separation during routine handling.

Scaling up the steel-based system was assessed and ruled out. Larger winches, increased deck footprint, and tighter operating margins carried schedule and commissioning risk during transition. “We weren’t trying to chase headline performance,” said Daniel Stabbert, CTO of Stabbert Maritime. “We needed a system that behaved predictably every day instead of one that people had to keep compensating for.”

A systems-level approach

The replacement system centres on TechIce®, a hybrid synthetic hoisting rope manufactured by Hampidjan incorporating Technora® aramid fibers from Teijin Aramid. The mechanical core is a fully electric deepwater capstan winch designed by Parkburn, an engineering firm special-

ising in deepwater lifting systems for continuous duty. The architecture separates traction from storage, delivering the required lift capacity within the vessel's existing power envelope and deck footprint without modifications to foundations or auxiliary systems.

Sam Bull, business consultant at Parkburn, said rope performance cannot be assessed in isolation from the system it operates within. "Fiber and rope companies spend most of their time proving their products outperform competitors in isolation, rather than understanding how they behave within the actual deployment and recovery system," he said. "Real performance is governed by the entire operating environment: winch type, sheave geometry, spoolers, fleeting angles, bearing surfaces, system dynamics such as speed and active heave compensation, and the unknown conditions delivered by mother nature."

To validate that view under representative conditions, Hampidjan commissioned independent cyclic bend-over-sheave testing through NORCE Research at the Mechatronics Innovation Lab in Norway. The testing applied repeated cyclic bending at defined speed and elevated ambient temperature without external cooling, to replicate sustained operational loading. Ellen Nordgård-Hansen, senior researcher at NORCE, said the focus on heat and fatigue progression was deliberate. "Cyclic bending and heat are the primary drivers of hoisting rope degradation in practice," she said. The test programme evaluated multiple response parameters rather than a single performance metric, allowing side-by-side comparison of different rope configurations under the same degradation conditions.

Deck operations changed

On Ocean Guardian, the crew noticed the difference during the first operational period. Spooling and empty-hook recovery settled into routine, and line behaviour remained consistent across load changes. During extended periods of active heave compensation, the rope generated neither the heat nor the deck contamination associated with steel wire under the same conditions.

No lubricant transferred to deck surfaces, and lower line mass reduced the managed energy during handling. Tasks that would normally be delayed or re-sequenced around lifting activity ran concurrently. "What stood out was how little attention the system needed once it was running," Stabbert said. "We weren't constantly adjusting how we worked around it."

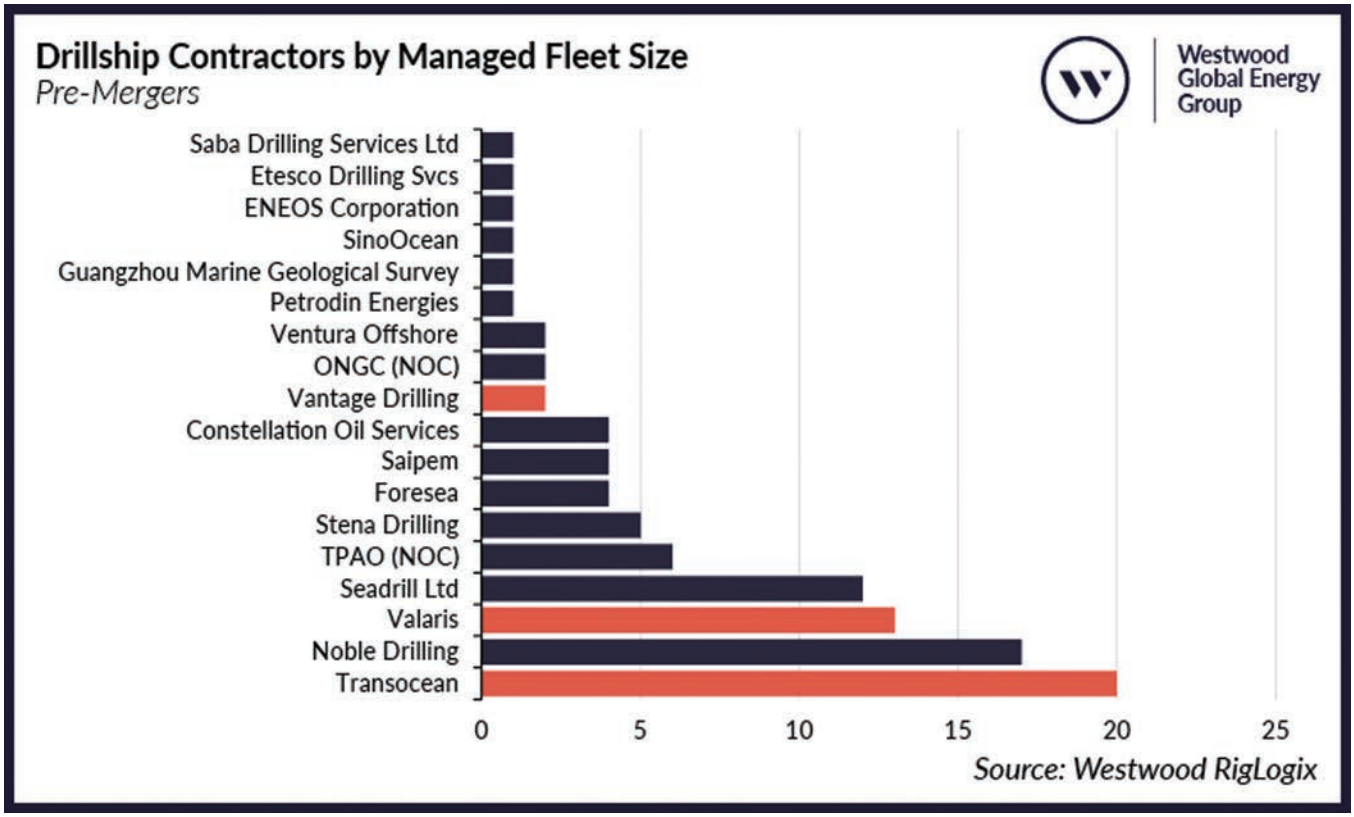
As deepwater operations extend in duration and involve more frequent lifting cycles, the gap between systems that integrate quietly into daily workflow and those that impose continual adjustments on surrounding work becomes commercially significant. For operators planning extended deepwater programmes, everyday system behaviour may matter as much as peak rated capacity.

TechIce® is manufactured by Hampidjan and incorporates Technora® aramid fibers supplied by Teijin Aramid. The deepwater capstan winch was designed by Parkburn. Find out more about TechIce here: ***https://techice.teijinaramid.com/techice/?utm_source=oedigital&utm_medium=article&utm_campaign=tradepress***

ELDORADO-VANTAGE MERGER SIGNALS CONTINUED OFFSHORE DRILLING CONSOLIDATION

On 29 May 2026, Vantage Drilling International and Eldorado Drilling signed a merger agreement under which Eldorado will acquire Vantage, making it a wholly owned subsidiary. As part of the transaction, Vantage shareholders will receive $19 per share in cash, valuing the company at approximately $257.6 million. The combined entity will continue to operate under the name Vantage Drilling International.

By Kathleen Gammack, Senior Rig Market Analyst at Westwood



Post-transaction, the company's fleet will comprise four drillships - including a 25% stake in Tungsten Explorer and the pending acquisition of Deep Value Driller - alongside two managed jackups that are owned by ADES. While modest in scale, the merger reflects a continued strategic push toward consolidation and scale-building in the offshore drilling rig sector.

Positioning in a Consolidating Market

This deal is the latest in a series of M&A moves reshaping the offshore drilling landscape. Over the past five years, consolidation has accelerated as drilling contractors seek scale, efficiency, and stronger market positioning.

Notable transactions include:

• Noble Corporation's acquisitions of Pacific Drilling, Maersk Drilling and Diamond Offshore, that completed in April 2021, October 2022 and September 2024, respectively. This was followed by the divestment of five non-core jackups to Borr Drilling in 2026 and one to Ocean Oilfield with sale closure still pending.

• Seadrill acquired Aquadrill in April 2023; however, over the past five years has divested 12 jackups, one semi-sub and three tender-assist rigs.

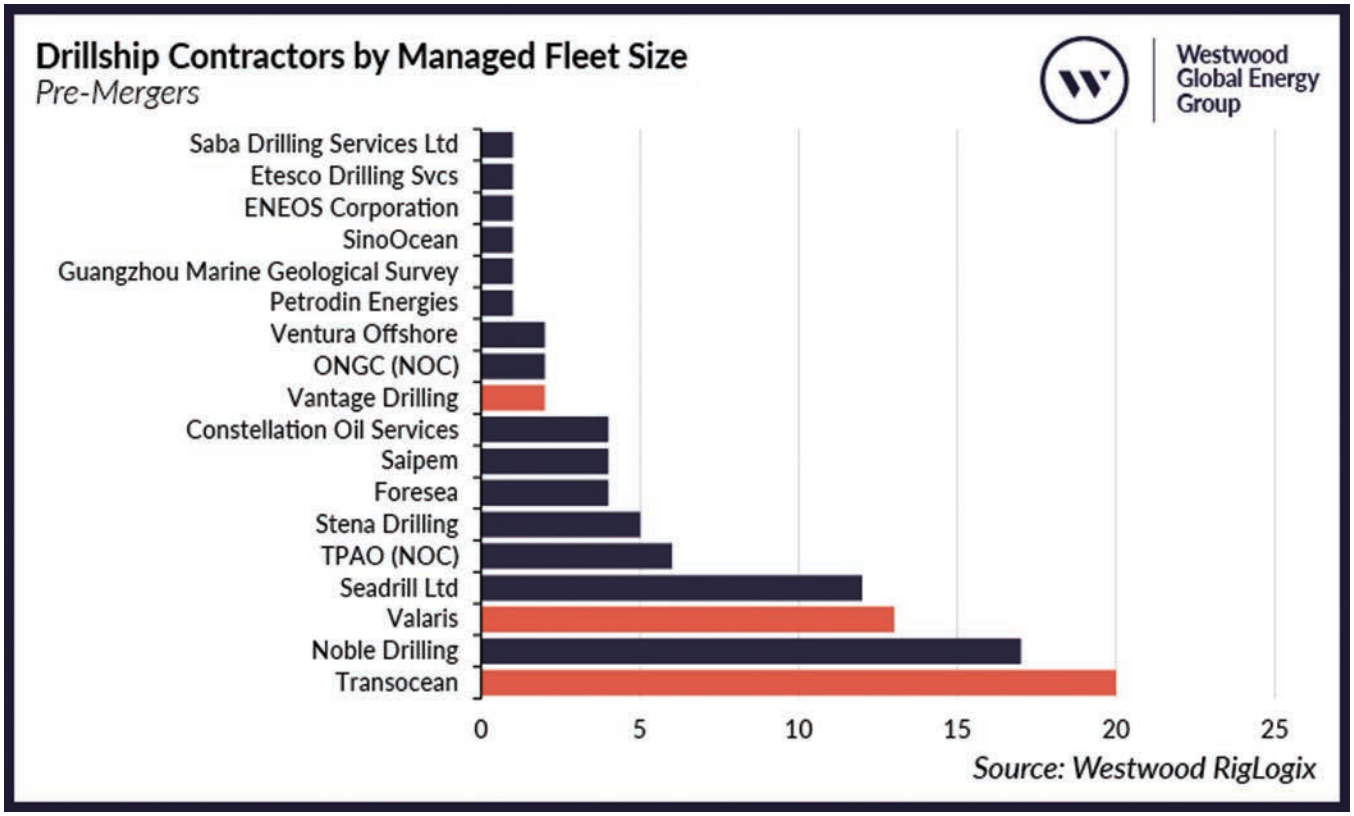
• ADES' all-cash acquisition of Shelf Drilling Limited, including its 33 jackup fleet, concluded in November 2025.

• Transocean's pending acquisition of Valaris - expected to close in second half of 2026.

• Borr Drilling's ongoing jackup expansion, including the acquisition of five units from Fontis Energy, expected to close 2H 2026, in addition to the aforementioned acquisition of five jackups from Noble.

Against this backdrop, the Eldorado-Vantage deal is smaller in scale but consistent with the broader trend: companies consolidating to optimise fleet composition, improve utilisation, and enhance competitive positioning in a tightening offshore market.

There are currently 18 rig managers in the global drillship market pre-closing of ongoing merger deals. As it currently stands, Transocean has the largest fleet and will retain this position following its pending acquisition of Valaris.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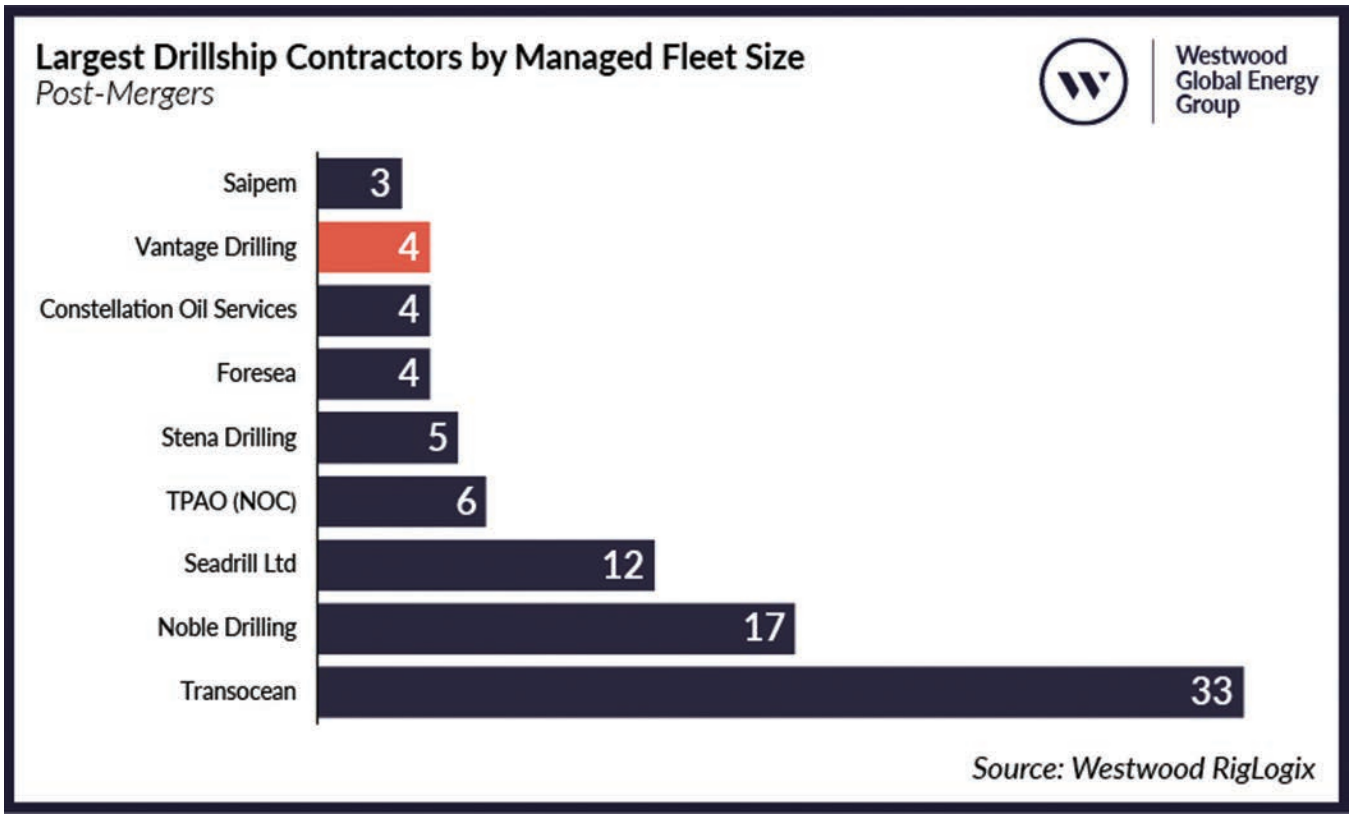
Constellation Oil Services
Saipem
Foresea
Stena Drilling
TPAO (NOC)
Seadrill Ltd
Valaris
Noble Drilling
Transocean
0
5
10
15
20
25
Source: Westwood RigLogix


Largest Drillship Contractors by Managed Fleet Size
Post-Mergers
Westwood Global Energy Group
Saipem 3
Vantage Drilling 4
Constellation Oil Services 4
Foresea 4
Stena Drilling 5
TPAO (NOC) 6
Seadrill Ltd 12
Noble Drilling 17
Transocean 33
Source: Westwood RigLogix

Background, Transaction Context and Strategic Rationale

The deal brings together two companies that have undergone significant portfolio reshaping in recent years.

