





Which is greener, the helicopter or hybrid vessels?

During a 12-hour trip to a wind farm 40 nautical miles offshore, a hybrid CTV will emit 41% less CO₂ compared to a conventional CTV. If a helicopter were used for the transport, CO₂ could be reduced by 73%. For Europe, that is a saving of 67,000 to 117,000 ton of CO₂ per year, or between 8 to 14 million saved in carbon tax if the tax was the same rate as in Sweden. PES sat down with DECK1 CEO Jim Hededal Nielsen to do some number crunching.

PES: Hi and welcome back to PES Jim. Sustainability is important, but what is the cost of prioritizing 'green' transport over conventional? Does it pay off to use green options?

Jim Hededal Nielsen: The short answer is, I don't know! Looking at fuel costs going up, and country administrations focusing on carbon taxes, my guess is that it is important to track and consider. However, the current shortage of CTVs and increased charter rates definitely steer focus towards 'just getting transportation', rather than looking at emissions reductions. The long term solution could be large hybrid CTVs that can stay in the field, and the here-and-now solution could be the helicopter.

The helicopter can extend the operational window as well, providing offshore O&Ms with stable access to the wind farm during fall and winter months, and the cost for that service will be approximately the same as for a CVT.

Companies such as DHSS and HeliOIS have made good business out of supporting offshore renewables, with helicopter support and back-logistical setups, as one-point-of-contact arrangements. DECK1 supports this with unified data to

support strategic early-stage planning and independent automated reporting. We aim to be the strategic aviation department on-demand, as well as the digital follow-up system to document operational progress and emissions.

PES: Saving up to 14 million euros in carbon tax is a lot, but I guess not all countries have that high a goal?

JHN: Correct, Sweden and Finland are among the most ambitious countries when it comes to reducing carbon emissions, and are using taxation to guide development towards the sustainable goals.

Discussions and plans from many regulatory institutions were focused on sustainable goals before the Ukraine invasion. Now, understandably, the focus has switched to a race to expand the production of renewable energy.

However, the sustainable goals were set for a reason and we have developed a software tool to easily perform planning and automatically track emissions across the logistic chain. The time it takes to collect data can be reduced, and manpower freed up, without losing sight of the longer goal of sustainable energy production.

According to taxfoundation.org and others, changes are coming. The Norwegian offshore sector has already made changes to mitigate the expected increase in emission taxes, and we believe that it will come to offshore renewables as well, where the construction and O&M vessels play a big role.

That is why we have introduced both a consultancy service with proprietary data to support analytical reports, as well as a data service, either as an API or on-demand dashboard for tracking, setting baselines and comparing sites and projects on a deeper level if required.

PES: If you don't know if the green options pay off, why should O&M's strategic planners work with you? I guess they are quite intelligent and have comprehensive data as well?

JHN: I agree, of course. The O&Ms are very good at planning and are making intelligent decisions based on their operational data and experience. The reduced LCoE is proof of that.

Some O&Ms use broker houses to provide analytical documents for them to support their decisions. The broker houses are very professional and some of them also have unique data, but at the end of the day, they also provide a service to the market by brokering charters in the same market.

My point is that we have independent data of more than 95% of all vessels and helicopters supporting the offshore renewable sector, and are able to compare across many operations, sites and transportation types.

We even have on-demand analytics that lets you compare day by day for all wind farms.

If deeper analytics is required, we are able to provide this as well with our proprietary data. Our unique ability to include helicopters and asset details from our catalog gives us the opportunity to provide a strategic report, and follow-up with automatic reports based on the original strategy, in order to validate the result.

PES: You mention both helicopters and vessels. How do you compare the two very different asset types?

JHN: By downscaling the comparing factors. As an example, if I want to compare the transport section for a specific wind farm, I can downscale it to compare 'X per PAX/KM'. 'X' is in this example cost and CO₂. So, if I have 10 PAX, traveling 100KM, costing 20.000€ it would be = 20€ per PAX/KM.

You can look at the graphs and deduct a lot when you are able to compare 'apples with apples'.

Obviously, this is a generic example for this article, but in real life data, we see the same picture. Transport with helicopters is in general compatible with CTV transport when the distance becomes 45 nautical miles or more offshore, and SOVs are not used for transport but to increase work time on site.

The further offshore the wind farm is located, the more favorable the helicopter combined with an SOV, or the Hybrid CTV with stay-on-site capabilities becomes. During campaigns and construction where time to completion is the priority, the SOV or CTVs with stay onsite

capability is of high priority, while a combination of helicopter and a hybrid CTV could prove best option during standard O&M phase where fast transport and wide accessibility window is priority.

PES: If you are an aviation department on-demand, why do you collect data on vessels?

JHN: Comparing aviation and marine solutions based on real time data brings a certain level of recognition to the marine oriented O&Ms.

We are collecting more than 1 million ADSB and AIS data captures each day and are continuously building on our database and our solution. The reason for including vessel data is to be able to track the market in usage of asset types, unifying data for the end user including helicopters, drones and vessels.

The aviation department on-demand has a place in the offshore industry, since it is a marine oriented industry and aviation is a niche. We are able to fill this niche with very experienced persons and immediately compare the suggested aviation solutions with known operations from the marine industry. It brings a certain familiarity to the decision makers as well as peace of mind.

Since we have the data and the platform can handle it, we saw an opportunity to utilize this into emission benchmarking, tracking and automated daily reports.

We are not as detailed as Shoreline or Spinergie in historical analytical details on vessels, but we are very good at giving users real-time data on multiple assets on specific





parameters at a very competitive price. This gives an opportunity for the user to have a daily auto generated report, or to look up a wind farm, via our platform, and get details directly via the collected data.

PES: So back to the question in our headline, which is the greenest option?

JHN: Helicopters, absolutely! The hybrid vessels are closing the gap, but at the same time offshore wind farms are moving further offshore which favors the helicopter.

Our software will be able to take a 'snapshot' of the current operations and compare directly online. Or we can generate more detailed reports by using our back-end data. While preparing for this interview I viewed some wind farms in Germany and the UK of similar size and distance from shore. The CTV transport speed in the UK was usually 5-6 KTS faster with the same type vessels. There might be many reasons for this, but when asking, the O&M in Germany has requested the CTV operator to reduce speed to save fuel and make a more comfortable transit.

PES: Why is the helicopter not used more in the logistic setup?

JHN: Helicopters are considered expensive and difficult to plan undertake operations. This perception was confirmed during an event DECK1 held in the Netherlands with

both helicopter operators and charters.

As mentioned earlier, offshore renewable is a marine heavy industry, and the easy way is to choose what is known to them. In the wind farms I viewed from the UK and German waters there were between two and six CTVs per day. My guess, without having looked into the details, is that a helicopter could have saved both time and money for the O&Ms.

DECK1 provides transparency with our combination of proprietary data, experience and aviation department on-demand for companies that do not have an established aviation department or those who need to have their aviation department supported in peak periods.

We are looking forward to many more projects with services and support.

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