





# Rethinking offshore logistics: 24/7 HEMS unlocking efficiency

How hybrid logistics and real-time operational insights are transforming offshore wind access.

As offshore wind projects grow in scale, distance and complexity, the industry's logistics demands are evolving just as rapidly. Traditionally, service operation vessels (SOVs) have been the backbone of offshore access, offering accommodation, storage and stable transfer capabilities. However, these customized vessels come with a significant price tag, limited flexibility and long lead times for procurement. In today's US market, where agility, safety and cost-efficiency become even more paramount, a hybrid model is gaining traction: the integration of crew transfer vessels (CTVs) with 24/7 helicopter support and helicopter emergency medical services (HEMS) support.

This approach isn't just a supplement to traditional operations, it's a shift in optimizing efficiency. By using existing assets and optimizing logistics through a modular design, developers can now achieve SOV levels of availability and even better rates at a fraction of the cost. And more critically, developers gain the ability to operate around the clock, even when sea states would traditionally shut down operations.

These shutdowns can sometimes last seven to 10 days or more, a regular occurrence in the US North Atlantic or North Sea.

## Breaking the 12-hour barrier

The offshore wind industry has long been tethered to a 12-hour operational window, dictated largely by sea conditions and daylight. CTVs, while cost-effective compared to a SOV, are constrained by wave height limitations, typically up to 1.5 meters, and are most commonly deployed during daylight hours. SOVs extend this range, but at high cost and complexity in sourcing.

Originally introduced to meet basic safety requirements, 24/7 HEMS have rapidly evolved into a cornerstone of offshore wind logistics. As recent wind farm developments are built over 50 nautical miles offshore with thousands of technicians working during construction, HEMS has become the only viable solution to ensure timely emergency response and adequate medical care, all

essential for keeping workers safe in remote, high-risk environments.

Today, developers use certified crews and standby aircraft not just for emergencies, but as part of an integrated logistics strategy. With 24/7 availability due to HEMS, helicopters provide a reliable and flexible means of transporting personnel for urgent inspections, unplanned maintenance and routine crew changes, all at a relatively low marginal cost compared to vessel-based options. As the full operational value of this capability becomes clear, more developers are shifting to helicopter-supported logistics to increase flexibility, reduce downtime and safeguard both workers and project timelines.

Complemented by CTVs, pre-staging cargo at offshore substations or turbine foundations, helicopters now offer 'a mobile hoist' that can efficiently lift tools, spare parts, and technicians directly to the nacelle or anywhere. This integrated logistics approach minimizes downtime, extends operational windows well beyond the limitations of sea conditions, and ensures project continuity without relying solely on costly SOV infrastructure.

## Helicopters and CTVs: synergies at sea

The real potential lies in coordinating helicopters and CTVs as complementary assets in a hybrid offshore logistics model. CTVs remain the preferred solution for transporting cargo and large crews during calm sea states and predictable daytime weather windows. They also serve as an ideal platform for pre-staging cargo, allowing tools, spare parts and other materials to be brought close to the turbines and quickly hoisted to the nacelle by helicopter. This significantly speeds up interventions and reduces reliance on slower vessel-based offloading procedures.

Helicopters, meanwhile, offer unmatched flexibility, enabling access during high sea states, absence of daylight or in high-priority situations when speed is essential. Each mode of transport has its weather-related limitations, but they are remarkably

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complementary. Helicopters are mainly constrained by visibility; dense fog or low cloud cover may ground flights. However, these conditions typically coincide with low wind and calm seas, enabling CTVs to operate safely. Conversely, CTVs are limited by wave height and cannot transfer crew in seas above 1.5 meters, conditions that are often associated with strong winds that enhance helicopter hoisting support and performance.