Vantage has steadily streamlined its fleet since 2020, divesting five of its jackups to ADES between 2020 and 2024 while retaining operational exposure via management agreements. The company now operates a leaner portfolio that includes ultra-deepwater drillship Platinum Explorer and its stake in Tungsten Explorer. In January 2025, TotalEnergies and Vantage formed a joint venture (JV) entity - TEVA Ship Charter - to handle ownership of the Tungsten Explorer. TotalEnergies paid $199 million for a 75% stake in the unit, with Vantage managing the unit on behalf of the JV under a 10-year agreement, with an option for five additional years.

Meanwhile, Vantage also manages two jackups - Soehanah and Topaz Driller - sold by Vantage to ADES under three-year management agreements that commenced in 4Q 2024. This repositioning has shifted Vantage toward a more asset-light, services-oriented model with long-term contracted visibility, such as Platinum Explorer's upcoming three-year contract with ONGC offshore India.

Eldorado, by contrast, has taken a more transactional approach. After acquiring two 7th-generation newbuild drillships (West Draco and West Dorado) in 2023 and without ever bringing them into operation, it subsequently sold these assets in 2025 to state-owned Turkish operator and rig owner Türkiye Petrolleri Anonim Ortaklığı (TPAO) with the new owner changing the names to Çağri Bey and Yildirim, respectively. At the time of the merger agreement with Vantage, Eldorado's sole operating asset is the 10,000ft 7th-generation drillship Atlantic Zonda, working offshore Brazil, managed by Ventura Offshore. However, its pending acquisition of 7th-generation drillship Deep Value Driller in 3Q 2026 signals an intent to scale its deepwater footprint.

The merger effectively combines Vantage's operational platform and contract backlog with Eldorado's capital deployment strategy, creating a hybrid model that blends capital-light rig management income with selective asset ownership exposure.

The approximate $257.6 million equity valuation implies a relatively modest valuation on a per-asset basis, reflecting both the limited scale of the current fleet and Vantage's asset-light structure. Compared to recent transactions involving premium drillships and jackup fleets, the pricing appears conservative, suggesting the deal is more strategic than valuation driven, with limited takeover premium.

Further Consolidation Likely, but Targeted

Looking ahead, further fleet optimisation appears likely, albeit increasingly selective in nature. Rather than large-scale mergers alone, the market is seeing more targeted acquisitions of individual rigs, distressed assets, or niche players to fill portfolio gaps or expand into specific regions or segments.

The Eldorado-Vantage merger underscores this shift - focusing on incremental scale and strategic alignment rather than transformational size.

While not a market-defining transaction on its own, the Eldorado-Vantage merger reinforces the ongoing consolidation theme across offshore drilling, particularly among mid-tier players seeking to achieve scale and diversify operating models. As companies continue to rationalise fleets, secure backlog, and position for a sustained upcycle in offshore activity, further M&A - both incremental and strategic - remains a key feature of the sector outlook.

OIL MAJORS REL EXPLORATION HO ACROSS SUB-SAHARA

Faced with declining production post-2030, across Sub-Saharan Africa (SSA), the Majors have started the process of reloading exploration hoppers. Targeting predominantly deep and ultra-deep waters, they have signed numerous agreements aimed at unlocking acreage and discovering the next Namibia or Guyana.

But while there have been agreements for acreage that were offered as part of traditional licensing rounds – such as the award to TotalEnergies of PPLs 2000 and 2001 in Nigeria in September 2025 – there has been an increasing trend to sign Memorandums of Understanding (MoU), Agreements in Principle (AiP) or Reconnaissance Licences (RL) for exploration acreage.

By David Thomson and Jamie McGreevy, Welligence Energy Analytics

LOAD PPERS N AFRICA

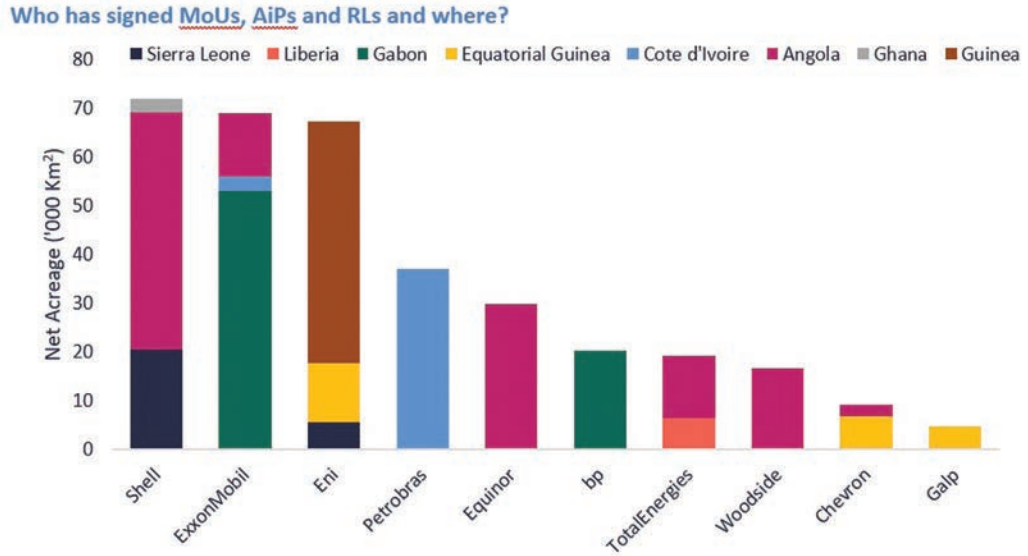
In total and including agreements signed by Petrobras and Woodside Energy, over 360,000 km2, an area ~1.6 times the size of the Permian Basin, is covered by these various agreements.

Shell has been the most active, securing early-stage agreements in Angola, Ghana and Sierra Leone, while Equinor, Sonangol, Chevron, ExxonMobil, Petrobras and Woodside have also agreed terms across Angolan acreage. Further north, bp and ExxonMobil are advancing towards formal PSCs in Gabon; Eni, Chevron and Galp have entered Equatorial Guinea; and 1Petrobras held exclusive negotiating rights over a large swathe of Côte d'Ivoire blocks. In non-producing countries, Eni has been particularly active having signed reconnaissance agreements in Sierra Leone, Liberia and Guinea (it also signed a formal PSC for a block in Gambia in early June).

Low-Cost Access to High-Risk Acreage

There are clear benefits for both host countries and operators to sign MoUs/AiPs/RLs.

Primarily, they provide a cost-effective solution to help de-risking exploration acreage. Typically, there will be low commitments for the operators, and they can undertake desk-based studies. The focus will be on analysing existing geological and geophysical data, including 2D and 3D seismic, well reports, and other relevant technical information. In so doing, acreage is de-risked, geological understanding is improved, and the journey towards bankable projects begins. Some RLs may involve work commitments such as new data acquisition, but even here, these



Source: Welligence Energy Analytics
Acreage as at end May-2026

commitments are low cost.

Given that ~83% of the acreage has been traditionally considered ultra-deep water (>1,500m*), where drilling is very high cost, this low-cost early-stage opportunity screening is further evidence of the need for companies to maintain rigid fiscal discipline. Once studies are completed, the company is in a good position to return to the regulator and ask for a more formal deal for the acreage it considers the most prospective. Indeed, some of the MoUs and Agreement in Principles (AiPs) that have been signed, specifically involve discussions regarding future fiscal terms on the acreage.

Acreage by Water Depth: The Ultra-Deepwater Dominance

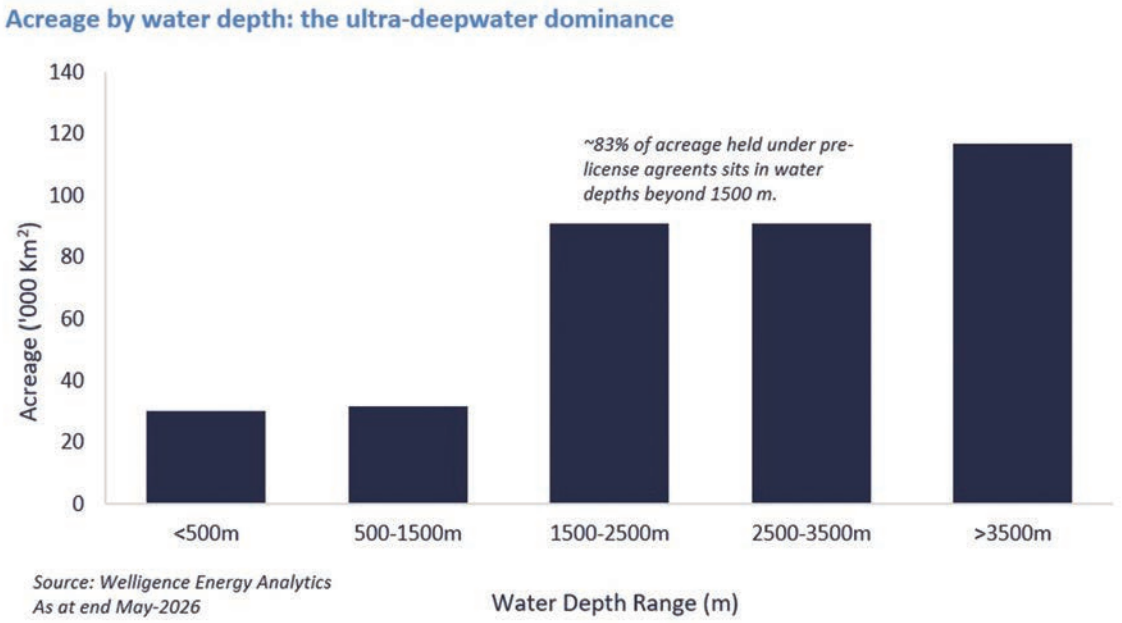
The trend is also part of an increasing desire for both host countries and companies to conduct direct negotiations rather than hold or enter formal licensing rounds. There are various advantages to this model. These include quicker and more focused negotiation, less concern with rival bids, and mitigating the risk of awarding acreage to less capable companies.

While the current wave of pre-licence activity across SSA is undoubtedly a positive signal for the continent's exploration potential, investors and host governments should be clear-eyed about what these instruments represent: they are options, not commitments. The real test will come over the next three to five years, as these agreements either convert into binding contracts with firm and tangible obligations such as seismic acquisition or drilling, or quietly expire, as the majority historically have. From our analysis, it is highly unlikely anything more than 25% of the acreage that is covered by these agreements will end up being formal fiscal agreements. Indeed historically, no MoUs in the region have resulted in formal contracts. But given the fact many of the recent deals have been in countries with proven producing potential, and even non-producing countries such as Liberia, Sierra Leone and Guinea are being re-evaluated as potential analogues to Guyana and Suriname, we are confident a sizeable amount of acreage will ultimately be converted to formal terms with drilling commitments.

While Sub-Saharan Africa has been front and centre of MoUs and AiPs, other regions have also signed similar deals with Majors in the past few years. In the Middle East North Africa (MENA) region, Egypt, Kuwait, Libya, Syria and Turkey have all inked deals with Majors this year for exploration opportunities while Azerbaijan, Kazakhstan and Uzbekistan have led the way in the Caspian. In March 2024, Malaysia signed Technical Evaluation Agreements (like Reconnaissance Licences) with companies including bp, Eni and TotalEnergies. Other regions have continued to favour more formal competitive bid processes.

