



Hurricane

An Introduction to Upstream Deals

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An E&P Biography : The Scenic Route

International field development, acquisition and new ventures experience with six major and minor IOCs, consulting with GCA and Subsurface Directorship in PwC Deals in London.

From drilling wells on jack-ups and platforms in the North Sea, to negotiations with Gaddafi in Libya, coffee with Al Fayed in Harrods; shutting down fracking projects onshore New Zealand, buying assets in the Gulf of Mexico, the Philippines and sell fields in the North Sea and beyond. I've noticed that it's usually about the rocks, the risk and the value.

At PwC, I helped originated the divestment of the Khazzan Gas Field for Oman Oil; 10% of which was bought by Petronas in 2018 for \$1.4bn. And more recently, at Hurricane Energy where I help deliver on the strategy and execution of the Greater Warwick Area (> 1.5 Bn bbl 2C / Unrisked Prospective Res).

As Fellow of the Geological Society and a member of the Society of Petroleum Engineers, it has been an extraordinary twenty six year journey in what remains, an extraordinary industry.



MAERSK
OIL





North Sea M&A - the great changeover

FINANCIAL TIMES

London SEPTEMBER 2019

ExxonMobil has agreed a \$4.5bn deal to sell the bulk of its Norwegian assets to Var Energi, as the US major retreats from the North Sea to place greater focus on US shale.....

The Guardian

Norway's \$1tn wealth fund to divest from oil and gas exploration

FINANCIAL TIMES

London FEBRUARY 2019

Wave of new investment and M&A grips five decades-old basin as oil majors retreat

The Guardian

It's time to rein in the fossil fuel giants before their greed chokes the planet

PETROLEUM ECONOMIST

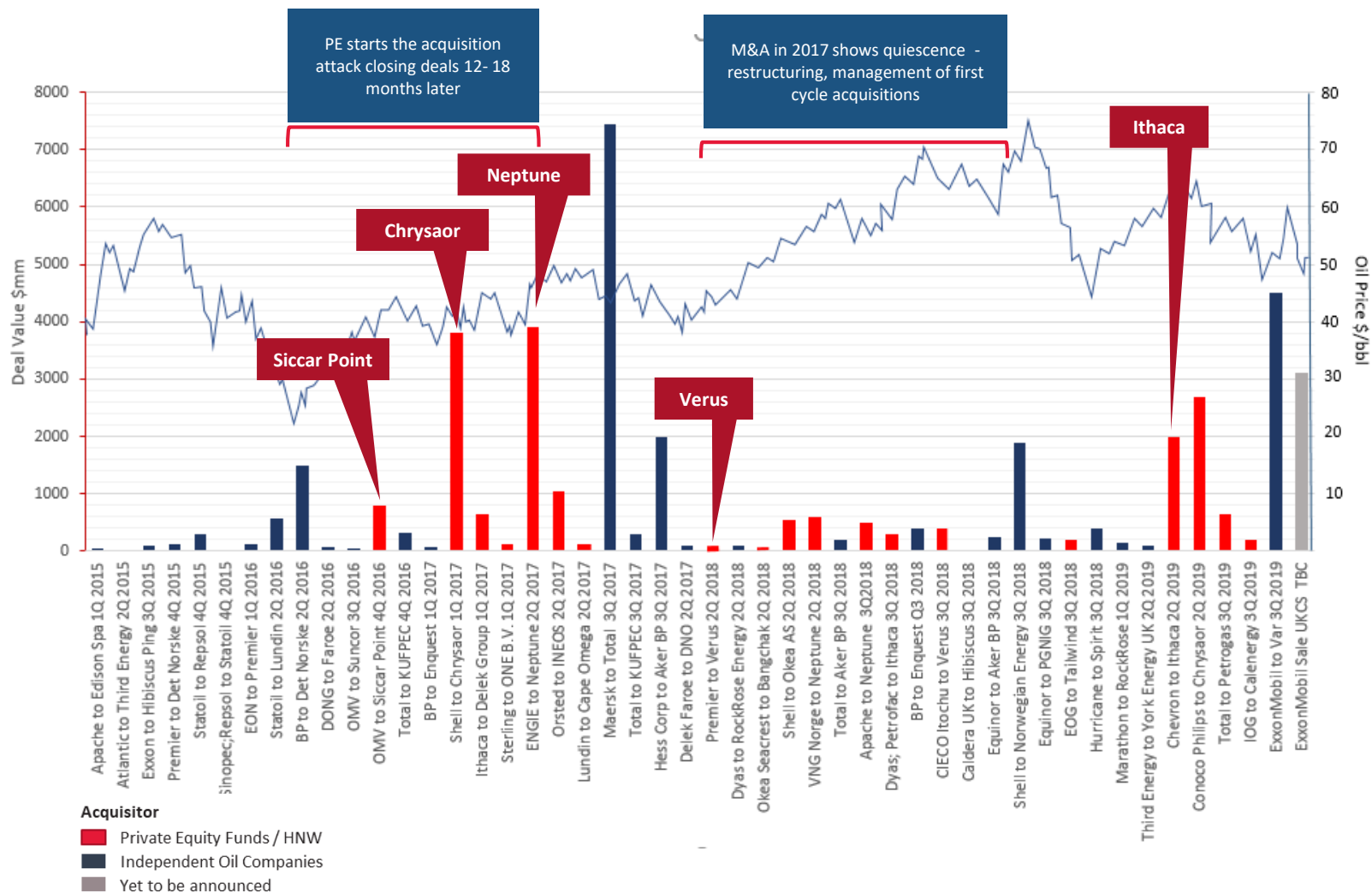
Oil and gas majors have increasingly ambitious divestment targets despite market volatility and a vast pool of buyers....