To further reduce downtime, especially during construction with high daily costs, developers increasingly deploy a two-helicopter strategy, dispatching aircraft in close succession. This minimizes crane interruptions and maximizes the efficiency of crew rotations, especially during the high-intensity construction and commissioning phases where every minute counts. By using the strengths of both platforms, developers can ensure 24/7 access across a wide range of offshore conditions, safely, efficiently and with maximum operational uptime.

### HeliService USA: from helicopter operator to offshore logistics partner

This hybrid model is more than theory. It's already being executed and refined by operators like HeliService USA, that has transformed itself from a specialist in offshore helicopter hoisting and crew change supplier into a fully integrated logistics provider managing both helicopter and vessel operations. With a team that spans highly experienced aviators, maritime professionals and logistics strategists, HeliService USA delivers a seamless, end-to-end offshore access solution. Drawing on over a decade of operational experience, the company provides real-time data, predictive logistics insights and customized access models built around actual offshore conditions, not assumptions.

Having supported US offshore wind projects from day one, the company performs over 10,000 hoisting operations annually, enabling developers to maximize uptime even under winter conditions or during commissioning phases. Their case studies, built on real flight data, crew movement patterns and weather analytics, are helping reshape how developers plan access strategies, structure standby protocols, and quantify lost production days due to delayed maintenance.

In contrast to the long lead times and high costs of US-built SOVs and installation vessels, helicopters combined with CTVs offer a flexible and highly available logistics solution. CTVs are significantly quicker and more







affordable to build. When paired with helicopters, which can operate in high sea states, at night and in urgent scenarios, this hybrid model delivers availability rates exceeding 96% annually. This unmatched operational uptime ensures that offshore wind projects stay on schedule, maintenance issues are addressed promptly and worker safety is maintained regardless of weather or distance. For developers navigating a constrained US vessel market, this combined approach offers both a practical and scalable solution.

#### Enabling true 24/7 availability

Too often, helicopter operations are framed only in the context of a back-up solution or emergencies. But the infrastructure of HEMS in combination with helicopter transportation logistics and CTV support is an untapped asset for cost-savings and efficiencies. For many projects, especially those without a permanent SOV presence, 24/7 HEMS unlocks the ability to operate when all other access routes fail.

#### Knowledge transfer from harbor pilot transfers

There's a clear precedent for this hybrid logistics approach in harbor pilot transfers,

particularly in high-traffic ports or in relation to LNG terminals. In places like Sabine Pass, pilots have embraced helicopters as a reliable, weather-resilient method for reaching ships at sea, often at night or during difficult weather windows. The parallels with offshore wind are obvious: both industries need consistent, safe access to moving assets and both benefit from reducing dependency on marine-only solutions.

By adopting a similar model, offshore wind operators can reduce logistics bottlenecks, cut costs and increase the predictability of their operations, all while maintaining high safety standards.

#### A scalable solution for a growing industry

Building vessels in the United States is notoriously expensive due to Jones Act requirements, limited shipyard capacity and high labor costs. A previously US-built wind turbine installation vessel (WTIV) cost \$800 million, while a domestically built SOV exceeded over \$130 million. In addition to high capital costs, these vessels come with long lead times, creating a bottleneck in offshore wind project timelines.

Operating costs for offshore support vessels are equally steep: a SOV typically costs around \$120,000 per day. In comparison, a CTV runs at approximately \$14,000 per day, and a helicopter at around \$16,000, offering immediate savings from an operational cost standpoint. But the real financial impact lies in project delays, which can amount to \$50 million or more for each week of lost time during construction. By adopting a combined helicopter and CTV strategy, developers can significantly reduce weather-related downtime and avoid costly project schedule overruns, protecting the project's overall financial performance.

As offshore wind expands into bigger projects and further from shore, the need for adaptable, resilient logistics will only grow. A smart combination of CTVs and helicopters offers a scalable solution that can grow with the project. Whether it's transporting turbine technicians, supporting commissioning teams, or standing ready for emergency response, 24/7 helicopter operations, when integrated thoughtfully with CTVs, is fundamentally changing how we think about offshore wind logistics.

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