1 as at end May 2026, in early June, Petrobras signed PSCs for eight out of nine blocks offshore Cote d'Ivoire it had formally declared an interest in in 2025

** The definition of ultra-deep water continues to evolve. Historically, anything >1,500m has been considered ultra-deep but with technological improvements to the fore, many operators now consider ultra-deep to start at 3,000m, with the nuance now less to do with absolute water depth and more to do with whether a company can drill and develop.*



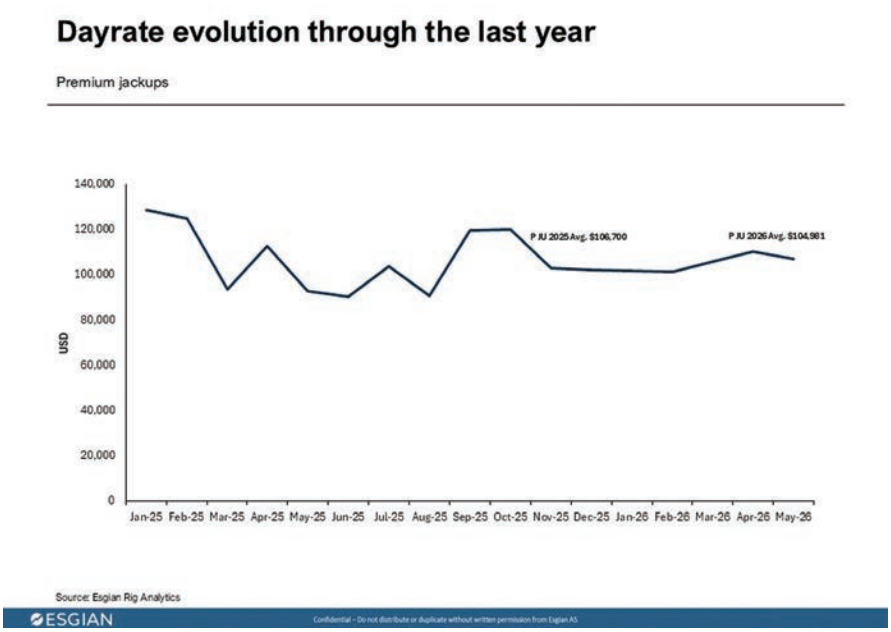
FROM FIXTURES TO VALUES:

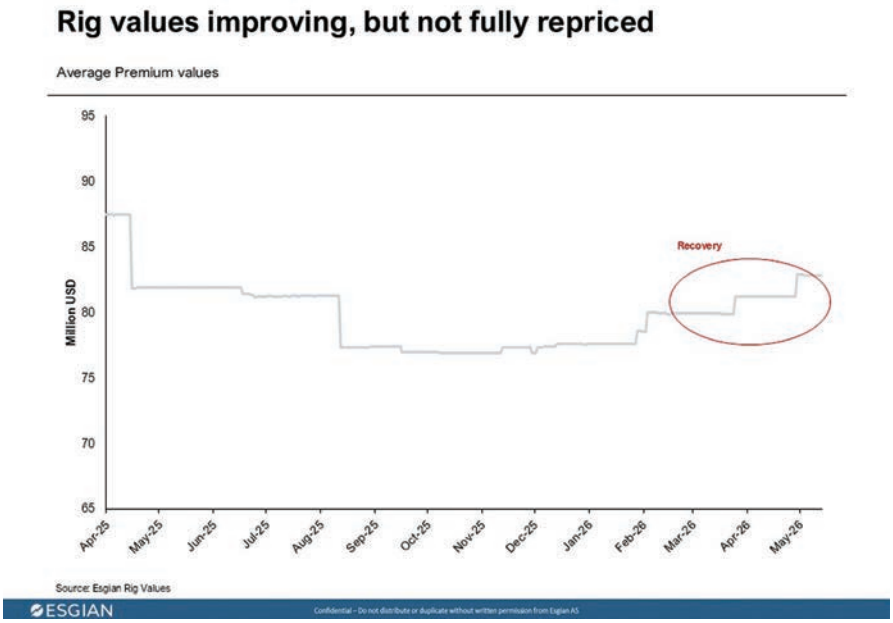
WHERE THE JACKUP RECOVERY IS ALREADY BEING PRICED

Premium jackup dayrates have improved from 2025 lows and are now holding within a higher range, but pricing remains uneven across fixtures and geographies. That is important, but dayrates are only the starting point. On their own, they say very little about how much of that recovery is already priced into company valuations.

By Sofia Forestieri, Senior Analyst at Esgian

Esgian rig values suggest that the market has already started to move. Average premium jackup values declined through 2025, stabilised toward the end of the year, and have recovered gradually into 2026. The path is visible, but the move remains measured. In other words, the rig market is no longer pricing deterioration, yet it is not yet pricing a full revaluation of the premium jackup fleet. That distinction is important, because it places the current market in a recovery phase rather than a fully repriced one.





The main signal sits in the relationship between implied values and ERV. In mid-2025, Pareto's implied values for Borr Drilling and Valaris were broadly aligned with Esgian rig values. By May 2026, that relationship had changed significantly. Borr's implied value had risen from $95 million per rig to $133 million, while ERV stood at $86.8 million. Valaris had moved even further, from $77 million to $140 million, against an ERV of $71.3 million. The1 gap is consequently not between a weak rig market and a strong equity market in simple terms, but between a composite valuation structure and one of its inputs, implied values, which is currently repricing much faster than the rest.

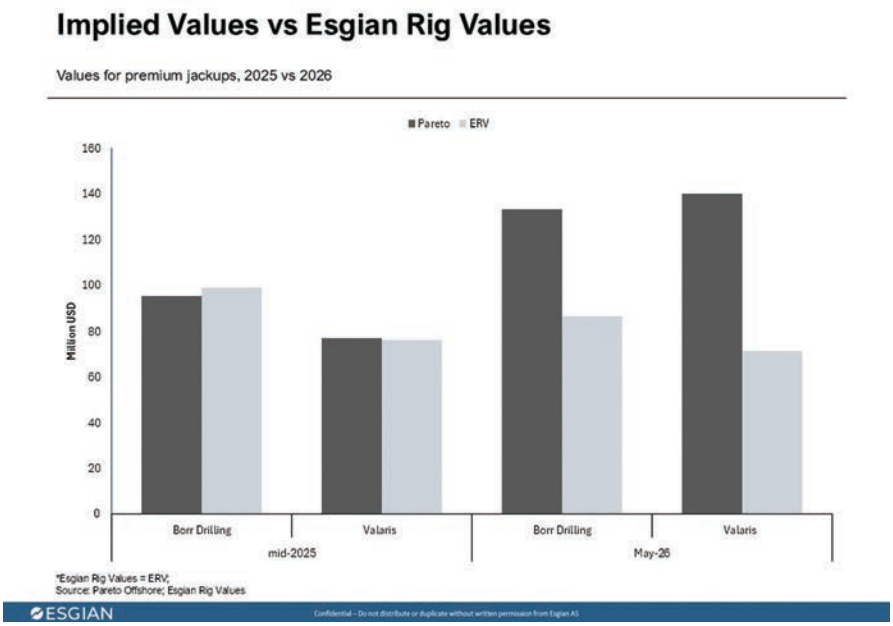
ERV reflects observable rig-level asset pricing and tends to adjust when stronger fixtures are repeated often enough, and broadly enough, to support firmer assumptions around backlog, earnings visibility, and ultimately rig values. It is not enough for dayrates to improve at the top end of the range. What matters is whether those rates become repeatable across a broader share of the premium fleet and sustain themselves for long enough to support a more stable repricing of the core assets. The gradual recovery in ERV suggests that this process has started but not yet reached the point where the market can justify a considerably higher asset base across the segment.

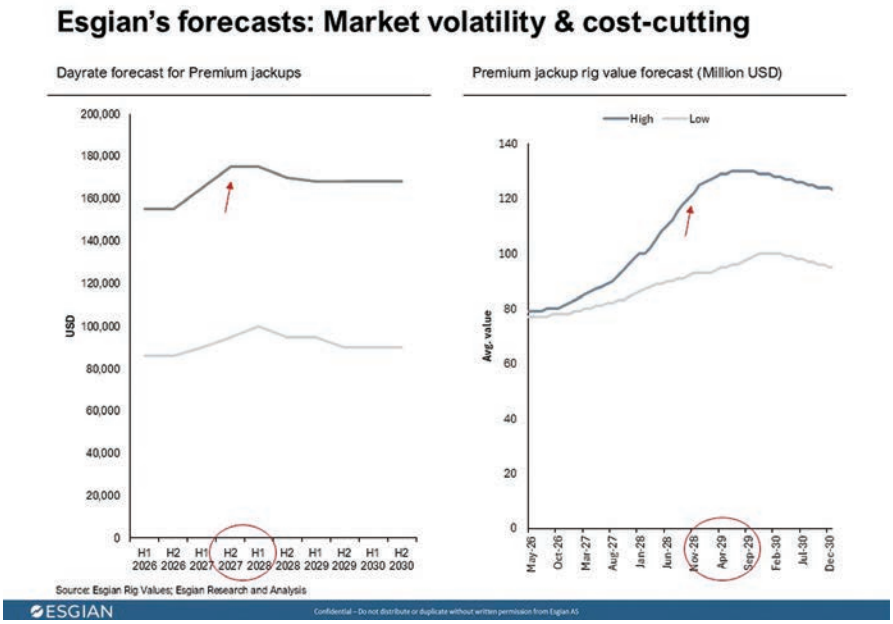
Implied values capture something

different. They represent what the market is willing to pay today for exposure to a stronger operating backdrop, before that view is fully validated through observable rig market pricing. The premium now visible in Borr and Valaris is therefore less a comment on where rigs would transact today than on how investors are valuing current sentiment around earnings normalization, stronger contract coverage, and reduced downside risk. Therefore, the market is not waiting for the asset side to fully catch up before assigning higher value to selected companies. It is already doing so now.

This is also consistent with how the cycle is expected to develop. Esgian's forecasts indicate that premium jackup dayrates are expected to peak before rig values do, with pricing strengthening first and rig values reaching their high point later as those conditions feed through into backlog and cash-flow visibility. The lag between the two is therefore not a contradiction; it is part of the mechanics of the cycle. Dayrates move first, asset values follow with a delay, and equity-implied values can move ahead of both when pricing and contract activity provide enough visibility on earnings to support a stronger valuation.

The recovery in jackups is thus not best understood through any single metric in isolation. Dayrates show that market conditions have improved. ERV shows that rig values have already started to recover, but only gradually. The more important signal sits in the widening premium between implied values and rig values, which suggests that the market is already assigning substantially higher value to Borr Drilling and Valaris today than the fundamental rig values currently supports. That is where the repricing is happening first, and that is also why the current phase of the cycle is better described as an incomplete transmission from fixtures into rig values rather than as a disconnect between them.





Hill v. Jackson Offshore

THE DELEGATION CLAUSE

A Key Locking the Courthouse Doors Unless Precisely and Appropriately Targeted

By Chris Hamilton, Spencer Fane LLP

The U.S. Court of Appeals for the Fifth Circuit's May 2026 ruling in Hill v. Jackson Offshore1 makes it clear: broadly challenging an arbitration agreement won't get you into court. If there's a delegation clause, you must aim directly at it first and separately.

What Happened

Seaman Jeremiah Hill was severely injured on an offshore supply vessel in April 2023. During recovery, Jackson Offshore's CEO provided the required maintenance and cure, plus an apartment and full wages to complete out-patient therapies, all totaling over $100,000 in supplemental benefits above what was mandated under the law. However, Jackson Offshore's CEO also allegedly warned Hill that retaining a lawyer would necessarily end the additional support. Six months later, in exchange for continuing to receive those supplemental benefits, Hill signed an Advance Wage and Benefits Agreement containing both arbitration and delegation clauses. Hill later sued, claiming fraud and economic duress in signing the agreement, asking a federal district court to void the agreement and its

arbitration provision. Jackson Offshore moved to compel arbitration, but the district court denied the motion without prejudice, reasoning discovery should be conducted on arbitrability. It then filed a timely interlocutory appeal to the Fifth Circuit, even though the district court's denial was without prejudice.

Key Contract Language

The arbitration clause stated:

"I am not giving up my right to bring any claims against the Company for my injuries or illness. However, in exchange for the Company's Agreement to provide these additional benefits, I agree that if I choose to file a claim or lawsuit against the Company… I will submit any such claims to binding arbitration…"

The delegation clause included:

"Any dispute relating to the validity, interpretation, or application of this Agreement shall be submitted to the arbitrator for resolution."

What Is a Delegation Clause?

Most people are familiar with arbitration clauses – provisions requiring that disputes be resolved by a private arbitrator rather than a jury. A delegation clause goes a step further. It delegates to the arbitrator the power to decide threshold "gateway" questions – including whether the arbitration agreement itself is valid or enforceable in the first place. For a delegation clause to be displaced, the party resisting arbitration must specifically challenge that clause – not the broader contract.

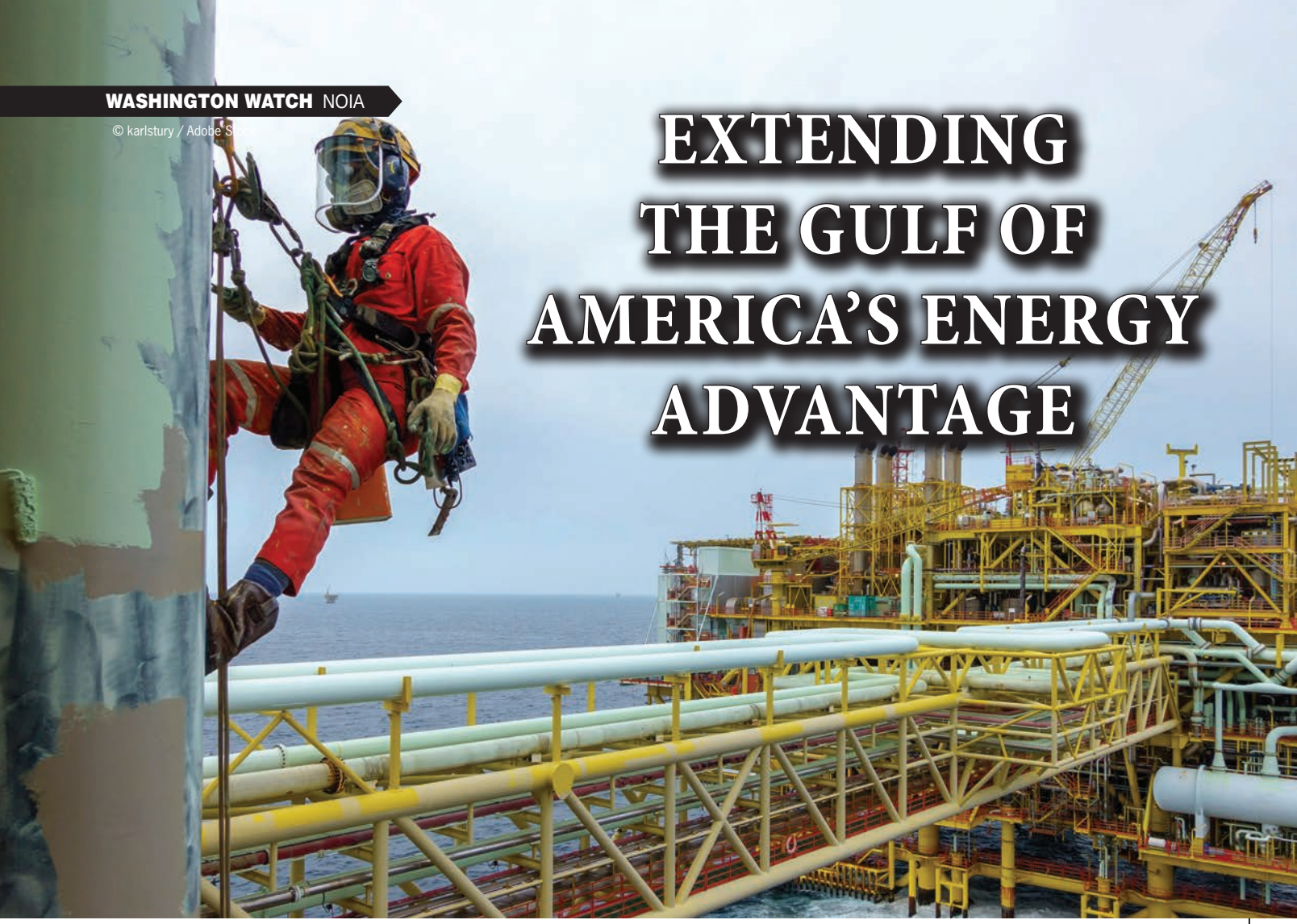
What the Appellate Court Decided

Under U.S. Supreme Court precedent from Rent-A-Center v. Jackson (2010), a party who wants a court – rather than an arbitrator – to resolve a validity challenge must direct that challenge specifically at the delegation clause itself. Hill's arguments – fraud in the inducement and economic duress – attacked the agreement as a whole. He never explained how those arguments applied differently, or specifically, to the delegation clause. The panel found Hill's framing insufficient. Even though his opposition brief said he challenged "both the entire Agreement, as well as the arbitration language or 'clause' specifically," Hill offered no analysis connecting fraud or duress to the delegation clause in particular. Under the severability principle, challenges to the broader contract go to the arbitrator – not the court – per the delegation clause.