North Sea Upstream Headlines

- A sector in turmoil
- Oil price volatility
- Employment Risk
- The Energy Transition
- Capital Allocation
- Carbon Footprint
- Overmature
- The end of exploration
- The big sell off.....



North Sea Upstream Deals : 2015 to 2019 IOC vs PE*



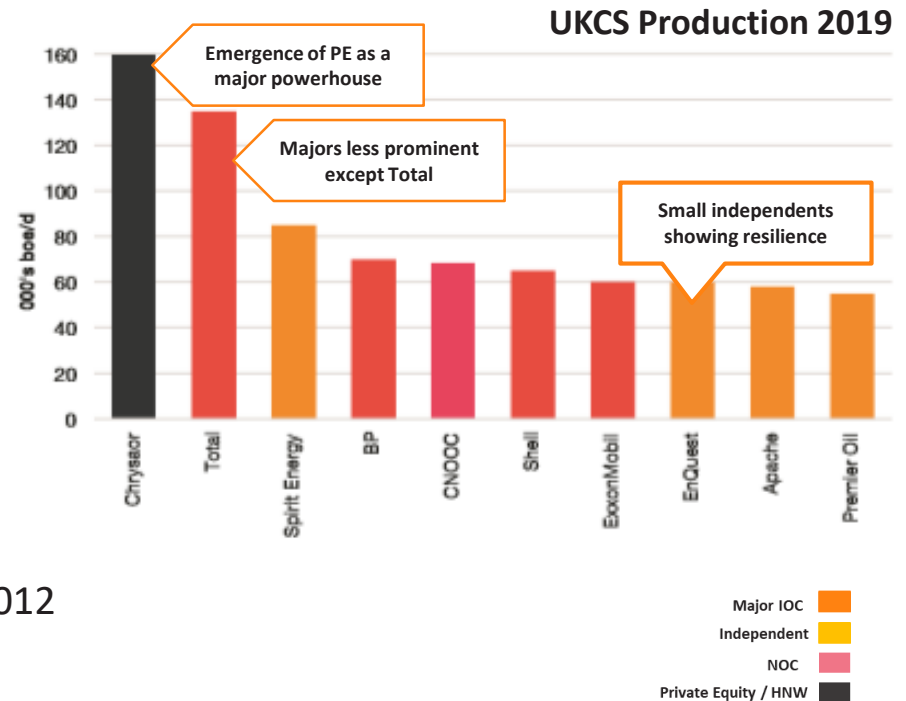
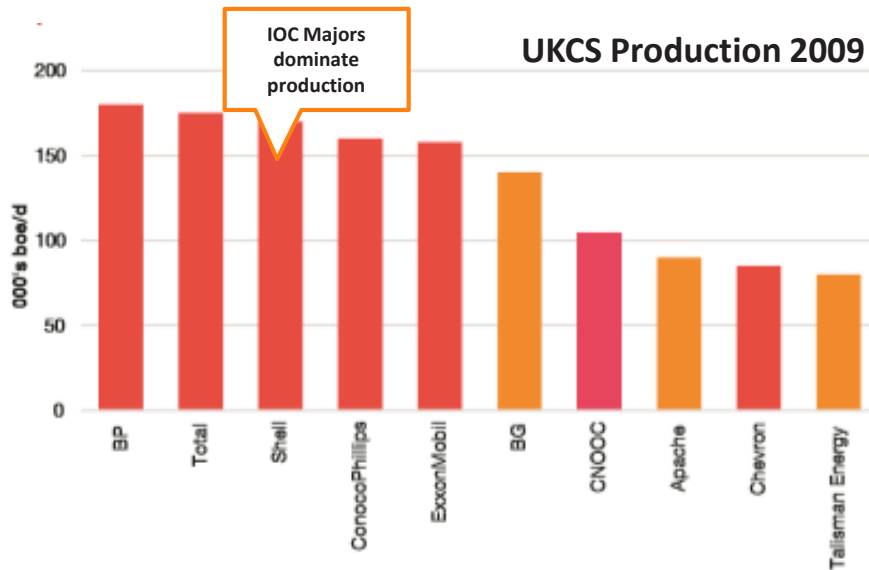


