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TGS | 4C Offshore

Bankable wind and metocean data when you really need it

During 2023 TGS expects to significantly expand its ground-breaking offshore wind measurement campaign to at least five locations off the US East Coast and additional deployments offshore European countries

This initiative is driven by a mission to provide windfarm developers with bankable wind and metocean data when they really need it – as early in their planning process as possible.

But why is our approach unique, and how does it result in a faster, cheaper and better way to access wind and metocean data?

Business model

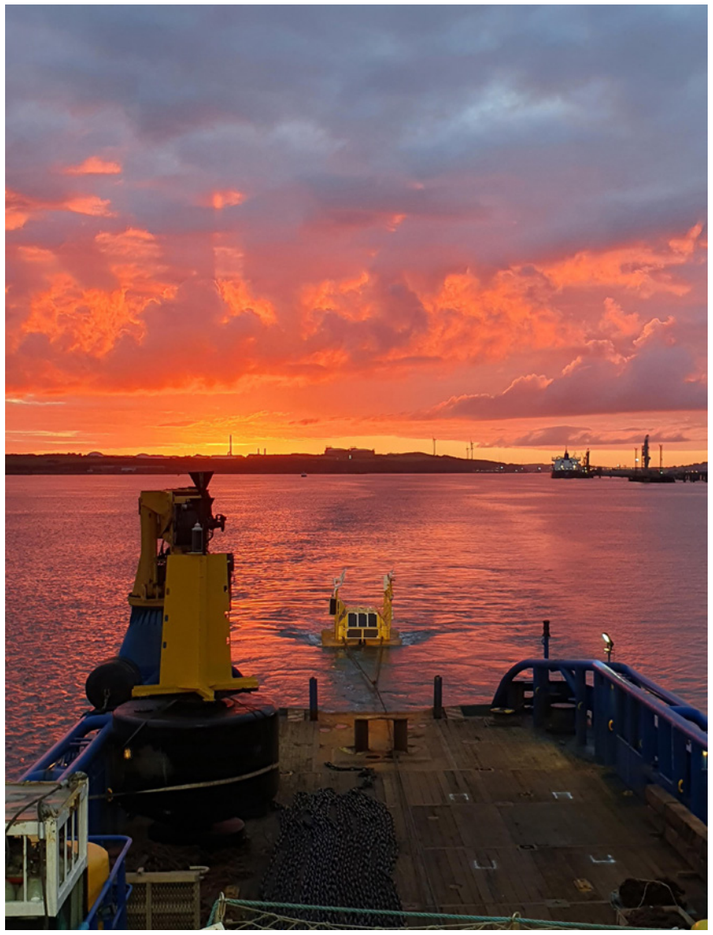
The TGS business model, known as the 'multi-client' model in other industries, uses the pretext that many different parties will have an interest in the same or similar data. Instead of each individual party taking on the cost and operational risks themselves, one company commissions the acquisition of this data and licenses the data to multiple clients. TGS has been doing this for over 40 years with subsurface data, where it has become the norm in many parts of the world. So much so that TGS now holds the world's most extensive library of modern subsurface data.

By bringing the multi-client model to Offshore Wind using floating LiDAR buoys that measure wind, metocean and environmental data, TGS can leverage over 40 years of experience in acquiring precision measurements on a huge scale, generating an unrivalled knowledge of storing, processing and delivering vast amounts of data. Many customers can subscribe to the same floating LiDAR data with our multi-client buoys, offering offshore wind stakeholders the added benefits of reduced development costs, timelines and a smaller environmental footprint. Most importantly, this approach allows developers to significantly reduce energy uncertainty.

Roll out

We plan to roll out this multi-client model globally, supplying wind developers with the data they need when they need it. Where possible, this would be before wind lease rounds, when crucial decisions are made on investments and bid amounts, using calculations on potential energy returns.

Our first multi-client floating LiDAR buoy deployment was in the Hudson South region of the New York Bight in June 2022. The buoy continues to perform very well with high data recovery rates with data available now. Early results from this buoy reveal unique aspects of the wind resource not previously captured by prior modelling studies or measurement campaigns. Such results demonstrate the importance of comprehensive measurement campaigns to assess wind resource and ocean conditions accurately. To this end, TGS plans to add a second floating LiDAR buoy in the Hudson South area to reduce further wind and ocean modelling uncertainties and cycle times for those embarking on site assessment activities. In addition, these data will be used to further validate TGS' expansive high-resolution numerical weather prediction (NWP) model data in the region.



Wind industry specific

In the Central Atlantic, where further buoy deployments are planned, TGS-deployed floating LiDAR buoys will provide data and insights on a subscription basis to those pursuing wind development opportunities allowing the de-risking of prospects well before the lease bidding process. These new, high-quality floating LiDAR data will be the only modern observational dataset designed for offshore wind energy within the Central Atlantic call areas. Access to such data at this early stage is expected to significantly enhance the decision-making ability of all stakeholders investing in the wind development future of this region.

In addition, a further planned deployment offshore Massachusetts will provide those companies working on offshore wind development in the region with additional data to de-risk Final Investment Decisions (FIDs) and enhance Construction and Operations Plans (COPs). TGS' floating LiDAR buoy offshore Massachusetts provides a new measurement in the region. It allows developers to objectively validate their energy estimates and financial models using newly acquired, independent data, which may lead to additional uncertainty reductions.

Future TGS floating LiDAR campaigns are expected with planned deployments off the US West Coast and offshore Norway. More are likely to follow.

World's most advanced system

In all deployment locations, TGS will utilise one of the world's most advanced floating LiDAR systems with the highest accuracy (stage 3 validation) from EOLOS. Throughout each buoy's deployment campaign, data will be acquired continuously with the data stream quality-controlled and made available to customers daily via the Wind AXIOM platform, TGS' comprehensive site evaluation, and wind data analytics tool. In addition to wind speed measurements, the data package includes critical metocean and environmental data such as significant wave heights, ocean current profiles and acoustic monitoring of whales, dolphins, birds and bats.

Using aggregated data inputs, including wind models and measurements, Wind AXIOM facilitates instant data access and processes vast amounts of site-specific data via the cloud. This functionality allows wind developers and stakeholders to constrain the most influential factors affecting the viability of offshore wind projects and answer questions related to energy output, annual revenue, supply fluctuations and more. Wind model inputs are complemented by a range of cost-influencing factors, creating a tool that improves the quality and speed of decisions by offering a configurable experience for various participants in the offshore wind market.

Mission

TGS' mission is to apply its unique energy data expertise and experience across the renewable energy sector. With this multi-client floating LiDAR business model, where multiple customers can subscribe to the same high-quality floating LiDAR data, we provide much earlier access to critical wind and metocean measurements. As a result, we look forward to delivering offshore wind stakeholders worldwide with reduced development costs, timelines and most importantly, the ability to develop successful and profitable projects that utilise TGS' energy data.

TGS

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