Key Takeaways

- **Delegation clauses can be enforceable shields.** If your agreement contains one and it is not specifically challenged, courts will compel arbitration – even if the underlying contract is disputed for fraud or duress.
- **General attacks are not enough.** Saying "I challenge the arbitration clause" without explaining how fraud or duress applies specifically to the delegation clause will not survive. Courts require targeted, granular argument.
- **Draft with delegation in mind.** Offshore operators and energy companies should ensure their arbitration agreements contain explicit, broad delegation clauses. The language here – covering "validity, interpretation, or application" – proved decisive.
- **Seamen's counsel must aim precisely.** Counsel representing injured maritime workers must specifically allege how fraud or duress induced agreement to the delegation clause itself – not just the broader agreement – to get a court hearing.
- **Interlocutory appeals are available.** The court confirmed that an order denying arbitration – even "without prejudice" and permitting discovery – is immediately appealable. Operators shouldn't assume they must wait for a final ruling.
- **Circuit tension remains unresolved.** Two concurrences reveal disagreement on whether courts must first analyze "contract existence" before reaching the delegation clause – a doctrinal fault line to watch as cases develop.

For maritime employers, offshore operators, and energy contractors: a well-drafted delegation clause can be one of the more valuable protections in an arbitration agreement. This decision confirms that so long as the clause is in place and not specifically targeted with granular argument, broad attacks on an agreement's validity belong in front of an arbitrator, not a jury. For plaintiffs' maritime counsel, the lesson is equally clear: if you want a court to hear your challenge to an arbitration agreement, you must surgically direct your arguments at the delegation clause, not just the contract as a whole. Anything less, and the courthouse door likely stays shut.



EXTENDING THE GULF OF AMERICA'S ENERGY ADVANTAGE

The Gulf of America produces roughly 2 million barrels of oil per day, supports hundreds of thousands of jobs, and runs on decades of accumulated infrastructure, expertise, and investment. A new report from NOIA and API, prepared by EIAP, makes the case for what comes next, and the numbers behind it are hard to ignore.

By Erik Milito, President, National Ocean Industries Association (NOIA)

Opening the South Central Gulf of America to development could support more than 133,000 jobs, generate over $11 billion in GDP, and add more than 470,000 barrels of oil equivalent per day in production by 2040, all incremental to what the Gulf already produces today. The area sits adjacent to existing infrastructure, which means development there draws on the same workforce, supply chain, and technical capabilities already supporting current operations, more efficient, more predictable, and considerably less costly than building from scratch somewhere else.

Those figures also reflect something the raw numbers don't fully capture: the South Central area would be developed by a workforce and supply chain that already exists, already knows the Gulf, and are ready to safely build more projects.

The case for moving forward isn't just about the upside. It's about understanding how offshore development actually works. From lease award to first production can take a decade or more. Projects require large, long-term capital commitments. Companies make decisions on multi-year, or even multi-decade, timelines, and they gravitate toward regions where resource potential is strong, infrastructure

is in place, and the policy environment is stable enough to plan around. The Gulf of America meets all of those criteria today, but maintaining that position requires continuity, and continuity requires new acreage.

Brazil, Guyana, and West Africa are all competing for the same pool of long-cycle capital. They've been investing in the conditions, such as fiscal terms, regulatory clarity, infrastructure, that make those investments land. The Gulf of America has a head start, but that gap closes if access doesn't keep pace with demand.

Right now, the project pipeline is tightening. Recent activity has concentrated on existing infrastructure, with more tiebacks and fewer large standalone developments. Exploration success has become more selective. It is a trend worth paying close attention to, and the production forecasts underscore why. Rystad Energy, BOEM, and the EIAP study all point toward declining Gulf output beginning around 2030 if new acreage isn't brought online. In an industry where the gap between lease award and first production routinely stretches a decade, that inflection point is already closer than it looks.

A lease awarded today might not see first oil until the mid-2030s. That's the math that makes the current policy window consequential, waiting a few years doesn't push the problem out a few years, it pushes it out much further.

The tiebacks and incremental projects filling the current pipeline are valuable, but they don't replace the production that large standalone developments generate over time. At some point the existing host platforms run out of nearby resources to connect to.

Opening the South Central area sends a clear signal that the United States intends to keep the Gulf of America competitive. Capital doesn't disappear when access tightens, it shifts. Other offshore provinces around the world are competing for the same long-term investment dollars, and they're not standing still.

Beyond Production: A Strategic Asset

The broader supply picture reinforces the case. Energy demand continues to grow, oil markets have been rattled by conflicts in the Middle East and Eastern Europe, and supply chains are under pressure from geopolitical instability across multiple regions. The ability to produce energy at home, under established regulatory and environmental standards, carries real strategic weight in that environment.

The Gulf of America's track record on safety and environmental performance matters here too. U.S. offshore operations are subject to some of the most rigorous oversight in the world, and that oversight has produced measurable results over time. Expanding into the South Central area means more production operating under those same standards.

The Gulf of America is well positioned on that front. U.S. offshore production carries some of the lowest carbon intensity of any source in the world, backed by strong safety and environmental oversight. Expanding into the South Central area builds on those advantages rather than departing from them.

The Gulf of America's maturity is a genuine strength and reflects decades of successful development and accumulated know-how. But maturity also means that sustaining output requires a consistent flow of new projects moving through the pipeline. Access to additional resource areas is part of that equation, alongside leasing and permitting processes stable enough for companies to plan around.

The risk of inaction isn't a sudden drop in production, it is instead a gradual tightening of the project pipeline, fewer large developments over time, and a reduced capacity to respond when market conditions call for more supply. These trends develop over years, which is precisely why they're easy to overlook until reversing them becomes difficult.

The Gulf has been a cornerstone of U.S. offshore energy for generations because it combines resource potential with infrastructure, expertise, and a regulatory system that, when it functions predictably, supports the kind of long-term investment the industry requires. Extending access to the South Central area is a continuation of that model.

Keeping the Gulf producing at a high level, and supporting jobs, strengthening national security, and contributing to U.S. energy supply for decades to come, depends on maintaining a strong pipeline of future projects. Expanding access to the South Central area is a practical way to do that, and the time to move is now.

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FLOATING NU

A New Offshore Ener

CLEAR:

gy Frontier

For decades, floating nuclear power occupied a niche position in the energy debate – technically feasible, strategically intriguing, but commercially marginal. Today, however, combined pressures of decarbonization, energy security, land constraints, rising electricity demand and water scarcity are making floating nuclear power a more serious proposition for policymakers, utilities, and infrastructure

By Alisa Reiner, Master of Environmental Management, Yale University, Offshore Energy Markets Analyst, Intelatus Global Partners

Floating Nuclear offers a potential source of reliable, low-carbon electricity and heat (and, where possible, desalinated water) for locations where conventional energy systems are expensive, carbon-intensive, or physically impossible to build.

The strongest case emerges in remote coastal regions and small island developing states (SIDS). In these contexts, the challenge is not only decarbonization – it is the high cost of imported fuel, the vulnerability of supply chains, and the difficulty of scaling grid infrastructure.

A floating nuclear power plant (FNPP) can be manufactured in a shipyard, towed to site, moored near shore, connected to the local grid, and later serviced, replaced, or decommissioned with less land disruption than a large onshore plant.

This is particularly relevant for SIDS. Many islands remain dependent on imported diesel or fuel oil, face volatile electricity prices and have limited space for large-scale generation assets. At the same time, these countries are on the front line of climate change and often face freshwater scarcity. Floating nuclear could provide firm, clean power without consuming scarce land, while also supporting water resilience by powering desalination processes with excess heat. For SIDS, where energy security and water security are often closely linked, this dual-use capability significantly improves the economic case for floating nuclear.

FLOATING NUCLEAR POWER '101'

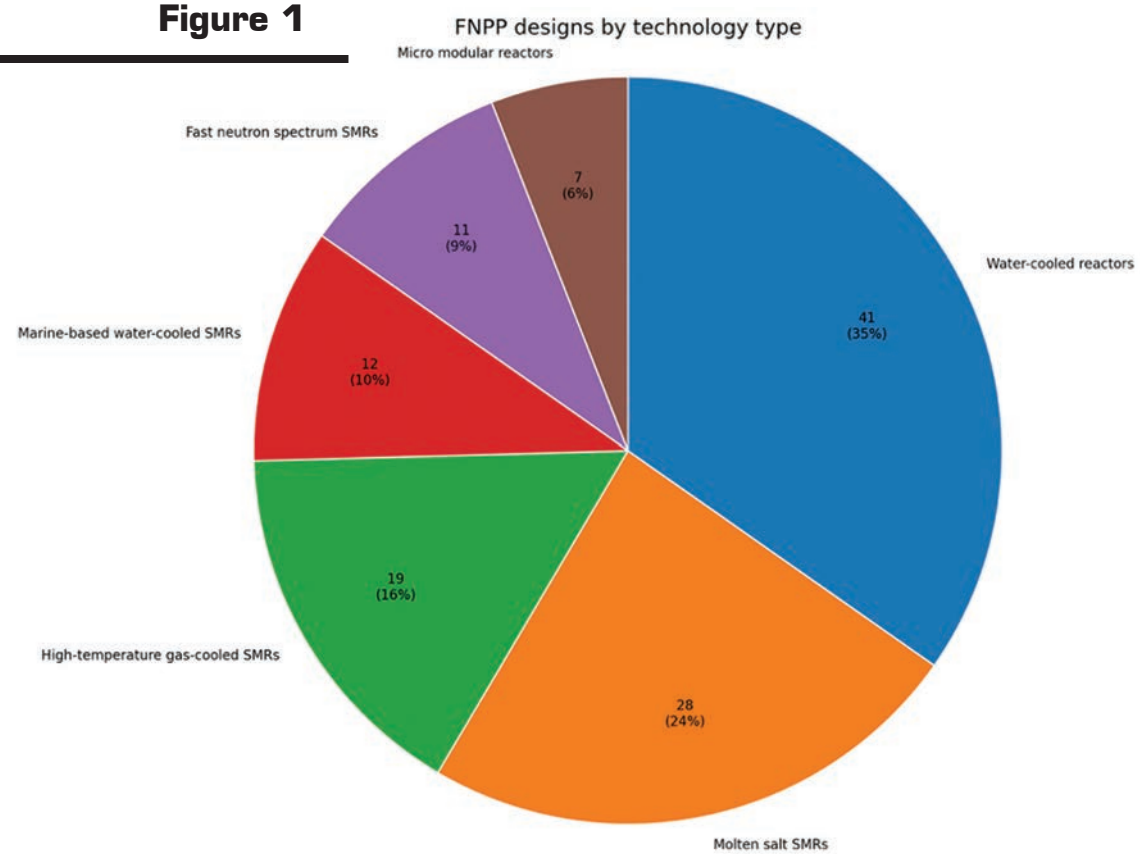
FNPPs are nuclear generation units mounted on barges or platforms and deployed near coastal demand centers. They provide reliable baseload electricity with minimal operational carbon emissions. Unlike solar and wind, they are not intermittent, which is critical in smaller or weaker grids where balancing variable renewables can be more difficult. Typically, they can be fabricated in part or in whole in controlled shipyard environments, potentially reducing construction risk and making replication easier. Notably, they do not require large greenfield land sites. Finally, they can make use of waste heat for industrial processes or desalination.

The floating nuclear landscape today includes both deployed technology and emerging concepts. The only operational FNPP is Russia's Akademik Lomonosov, a FNPP deployed in Pevek in the Russian Arctic. The plant uses reactor technology derived from Russia's long experience with nuclear icebreakers and marine propulsion systems. Another ready-to-go is Russia's Baim FNPP to be commissioned in the Baimskaya ore zone in 2028.

Other players, including the United States, Denmark, South Korea, and China, are exploring floating reactor solutions. Some rely on compact pressurized water reactors, drawing on naval reactor experience and established nuclear technology. Others are based on advanced concepts such as molten salt reactors, high-temperature gas-cooled reactors, fast-spectrum reactors and micro modular reactors.

According to the author's analysis, there are currently 118 FNPP reactor designs and/or prototypes globally (Figure 1). The market is developing along several parallel pathways – relatively familiar water-cooled systems for near-term deployment; marine-based reactors drawing on propulsion and icebreaker experience;

Figure 1



high-temperature and molten salt systems targeting industrial heat and cogeneration; fast-spectrum designs with longer-term fuel-cycle potential; and microreactors aimed at smaller, remote, or mission-critical loads. This matters commercially because different reactor types imply different safety cases, fuel cycles, operating temperatures, end-use markets and licensing pathways.

The commercial value of these designs also depends on what energy products they can supply (Figure 2). Floating nuclear is often discussed as a power-generation technology, but several concepts are designed for broader multi-utility use, including heat and desalinated water. This is particularly important for islands, ports, remote coastal regions, and industrial clusters where electricity demand is only one part of the infrastructure challenge.

This output breakdown demonstrates that floating nuclear should not be assessed only on a dollar-per-megawatt basis. In some markets, the bankability of a project may depend on stacking several revenue streams – electricity sales, heat supply, desalinated water, industrial energy services, grid resilience payments, or long-term capacity contracts.

