

# Oil and Gas Consultancy

Actuarial and risk management  
services for the Upstream Oil  
and Gas industry



The Upstream Oil and Gas industry has heavy requirements for capital and operating expenditure, and faces unique and complex problems associated with natural uncertainty, unpredictable commodity prices, and the associated operational and financial risks.

Actuaries are acknowledged as the leading profession for understanding and quantifying risk, pricing risk transfer products, valuing contingent assets and liabilities, and risk management. We are uniquely placed to help bridge the gap between technical risk, natural uncertainty, and finance.

Our specialist team has a variety of actuarial and risk management skills to help solve the problems faced by the Upstream Oil and Gas industry, and those who provide its finance. Working where needed in tandem with industry professionals such as geoscientists, reservoir engineers and facilities engineers, we can provide in depth analyses for the industry at Project, Portfolio or Company level.

The present environment of low commodity prices, rising exploration costs, and constrained access to capital has increased the need for in-depth, accurate and complete analysis of uncertainty, risks and valuation.

Many investors and providers of capital have recognised that accurate assessment of the quality of assets, especially hydrocarbon reserves, is inherently difficult, but of key importance.

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We support assessment of insurable risks such as Supply Chain interruption, Country risks or natural hazard, integrating this with review of non-insurable or hedgeable risks to provide a holistic risk assessment.

For investors and financiers, we provide an actuarial and financial perspective to support your valuation and due diligence process, for example reviewing the effectiveness of a company's risk management strategy. We can give a professional opinion on the statistical assessment of the quality of valuations, assets, Production Forecasts and Field Development proposals.

## Areas of Expertise

### Uncertainty and Risk Analysis, Management and Valuation

We provide an independent perspective on the valuation, transfer and mitigation of all types of risk.



### Decision Analysis

Bringing an actuarial approach to framing complex decision problems, we ensure that risk and uncertainty are modelled in full depth in influence diagrams or decision trees. Analysis can include full stochastic modelling, accounting for correlations and dependencies. We can present complex analyses involving multiple value criteria such as NPV or values at risk. We can present the resilience underlying decisions in clear, scenario-based reports: how likely is it that an "optimum" decision will be correct?



## Statistical and Financial Modelling

Our team assist with any aspect of your modelling development, validation and quality control requirements.

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## Asset Valuation and Validation

By integrating our analysis of uncertainty and risk, decision analysis, stochastic and financial modelling, we can validate technical estimates and valuations at asset, portfolio and corporate level, providing reports for both internal and public use, compliant with PRMS or local standards as required.

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## Services for the Financial community, Investors and Counterparties

To give confidence from a financial profession perspective, we provide an in-depth statistical review and validation of the risks inherent in, and quality of, valuations and production forecasts.





[www.barnett-waddingham.co.uk/oilandgas](http://www.barnett-waddingham.co.uk/oilandgas)

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Please contact your Barnett Waddingham consultant if you would like to discuss any of the above topics in more detail. Alternatively contact Iain Poole via the following:



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