North Sea A&D Activity : Examples





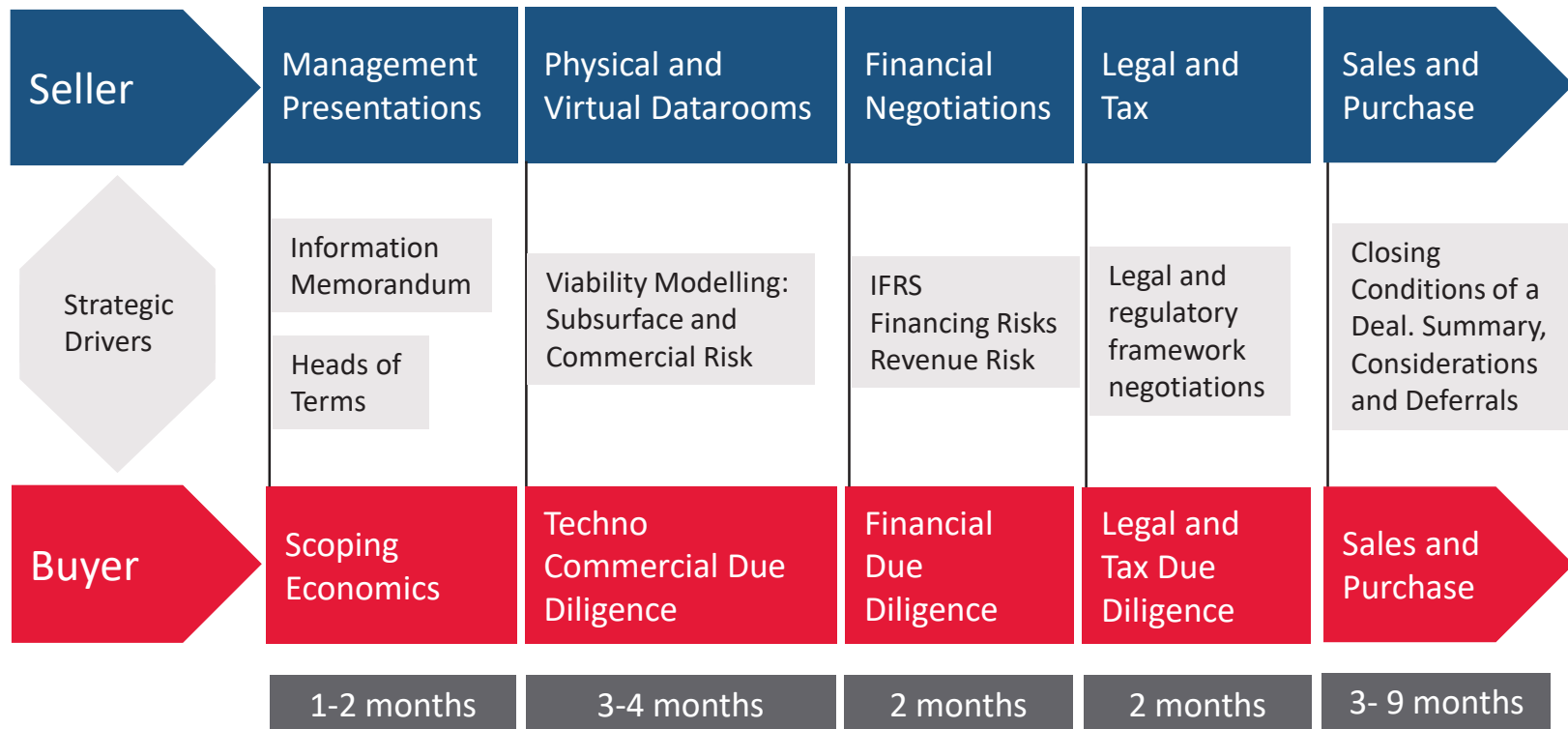
Changing of the Guard: Production Owners 2009-2019