THE WIDER SMR MARKET

Most current FNPP concepts are based on small modular reactor (SMR) designs. These are smaller than conventional gigawatt-scale nuclear plants and offer several advantages. There are 83 SMR designs at various stages of development or deployment worldwide (Figure 3). These included water-cooled reactors , high-temperature gas-cooled reactors , liquid metal-cooled fast neutron spectrum reactors , molten salt reactors , and microreactors .

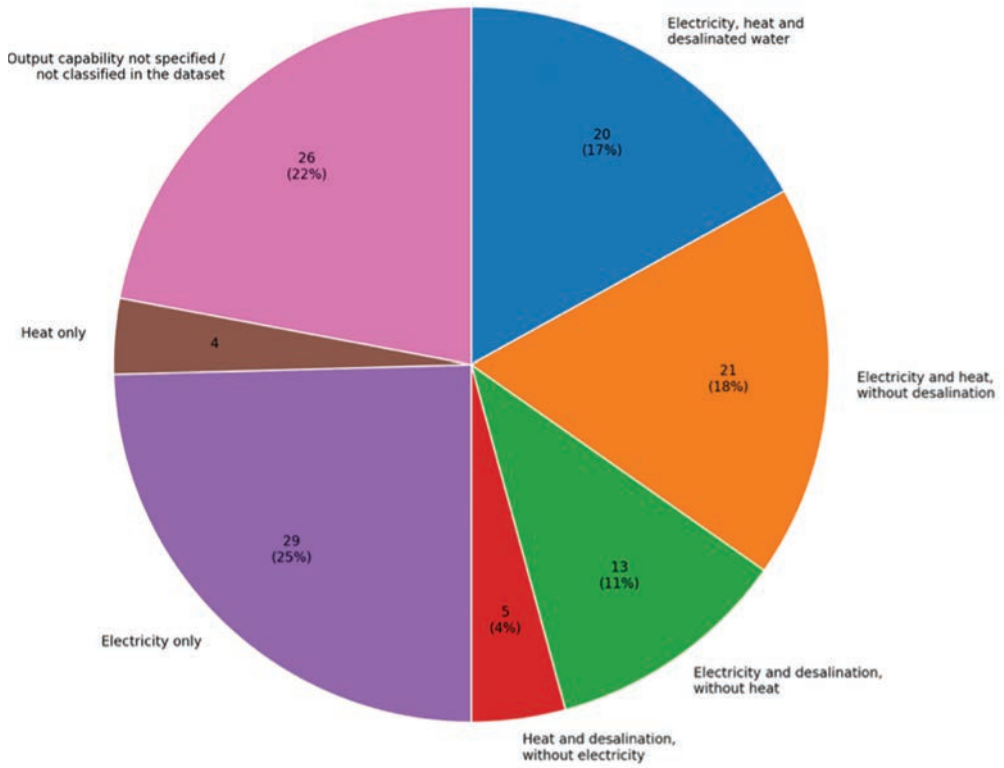
SMRs offer several advantages over traditional large-scale nuclear power plants. Standardized designs facilitate cost reductions through replication and accumulated operational experience, extending benefits beyond reactor design to include associated delivery processes. Modular construction methods enable the pre-fabrication of reactor components off-site in factories with higher productivity levels and improved quality control compared to traditional on-site construction methods.

Modularity also allows for incremental power additions based on demand. For offshore power markets, this flexibility is commercially relevant – customers may not need a single large baseload plant, but rather a scalable, modular source of firm low-carbon power that can be matched to the needs of an island grid, industrial cluster, remote mine, port, desalination facility, or offshore energy hub.

Refueling cycles are also an important part of the value proposition. Depending on the design, floating SMRs may require refueling only every three to seven years, with some advanced concepts being developed with fuel cycles extending up to 30 years. For countries that currently rely on regular fossil fuel imports, this offers a pathway toward greater energy independence and lower exposure to fuel price volatility.

Importantly, smaller core inventories reduce radiation exposure risks both on-site for workers and off-site by limiting potential accident consequences and emergency planning zone requirements.

Figure 2 FNPP designs by output capability



IDENTIFYING PRIORITY MARKETS FOR FLOATING NUCLEAR

The analysis began with a

dataset covering 252 countries and territories and then focused on 128 markets identified through preliminary screening as having potential for floating nuclear deployment. Based on aggregate political and economic framework scores, 75 countries and territories merit further study (Figure 4).

This result represents a balanced investability screen rather than a simple technical-opportunity map. Several markets may show strong demand for floating power but fall below the threshold on either political or economic conditions. Conversely, the countries that pass the screen combine sufficient economic capacity with a political framework that could support further project development.

Within the broader group of 75 countries and territories that merit further study, 14 markets form a higher-priority subset, with both economic and political framework scores at or above 2.0. These countries combine comparatively stronger economic capacity with more favorable political and regulatory conditions, making them relevant for deeper feasibility assessment, investor engagement, and project readiness screening. The result is therefore not a final investment shortlist but a commercially meaningful funnel including the following countries:

- Algeria
- Egypt
- France
- Ghana
- India
- Indonesia
- Mexico
- Oman
- Saudi Arabia
- South Africa
- South Korea
- Sweden
- United Kingdom
- Vietnam

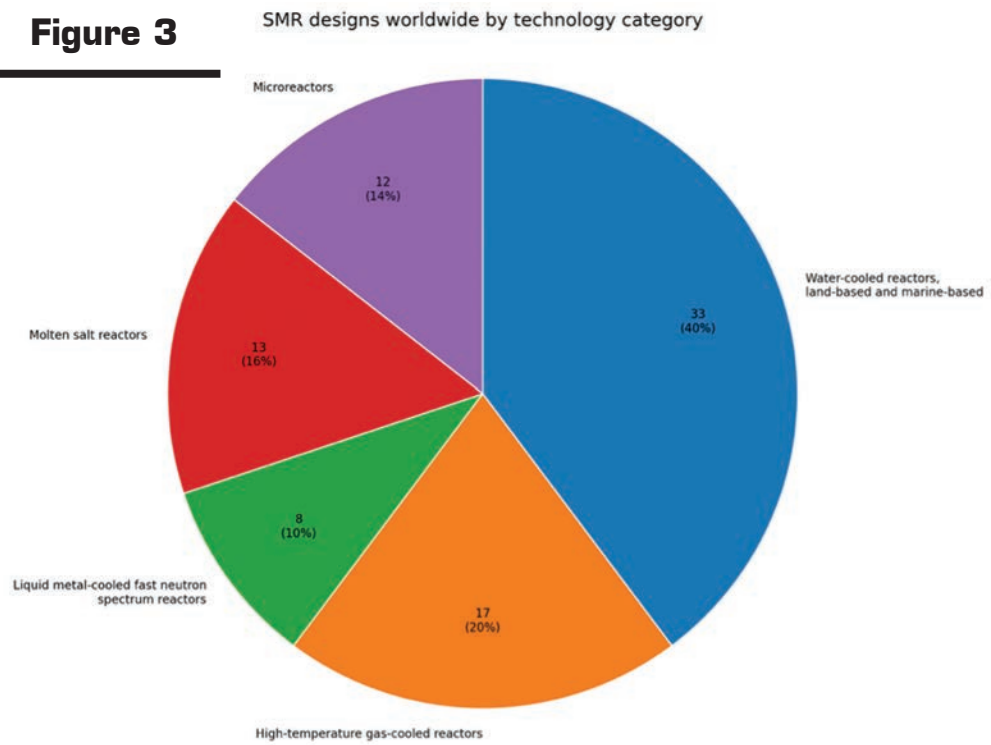
COMMERCIAL CHALLENGES AND INVESTMENT QUESTIONS

The case for floating nuclear may be strong, but the barriers remain substantial. These include nuclear licensing, maritime regulation, physical security, emergency response planning, spent fuel management, insurance, liability regimes, public acceptance, grid integration and financing capacity. For international deployment, an additional challenge arises – the plant may be built in one country, operated by an entity from another, and deployed in a third. That raises complex political, legal, and regulatory questions.

From an investor perspective, the key issue is whether floating nuclear can become a repeatable infrastructure product rather than a bespoke megaproject. If shipyard-based fabrication, standardization, and modular deployment reduce construction risk, floating nuclear could become more attractive than conventional nuclear in certain markets. That remains to be demonstrated at commercial scale.

For offshore companies, however, the delivery model is familiar. Floating assets, modular construction, tow-out, offshore installation, and long-term operations are all part of the sector's core capabilities. The main question is not whether the offshore industry can build and deploy such platforms. It is whether the regulatory, political, and financial ecosystem will ma-

Figure 3



Source: International Atomic Energy Agency. 2022. IAEA SMR ARIS Booklet 2022

ture quickly enough to support bankable projects.

Overall, floating nuclear is worth attention. It may not become a mass-market solution overnight – however, as the search intensifies for firm, clean, and flexible energy infrastructure, floating nuclear has the potential to become one of the most strategically important new segments in offshore power.

Sources

1. International Atomic Energy Agency
2. Nuclear Threat Initiative
3. Office of Industry and Competitiveness Analysis, U.S. International Trade Commission
4. Lovering, J.R., A. Yip, and T. Nordhaus. 2016. "Historical Construction Costs of Global Nuclear Power Reactors." Energy Policy 91: 371–382
5. Nuclear Engineering International
6. RBC Climate Action Institute

[1] Closest to the existing commercial nuclear fleet. These designs use water as coolant and generally build on light-water reactor operating experience, which may support licensing, fuel supply, workforce training, and investor confidence.

[2] Use gas, typically helium, as coolant and are designed for high outlet temperatures (above 750 C). Relevant for electricity generation, industrial heat, hydrogen production and cogeneration applications.

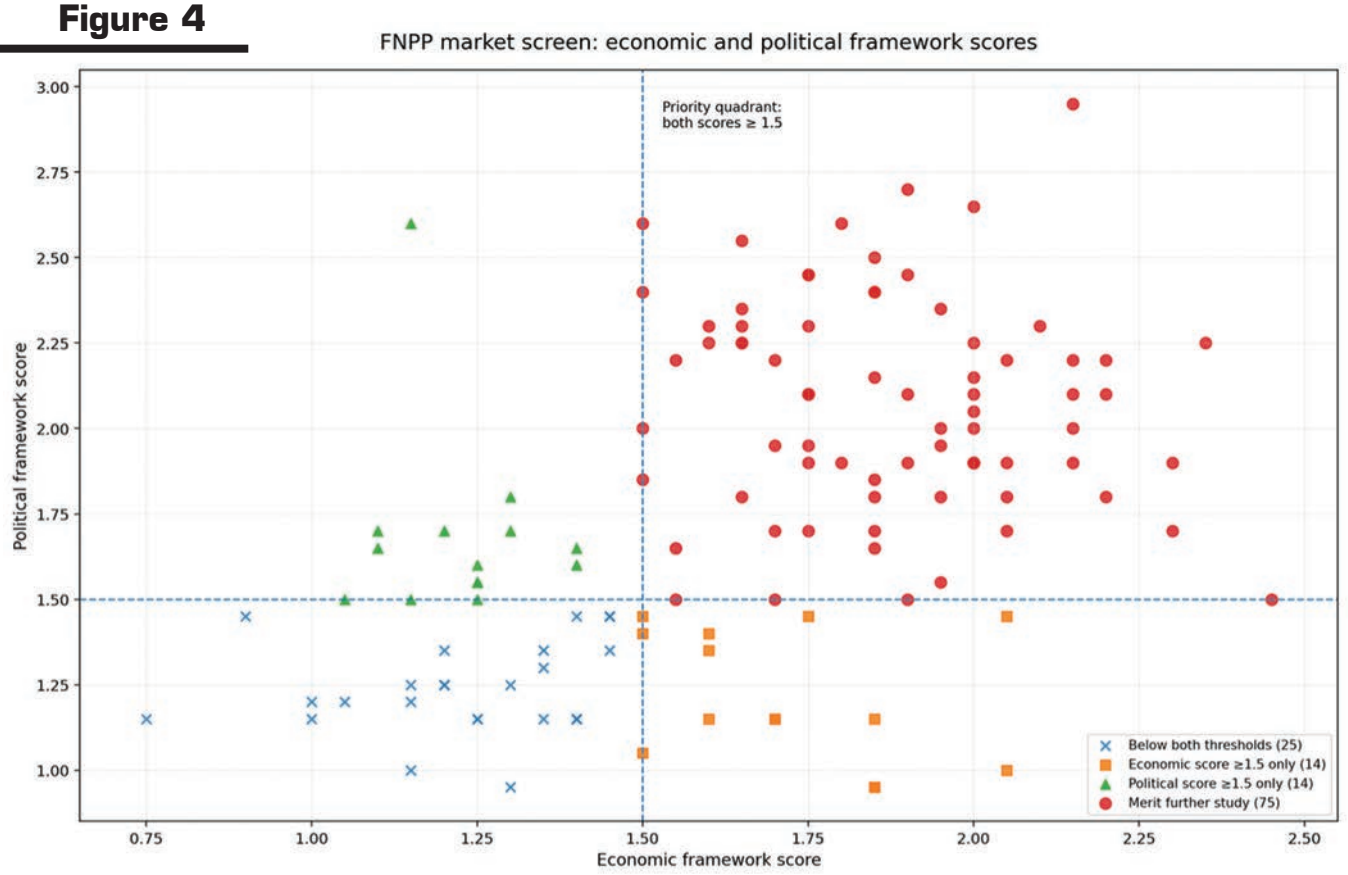
[3] Use fast neutrons and liquid metal coolants, such as sodium or lead. They may offer fuel-cycle and waste-management advantages but generally require more advanced demonstration and licensing pathways

[4] Use molten salt as coolant or, in some designs, as a fuel carrier. Low-pressure single-phase coolant systems eliminate the requirement for large containment structures, and their high operating temperatures result in increased efficiency and fuel cycle flexibility.

[5] Very small SMR systems with capacities below 10 MW, although some definitions extend microreactor capacities up to 20 MW.

