

U.S. Offshore Energy Model

Confidently manage oil and gas infrastructure risk in the Gulf of Mexico.

Oil and gas infrastructure in the Gulf of Mexico is vulnerable to high waves, severe winds, sub-sea currents and, in certain areas, mudslides. Tropical Cyclones Ivan, Rita, Katrina, and Ike destroyed scores of offshore assets, with combined material damage and lost production of approximately \$2Bn, \$7Bn, \$6Bn, and \$6Bn,

respectively. The Gulf of Mexico represents a large concentration of risk in the energy industry, providing 17% of the oil and approximately 5% of the natural gas produced in the U.S., while onshore, the Gulf Coast region accounts for 45% of the total U.S. refining capacity.

Quantifying the hurricane risk of assets and business interruption damage to oil and gas production facilities requires a specific model that addresses the unique vulnerability exposure of these assets, in addition to the design and pipeline routing infrastructure. The CoreLogic® U.S. Offshore Energy Model offers these features, capturing at-risk perils as well as onshore and offshore facilities.

Key Benefits of the CoreLogic U.S. Offshore Energy Model

- Captures damage from wind, wave, subsea current and mudslide
- Incorporates a dedicated financial model for offshore energy that captures both coverages and policy conditions unique to the offshore energy market
- Contains an updated hazard model reflecting recent storms offshore
- Comes with a full suite of offshore asset types
- Is validated against major industry losses
- Combines CoreLogic and partner expertise in offshore engineering
- Has a pre-processor to aid in better modeling of assets
- Unifies event for off-shore and on-shore preserves correlation

The CoreLogic North Atlantic Hurricane Hazard Model: Ensuring Correlation

Hurricanes in the Gulf of Mexico cause significant insured oil and gas industry losses both offshore and onshore. The CoreLogic North Atlantic Hurricane Hazard Model covers both mainland U.S, offshore assets and the Caribbean in a single unified stochastic event set, containing around 110,000 events. Of these total events, around 22,000 impact the oil and gas producing areas of the Gulf of Mexico. Combined with historical losses and disaster scenarios, these events provide the granular analysis that capture the complex correlation between the onshore and offshore regions. Two event sets are available covering both near-term and long-term frequencies.

A Dedicated Financial Model

The offshore energy market has coverages and insurance conditions specific to the offshore industry. CoreLogic has a dedicated financial engine for the offshore energy model that includes 23 offshore specific coverage types, and relevant insurance conditions such as capture of Assured Interest.

Engineering Expertise and Claims Data

The CoreLogic model is built on engineering-focused studies of offshore assets in the Gulf, as well as wave hazard and claims data from major market events, such as Tropical Storms Ivan (2004), Katrina (2005), Rita (2005), Ike (2008). It also contains wave analysis of more recent events, Tropical Storms Laura (2020) and Ida (2021). As a result, the model includes asset types for 26 fixed asset types, 12 mobile rig types, pipelines and onshore facilities.

A Comprehensive Analytic View of Risk

Granular reporting enables a firm understanding of what drives risk to allow for better management, control, and reporting of portfolio risk. The U.S. Offshore Energy Model provides this holistic view, offering a high-definition Year Loss Table (YLT) that is distinct to CoreLogic. Delivering detailed results, the YLT offers transparency, assisting clients to create and reproduce numerous reports and data visualizations. This gives clients the ability to explore and assess multiple risk scenario and helps identify the aspects and explore the regions driving their portfolio risk.