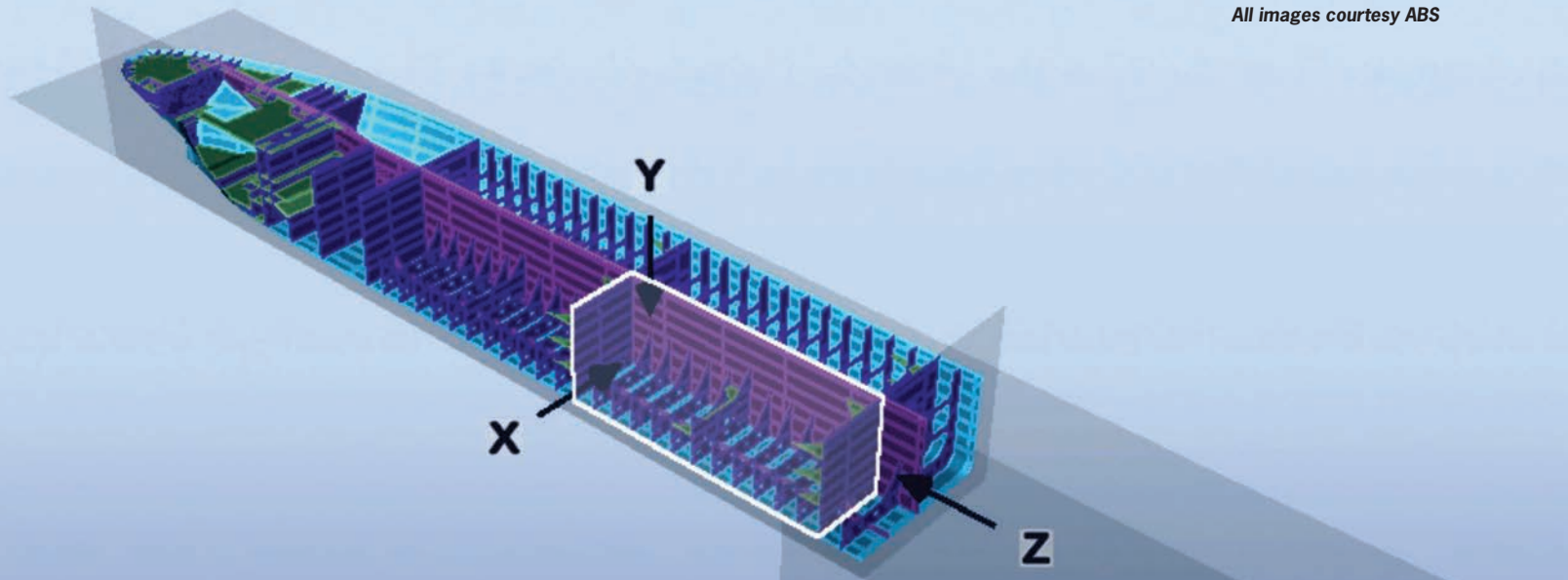
[6] A multi-step objective analytical approach was conducted to assess the addressable market for floating power and, more specifically, floating nuclear power. The analysis began with a dataset covering 252 countries and territories, with more than 12,000 data points scored and weighted to establish a broad, comparable foundation for identifying where floating power solutions might be relevant. It then narrowed to 208 countries and territories, including remote locations and coastal and island regions, to identify the total addressable market for floating power based on the practical assumption that such solutions are most relevant where geography creates constraints or opportunities for offshore deployment. Finally, the sample was refined to 128 countries and territories that possess a suitable combination of population, energy market conditions, political framework, and economic framework to justify considering a FNPP solution. The methodology incorporated a range of variables across six categories: general country characteristics; energy demand drivers; electricity market structure; constraining factors; economic and financial conditions; and geographical suitability. Indicators included population, urbanization rate, freshwater resources, desalination capacity, energy production and consumption, fossil fuel reserves, installed generation capacity, electrification, CO2 emissions, climate targets, nuclear policy, political stability, terrorism risk, poverty rate, GDP, GDP per capita, credit agency ratings, island status, and coastline characteristics.

Figure 4



Source: author's analysis. Countries and territories in the upper-right quadrant achieved scores of at least 1.5 in both dimensions and therefore merit further study.

All images courtesy ABS



DIGITAL BY DESIGN

ABS Helps Blaze the Digitization Path that is Reshaping Offshore Energy

By Greg Trauthwein

Image above: ABS EagleTwinTM is a web-based structural digital twin solution that aims to improve safety for offshore operations. EagleTwin provides an interactive 3D digital representation of an offshore asset to help enable more informed decision-making for repair and inspection operations.

> *"One of the big areas that ABS as a class society is involved with is the digitization of what we call asset integrity management," he explained. "Having it in a digital format allows me to access it and query it and utilize it a lot more efficiently and a lot faster."*
>
> **– Matthew Tremblay, SVP, Global Offshore, ABS**

The offshore energy industry is in the midst of a new investment cycle, driven by major developments in South America, renewed demand for energy security and an increasing reliance on digital technologies to improve asset performance. For Matt Tremblay, Senior Vice President, Global Offshore at the American Bureau of Shipping (ABS), the opportunities are significant—but so are the challenges.

Speaking with ***Offshore Engineer*** at the Offshore Technology Conference (OTC) in Houston, Tremblay described an industry that is "very busy, very successful," with a robust pipeline of projects, particularly in Brazil and Guyana, which together account for roughly half of current greenfield offshore activity.

But growth is being tempered by supply chain constraints.

"We're starting to get to a point where the supply chain challenges are really starting to almost limit the capacity of project execution," Tremblay said, noting that lead times for major rotating equipment can now stretch from 40 to 60 months, complicating planning for multi-billion-dollar developments.

While new floating production systems and offshore infrastructure continue to dominate headlines, Tremblay believes one of the industry's biggest opportunities lies in something less visible: digitalization.

TURNING DATA INTO OPERATIONAL VALUE

According to Tremblay, the greatest near-term impact of digital technologies is not necessarily in design, but in maintenance and asset integrity management.

"One of the big areas that ABS as a class society is in-

volved with is the digitization of what we call asset integrity management," he explained. "Having it in a digital format allows me to access it and query it and utilize it a lot more efficiently and a lot faster."

For an industry that once relied on blueprints and three-ring binders, the shift to digital records and online databases is transforming how operators monitor offshore structures and critical machinery. ABS is working to combine inspection records with operational data generated by onboard equipment, enabling more informed maintenance decisions and laying the groundwork for predictive maintenance.

The organization is also investing in natural language processing tools capable of ingesting handwritten maintenance logs from decades past and converting them into searchable digital datasets.

"That's one of the places that ABS has spent a lot of time," Tremblay said, "trying to gain insights into predictive maintenance and asset condition management from that old data we have."

OFFSHORE DIGITALIZATION REACHES ADOLESCENCE

Asked to characterize the maturity of digitalization in offshore energy, Tremblay offered an analogy. "I wouldn't say we're in the infancy anymore. I'd say we're in the adolescence," he said. "We at least know what we don't know."

The next challenge, he noted, is improving data quality and consistency so operators can extract meaningful insights. Dirty or fragmented datasets have long limited the value of digital initiatives, but advances in AI and machine learning are helping clean and organize legacy information for future use.

Remote technologies are also becoming mainstream. ABS is increasingly supporting remote inspections using drones, cameras and equipment-generated data rather than requiring surveyors to physically board offshore assets.

"The best thing that we're doing from a safety perspective on that remote front is we're removing people from dangerous situations," Tremblay said. "Every time a human being climbs into a confined space, that's a risk. If I can put a drone in that cargo tank instead of a human, that's a win."

Beyond inspections, remote operations centers have the potential to monitor and support multiple offshore assets from shore, reducing offshore staffing while improving operational efficiency.

ENABLING INNOVATION

As one of the world's leading classification societies, ABS sees its role extending beyond compliance into enabling innovation safely.

Rather than relying solely on prescriptive rules, Tremblay said ABS is increasingly adopting performance-based standards that can accommodate emerging technologies without stifling development.

"The hardest thing to legislate or create prescriptive rules for is innovation because I don't know how it's going to break yet," he said. "Instead of writing prescriptive standards, we're writing goal-based standards."

Artificial intelligence is another area where ABS is investing heavily. One application under development uses large language models to help engineers navigate the organization's roughly 30,000 pages of technical rules and statutory requirements.

Finally, as offshore assets become more connected, cybersecurity has emerged as a critical component of operational safety. Tremblay emphasized that ABS's expertise spans both information technology and operational technology, helping operators secure not just data but the systems controlling vessels, drilling rigs and production facilities.

"The connectivity that continues to grow creates more and more touchpoints for the internet," he said. "ABS is very well positioned… both from a writing rules perspective, but as well from providing consultative advice."

For Tremblay, the future of offshore energy will be shaped as much by intelligent use of data as by steel and subsea infrastructure. And for ABS, helping the industry navigate that digital transition safely may be one of its most important missions yet.

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ORGANIZED LIGHTNING:

Understanding the Evolution of Marine Electrical Systems

***By Will Ayers, PE** | Chief Electrical Engineer, Elliott Bay Design Group*

How well do we really understand the electrical systems powering today's vessels? Many of us realize how important electricity is to our modern world but may be a bit shaky on the specifics. The Welsh comedian Tommy Cooper once joked, "Electricity is a wonderful thing. Do you realize that if we didn't have electricity, we'd be watching television by candlelight?"

For those who have worked on vessels for many years, the increasing complexity may be a sore point, especially for those who have been hands-on in their careers and been zapped a few times. George Carlin once joked, "Electricity is really just organized lightning."

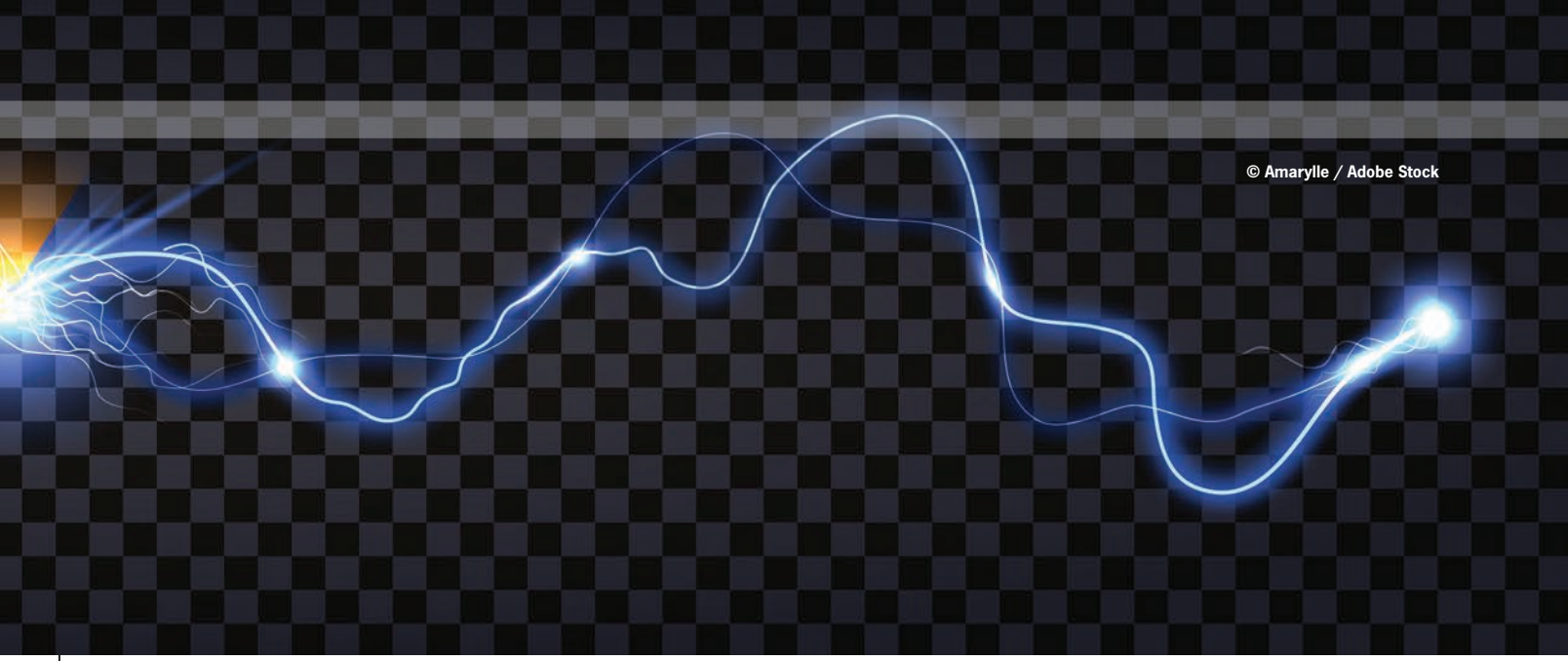
The Growing Complexity of Marine Electrical Systems

All kidding aside, the growing complexity of marine electrical engineering is becoming a defining factor in modern vessel design and operation. At EBDG, we have been fortunate to develop significant experience in hybrid technologies over the last decade. However, if that immediately elicits thoughts of a Prius or Tesla, there is much more happening electrically onboard today's vessels and understanding these systems is becoming increasingly important as vessel designs continue to evolve.

FROM SPACE TO SEA: EXPANDING ELECTRICAL CAPABILITIES

One exciting area that the US leads the world in is the marinization of space technology. Such examples include Rocket Lab's autonomous station-keeping barge Return On Investment being converted at Bollinger Shipyards in Amelia, La. Blue Origin used the advanced barge Jacklyn last year to successfully land a rocket. SpaceX led the way having landed its first rocket on an autonomous drone barge with Of Course I Still Love You dating back to 2016. And, not surprisingly, NASA has a long experience in this area. For instance, they operated two specially-designed ships for space shuttle booster recovery built in 1980 at the Atlantic Marine Shipyard, now BAE Jacksonville.

Like offshore oil and gas, autonomous landing barges usually depend on dynamic positioning (DP) to maintain precise coordinates. And, like offshore, this leads to a clear advantage for diesel-electric propulsion. Another area that we've been working on involving DP and diesel-electric propulsion is that of research vessels. For all of these diesel-electric vessel types, it can become a complicated analysis to decide between the increasingly popular DC grid propulsion system vs the conventional constant-speed variety.



DC GRID SYSTEMS: A SHIFT IN PROPULSION ARCHITECTURE

A DC grid retains the use of standard AC generators and AC motors. However, it replaces both the AC propulsion switchboards and propulsion Variable Frequency Drives (VFDs) with a single DC grid "switchboard". With the main propulsion bus now DC, generators connect through rectifiers located in the DC grid line-up which also includes inverters feeding AC propulsion motors and an AC ship service switchboard.

There are several advantages. The DC grid is composed of the same rectifiers and inverters that are the front and back halves of the VFDs in a standard diesel-electric. Yet, large AC propulsion switchboards and their circuit breakers are no longer needed. The large phase-shifting transformers from older systems can also be eliminated with the potential for considerable volume and weight savings. The generators can operate at variable speed improving fuel efficiency and can also come online faster. There is no frequency to synchronize; the rectified generator voltage just needs to match the DC bus voltage.

CHALLENGES AND CONSIDERATIONS

The primary disadvantage with this new approach is the DC short circuit current. While DC grids can achieve significantly lower arc flash energies for personnel safety, the brief peak in short circuit current typically exceeds that of an AC propulsion bus. High-speed fuses and electronic bus ties are needed with circuit breakers comparably too slow for the much faster peak current.

Also, inverters supplying an AC ship service switchboard can't supply the same short circuit current as an AC propulsion switchboard so coordination of downstream circuit breakers can be a bit more challenging.

THE EVOLUTION OF PROPULSION MOTORS

There's another component in electrical propulsion systems undergoing major changes. That's with the typically largest and most expensive electrical component, the propulsion motor. The DC motor was dominant until perhaps the 1980's when separately excited synchronous motors took over. Then about 20 years later, induction motors began to dominate. Nowadays, the permanent magnet synchronous motor (PMSM) is looking to take the lead.

To meet the strictest underwater radiated noise (URN) requirements ever applied to a vessel of this class, Steerprop will supply Germany's new Polarstern 2 icebreaking research vessel with PMSM units delivering 9 MW through a 15.7-foot diameter propeller. Not to be outdone, Kongsberg developed their incredible high-efficiency, low-noise rim-drive thrusters with the permanent magnets integrated right into the propeller rim. ABB has designed and installed permanent magnet shaft generators that save up to 20% on footprint over other AC machine types. Schottel, MAN/Ramme, DRS and many others have also developed PMSM propulsion applications.

PERFORMANCE ADVANTAGES OF PMSMS

PMSMs have considerable advantages when it comes to power and torque density over induction motors. One can typically expect a 20-50% savings in volume and weight that can lead to installation or operating cost savings. They also generate less noise and vibration, thanks to their simpler design. Induction motors in large sizes typically have efficiencies in the 94-95% range. For the same size and RPM, PM motors will typically achieve 97-98% or an average of 3% in savings. Further, PMSMs efficiency advantages increase at slower speeds where the fall off in efficiency with induction motors is steeper.

To achieve the low output speed commonly required of propulsion motors, a higher quantity of motor poles is needed. For instance, while a four-pole machine utilizing 60Hz AC power will output about 1800 RPM, a 16-pole motor will output roughly 450 RPM. So, another advantage for PMSMs is their relative ease in increasing the pole count vs. an induction machine. The latter suffer an extra efficiency penalty with higher pole counts. If one adds a reduction gear to the lower pole induction motor, that adds its own inefficiency to the drive train. Either way, one can expect to suffer roughly an additional 3% efficiency loss for the induction propulsion motor.

TRADE-OFFS AND PRACTICAL CONSIDERATIONS

All things of course have trade-offs and there are challenges with PMSMs. The biggest one may be cost. The typical magnets used are a neodymium-iron-boron type and they aren't cheap. Along with the rare earth neodymium, dysprosium and terbium are often added for heat resistance. The term rare earth is a bit of a misnomer, at least compared to the truly rare platinum group minerals. Nevertheless, they can be toxic to process. China possesses by far the large reserves in the world and so supply chain issues could be of significant concern.

Though any motor might be seriously damaged by overheating, such as with an undetected loss of the cooling medium, PM motors have the unique weakness that such an event could demagnetize the expensive permanent magnets. Finally, a safety caution is in order about the incredible strength of these magnets. At very infrequent intervals during installation or later maintenance, the rotor containing these magnets may be partially or fully exposed to personnel. It is important to avoid approaching these motors with magnetic materials, for instance having steel tools, keys and similar items in one's pockets, or if you have a pacemaker or surgically implanted metal. One must also avoid rotating the rotor relative to the stator or voltage will be generated on exposed conductors.

MAKING INFORMED DECISIONS IN A COMPLEX LANDSCAPE

It is hoped that the discussion here on key decision points for a diesel-electric system will make the reader a little more comfortable in tackling such issues. There are obviously advantages and disadvantages to such complex propulsion systems. But with the proper amount of time and effort, an informed decision can be made that will benefit those making such investments.

All images courtesy Well Done Foundation

PLUGGING ORPHAN WELLS UNDERWATER:

Why Marine Operations Are a Different Beast Entirely

By Curtis Shuck, Chairman and Founder, Well Done Foundation

When most people think about orphan oil and gas wells, they picture rusting wellheads hidden in fields, forests, or forgotten corners of rural America. Those land-based wells are indeed a massive environmental challenge, but they are only part of the story. Beneath our rivers, wetlands, bayous, and coastal waters lies another category of orphan wells that presents a far more complex operational problem.

How Many Orphan Wells are Underwater?

There is no single federal database that neatly categorizes "underwater orphan wells," but we can triangulate credible estimates using available data. Recent studies suggest there are roughly 14,000 unplugged, non-producing wells in the Gulf of Mexico alone, and approximately 90% of those wells are in shallow water, making them accessible by lift boats or jack-up rigs.

Beyond the Gulf, inland waterways represent an even murkier challenge. States such as Louisiana, Pennsylvania, and Ohio have thousands of legacy wells located in wetlands, riverbeds, and bayous. Estimates suggest that up to 35 percent of all orphan wells nationwide may be located near or within water sources, even if they are not fully submerged. These wells pose heightened environmental risks and are often difficult to access.

Same Goal, Different Execution

Whether on land or underwater, the objective of plugging a well is the same: isolate the hydrocarbon-bearing formations and permanently stop leaks. The execution, however, changes dramatically once water enters the equation.

On land, crews can typically drive trucks directly to the well site. Equipment is staged on a dirt pad. The wellhead is visible and accessible. Cement trucks, wireline units, and support vehicles can come and go with relative ease.

In underwater environments, access becomes the first major hurdle. Equipment must be positioned using barges, lift boats, jack-up rigs, or, in some cases, cranes operating from shore. Every pump, tank, and tool must be loaded onto a vessel, or lifted or carried to a staging platform, secured, and carefully coordinated. As long as work can be reached from the shore, complexity remains manageable. However, once operations exceed "the reach from the beach," everything escalates into a fully floating operation with exponentially more moving parts.

Even the final step looks different. On land, casing is

typically cut three feet below ground level and buried. In water, the casing must be cut below the mudline (i.e., riverbed or seafloor) to prevent hazards to fishing nets, anchors, or vessel traffic. Regulations vary by state, but the intent is the same: eliminate future risks long after the crew has left.

Specialized Equipment, Risks

Marine plugging operations require assets that simply are not part of a standard land-based toolkit to create stable work platforms by anchoring legs into the seafloor and raising the deck above the water.

In certain conditions, caissons can be used to dewater a well area, temporarily creating a dry workspace. As projects grow more complex, remotely operated vehicles (ROVs) and commercial divers may be needed for inspection, cutting, and debris removal, although safety trends increasingly favor ROVs over diver intervention.

Weather adds another layer of uncertainty. Rain might slow a land operation; but waves, tides, wind, and rapidly fluctuating river levels can completely shut down marine work. You simply cannot jack up a vessel safely in high seas.

Corrosion is also a relentless adversary. Marine wells, especially those exposed to saltwater, often suffer severe degradation. In some cases, the outer conductor pipe is so compromised that it cannot support the weight of a blowout preventer, requiring costly structural reinforcement before plugging can even begin.

Show Me the Money

A land-based orphan well might cost $20,000 to $100,000 to plug. A shallow-water marine well often starts at around $200,000 and can easily exceed $1 million. Vessel day-rates alone can run from $10,000 to $50,000 per day. And that's before cement, crews, containment systems, or specialized tooling are added.

This cost differential explains why many state programs, even when supported by federal funding, have historically avoided in-water wells. The "bang for the buck" calculation often favors plugging multiple land wells rather than a single marine well, even though the environmental stakes underwater can be higher.

Containment is another critical factor. On land, a release can often be managed by excavating soil. In water, even a small "burp" requires immediate deployment of oil spill booms and skimmers, as surface sheens spread rapidly. Best-practice marine operations demand secondary and tertiary containment planning from day one.

Looking Below the Waterline

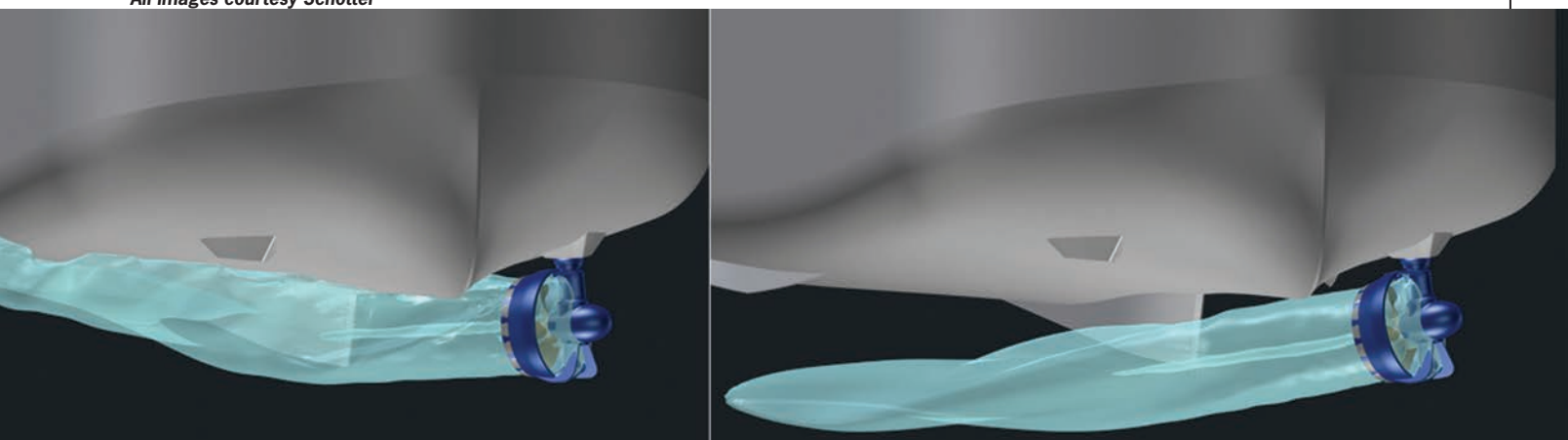
Measuring methane and monitoring plug integrity underwater presents its own technical challenges. Gas interacts with the water column before reaching the surface, complicating detection and quantification. Yet understanding these emissions is essential for identifying failed plugs and subsurface anomalies that could undermine long-term environmental protection.

The Road Ahead

Marine orphan wells represent one of the most complex frontiers in environmental remediation. They demand specialized assets, careful planning, and a willingness to confront higher risk and cost. Solving the orphan well crisis in America will eventually require serious, sustained attention below the waterline.

Ignoring these wells does not make the problem disappear; it simply pushes the risk out of sight.

All images courtesy Schottel



SCHOTTEL SRP-D: DP-Optimized Rudder Propeller for Offshore Ops

To ensure that wind turbines at sea operate safely, regular and effective maintenance is essential. Service operation vessels (SOVs) are used to secure this, while providing the crew on board with comfortable accommodation during multi-day operations. They are often equipped with motion-compensated gangways that allow safe crossing between the ship and the offshore platform. This places particular requirements on the propulsion systems: Not only do they have to maintain an exact position for hours on end, but it is also necessary to maneuver the vessel quickly and precisely, even in in extreme weather conditions. At the same time, decarbonization targets in the shipping industry are leading to increasing demands for emissions reduction and energy efficiency.

High Dynamic Thrust Allocation

The German propulsion expert Schottel is meeting these growing requirements in the offshore sector with a new rudder propeller optimized for DP use. The SRP-D ("Dynamic") is a further improved variant for highly demanding DP operations in service operation vessels. The thruster is marked by an additional eight-degree tilt of the lower gearbox and improved propeller acceleration/deceleration times. In combination with a high-speed azimuth steering system with reinforced gear components, the SRP-D enables faster thrust allocation than conventional rudder propellers. Thanks to the shorter response times, it is possible to react faster and in a more targeted manner to external forces such as wind and currents, thus achieving a higher positional accuracy of the vessel.

In addition, the thruster is characterized by a vertically integrated electric drive motor (LE-Drive) which offers a number of significant advantages: the elimination of the upper gearbox increases mechanical efficiency, reduces fuel consumption and also minimizes vibration and noise. In terms of space savings, it scores with a lower installation height and minimal space requirements, as the L-drive does not require a separately arranged motor including its foundation.

Reduced DP Footprint & Fuel Savings

The dynamic properties of the SRP-D have been confirmed several times by external experts. A study examined the effects of thruster response on DP positioning. The simulation was performed on the numerical model of a real Service Operation Vessel (SOV) equipped with Schottel

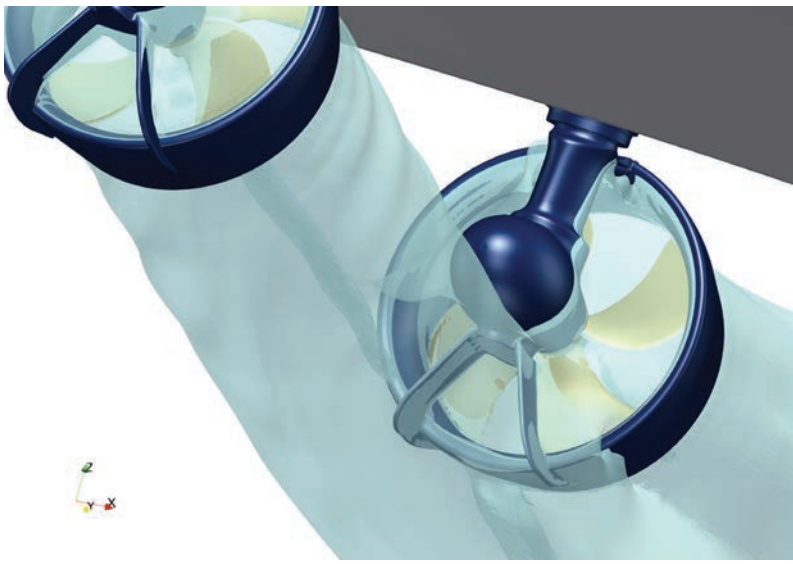
propulsion systems. Its position-holding capabilities were examined under extreme weather conditions: high winds, strong currents and effective wave heights of 2.5m and 3.2. The results of the extensive simulations at DNV showed a significantly improved positioning accuracy thus reducing the overall DP footprint. This permits successful gangway landing operations even in rougher conditions, thus increasing the operational window of the vessel throughout the year. Furthermore, the implemented optimizations are expected to result in additional fuel savings: Thanks to the faster response time of the propulsion, the vessel can be quickly held in position with only minor corrections being necessary. This prevents major corrections in position having to be made which would require more power.

98-Degree Tilted Propeller Shaft

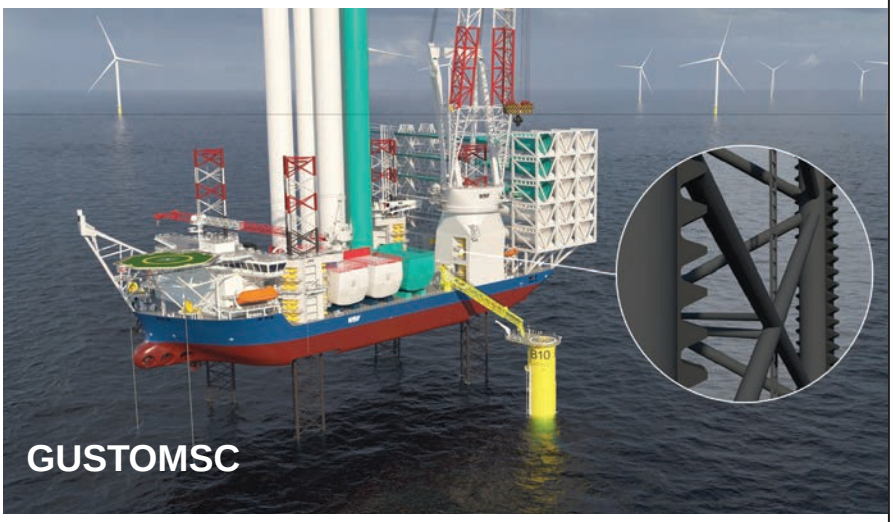
Another independent study focused particularly on propulsion efficiency during thruster interactions. The research was carried out on a model of a CSOV equipped with a Schottel SRP-D 98-degree thruster on starboard and a regular 90-degree thruster on portside. The first part of the study measured the interactions between propulsion unit and hull. It was found that the additional eight-degree downward tilt of the SRP-D propeller shaft could significantly reduce thrust losses, both for azimuth variations and thrust variations. For example, CSOVs with 98-degree thrusters experience only 10 percent thrust losses in transverse direction, compared to 35 percent with 90-degree thrusters. The study showed that a key factor for the improved system performance is a reduced Coandă effect with the SRP-D. The second part of the research focused on propeller flow interactions. In this case, the additional eight-degree downward tilt is also beneficial: While 50 percent losses are observed when the 90-degree thruster is blowing the wake into the second thruster (in-line thrust losses), only 20 percent thrust losses occur with the 98-degree thruster, which therefore enabled a higher remaining force during DP.

Thorsten Tillack, head of hydrodynamics and propeller design at Schottel, summarizes the resulting advantages: "Overall, the SRP-D significantly optimizes thrust yield and thrust distribution, since thruster-hull- and thruster-thruster-interactions are minimized. Consequently, the forbidden zones of the thrusters may be reduced, which leads to an additional increase of the DP performance for the vessel. Furthermore, the optimized thrust output is expected to result in fuel savings. As a result, SOVs operate much more efficiently, extending their operating time throughout the year."

SRP-D with a propeller shaft with an eight-degree tilt.



The 98-degree variant induced lower losses at the other thruster than the 90-degree variant and therefore enabled a higher remaining force during DP.



Encomara Secures ABS Approval for Floating Wind Installation Tech

Scottish floating wind technology developer Encomara has received Product Design Assessment (PDA) approval from the American Bureau of Shipping (ABS) for its Squid floating offshore wind installation system.

The PDA follows Approval in Principle (AiP) granted by ABS in November 2025 and represents the next stage in the qualification process for the system, which is designed to simplify the installation of floating offshore wind turbines as the company advances the technology toward commercial deployment.

Encomara's patented Squid technology integrates preinstalled mooring lines and electrical connections into a single subsea unit.

The system enables subsea infrastructure to be installed in advance, allowing floating wind turbines to be connected through a simplified 'plug-and-play' process.

According to modelling studies supported by Scottish Enterprise and offshore wind developers, the technology could reduce installation times by up to 50% compared with conventional methods, while increasing available weather windows for installation campaigns and supporting tow-to-port maintenance strategies.

Encomara estimates the approach could save developers up to $1.34 billion (£1 billion) per gigawatt of floating wind capacity.

The certification comes ahead of a series of onshore demonstrations scheduled for July at the Aurora Energy Services (AES) facility in Huntly, Scotland, followed by inshore testing and customer demonstrations at Ardersier in August.

GustoMSC Presents New Jacking Technology for Offshore Wind Vessels

GustoMSC, NOV's offshore design and engineering business, has developed a new asymmetrical rack-and-pinion technology designed to increase the jacking capacity of offshore wind installation vessels without increasing vessel size, weight or system complexity.

The patent-pending asymmetrical rack-and-pinion (ASYM R&P) technology builds on the company's existing rack-and-pinion jacking systems and is designed to improve load distribution within the existing system architecture, allowing more efficient use of structural capacity within the same vessel footprint.

The technology is aimed at addressing increasing installation demands as offshore wind turbines grow in size and projects move into deeper waters and more challenging operating environments.

According to GustoMSC, the design increases performance through an asymmetrical configuration integrated into its established rack-and-pinion jacking system and jack-up vessel designs, rather than relying on larger components or additional weight to increase capacity.

Apollo's Floating Wind Quick Connector Nears Commercial Rollout

Apollo has received an Approval in Principle (Level 2) from Bureau Veritas for its PALM Quick Connection System (QCS), a technology designed to simplify the connection and disconnection of dynamic cables from floating offshore wind turbines.

The approval follows a 12-month full-scale front-end engineering and design (FEED) study funded by the Offshore Wind Growth Partnership and Wave Energy Scotland.

Apollo said the certification confirms that the PALM QCS has been independently assessed against industry standards and can now advance toward technical qualification and Type Approval.

The PALM QCS is designed to connect and disconnect dynamic cables without the need for specialist vessels, divers or personnel transfer. According to Apollo, the system has already completed 50 successful connection and disconnection operations during offshore field trials.

The company said the technology can reconnect dynamic cables in 5.5 hours, compared with marine operations that can take several days, and could deliver potential through-life savings of $161 million (£120 million) in a gigawatt-scale floating offshore wind farm.

Apollo said the system is intended to reduce offshore downtime, lower weather-related operational risks and improve safety by eliminating the need for personnel transfer during cable operations.

The technology was originally developed through a Wave Energy Scotland program and has since undergone offshore trials and adaptation for floating offshore wind applications.

Apollo plans additional subsea electrical trials in 2027 as part of a European Union Horizon project led by the European Marine Energy Centre (EMEC).

SLB Unveils AlphaSight Reservoir Mapping Solution

Energy technology company SLB has launched AlphaSight, its latest innovation in reservoir mapping and drilling intelligence.

AlphaSight leverages industry-first technologies, setting a new benchmark for visibility and control in complex drilling environments to maximize production potential, the company said.

Designed to deliver clearer subsurface insight at significantly further depths, AlphaSight helps operators see and understand reservoir structures in real time - supporting confident drilling decisions without slowing performance.

According to SLB, AlphaSight has been field proven across the Middle East, North Sea, North America, and Asia, helping operators improve well placement, sharpen reservoir contact, and enhance overall drilling outcomes, driving stronger asset productivity across diverse reservoir environments.

By expanding petrophysical insight and accelerating geosteering decisions, AlphaSight supports faster, more accurate well delivery and advances the transition toward digital and autonomous drilling operations, the company claims.

Forum Energy Technology Streamlines LARS Portfolio with New Model

Forum Energy Technologies (FET) has unveiled its latest solution in subsea handling equipment, the Model 6000 (M6000) Launch and Recovery System (LARS).

Part of FET's Dynacon product line, the M6000 provides a compact, all-in-one solution for inspection and light work-class ROV operations.

It integrates the A-frame, winch and hydraulic power unit into a single skid-mounted package, allowing for a single-point lift with no need for additional cabling or hose connections. This design streamlines mobilization and demobilization, reducing vessel interface time and onboard footprint.

Developed for deployment with inspection and small work-class ROVs such as FET's Comanche and Super Mohawk, the system delivers optimal performance for inspection, maintenance and repair (IMR), cable lay, and pipeline or structural inspections. Applications are versatile, ranging from wind farms and dam surveys to pre-survey and light construction tasks.

Key features include a gimbal docking head with swing and sway functionality, a compact footprint and pre-wired, plug-and-play electrical integration. Together, these developments enhance safety and efficiency by minimizing setup time and maximizing reliability in the field.

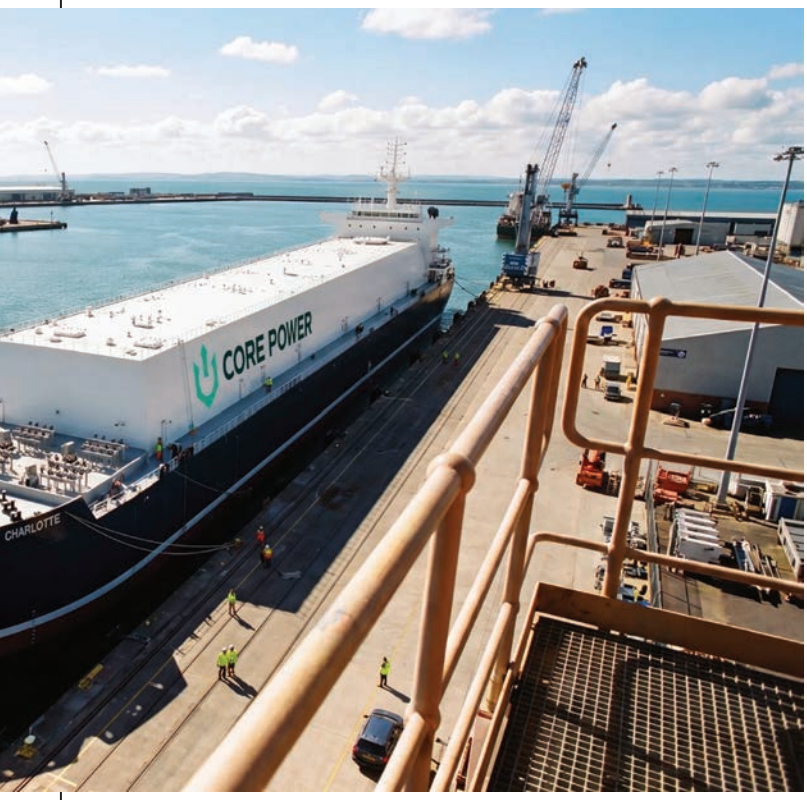
The M6000's design is DNV-certified and incorporates the latest hydraulic and control technologies. With a safe working load of up to 5,200kg and umbilical capacity of 3,300m, it provides robust handling performance within a reduced footprint.

The model was brought into production in 2025 following successful field deployment with a client earlier this year.

CORE POWER Evaluating Reactor Tech for Floating Nuclear Power Plants

CORE POWER has launched a feasibility study to evaluate the use of BWX Technologies' mPower small modular reactor (SMR) technology in floating nuclear power plants designed to be built in shipyards and deployed near energy demand centers.

The study will assess technical, regulatory and commercial pathways for integrating BWXT's mPower reactor design



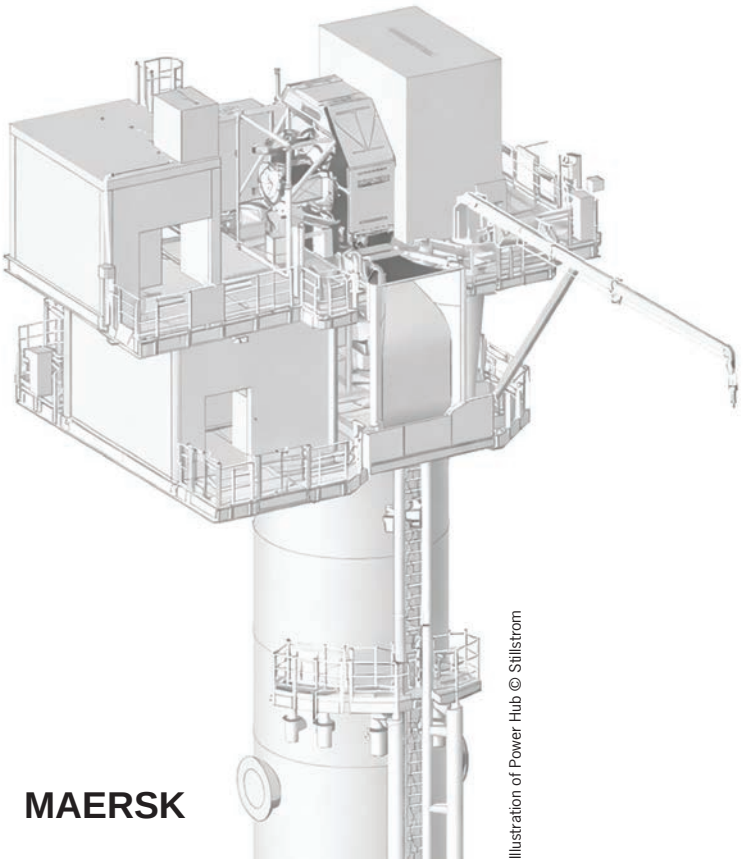


Illustration of Power Hub © Stillstrom

into floating nuclear facilities, the company said on Tuesday.

The mPower reactor was originally developed as a Generation III+ integral pressurized water small modular reactor with a generating capacity of 195 megawatts of electricity and 575 megawatts thermal per unit.

Floating nuclear power plants are intended to be constructed in shipyards and transported to locations where power demand is high or where conventional energy infrastructure faces constraints related to grid capacity, land availability or lengthy permitting processes.

The feasibility study will include systems engineering, marine integration studies, concept development, regulatory pathway assessments, product requirements definition and techno-economic analysis.

CORE POWER said the assessment would draw on its expertise in marine systems integration, shipyard delivery and deployment of maritime nuclear energy systems, alongside BWXT's reactor technology.

The study, funded by CORE POWER, is expected to guide future decisions regarding engineering development, regulatory engagement, commercial structures and potential next steps for floating nuclear power deployment.

Maersk's Stillstrom Debuts Standalone Offshore Charging Solutions for Vessels

Stillstrom, a unit of A.P. Moller - Maersk, has launched two offshore charging systems aimed at supporting vessel electrification in the offshore wind sector.

The new solutions, Power Hub and Power Tower, are designed as standalone systems that can be deployed independently of wind turbine infrastructure, enabling flexible charging options for vessels operating at sea.

The systems are based on monopile designs and target one of the key challenges in offshore wind operations - the reliable supply of electric power for service vessels used in installation, maintenance and long-term operations.

Stillstrom said the systems expand its offshore charging portfolio, adding to solutions already integrated within wind farm assets.

The launch builds on the company's research and development work, including patented offshore charging technologies, as wind farms expand further offshore and demand for low-emission vessel operations grows.

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