- 25% of production has changed hands since 2012
- 2005 – 2014 high oil prices and complacency
- Funding is becoming increasingly difficult to source
- Private Capital – US based PE companies
- Environmental Social Governance (ESG) restricting traditional sources of capital



Deal Flow Process: Tenacity and Patience



- Transactions are time intensive.
- The mix of inhouse and third party experts is complex: Subsurface, Engineering, Legal, Finance, Executive, Brokers, Commercial and external consultants and advisors.
- The longest phase often being the Sales and Purchase agreement prior to deal close out



Financing Oil and Gas Deals : Complex and tedious.....

- Number of financial instruments and mechanisms of lending and sourcing capital
- Upstream capital accounts for 75% of Oil and Gas Financing : \$15 trn to 2040*
- Duration, Use and Risk : Two broad Categories : O&G Specific and General Instruments

Phase 1	Phase 2	Phase 3	Phase 4	Phase 5
Discovery	Appraisal	Field Development	Production	Decommissioning
Duration: 5-10 years		Duration : 10-40 years		
Main Financing Instruments				
Equities Sponsor Loans Farm-Ins		Equities Bonds Reserve Based Lending (RBL) Mezzanine and Project Finance Farm-ins	Cash flow from Production Bank Loans RBL Volumetric Production Payments Mezzanine Debt Equity	
Negative Cash Flow		Positive Cashflow		

* \$15 / \$20 trn equating to \$640 billion per annum : International Energy Agency (IEA)



Valuation Methods in Oil and Gas

A **Market Approach** or an **Income Approach** should be considered

Market Approach

Precedent Transaction Analysis

A company can be valued based on statistics of similar transactions in sector of companies **comparable** to the target company . Key metrics are identified, eg cost/bbl, operational efficiency, 2P reserves. A multiple applied to the metric in question gives an estimate of value.

Risks : Finding the peer group is critical
Focus : Cashflows, growth potential and risks

Income Approach

Net Asset Value

A very detailed DCF analysis with shortcomings around decline / production assumptions and cash flow estimates on an asset or well basis for up to 30 years.

Risks : Susceptible to optimistic modelling, future commodity prices, impairments and obfuscated project risks.

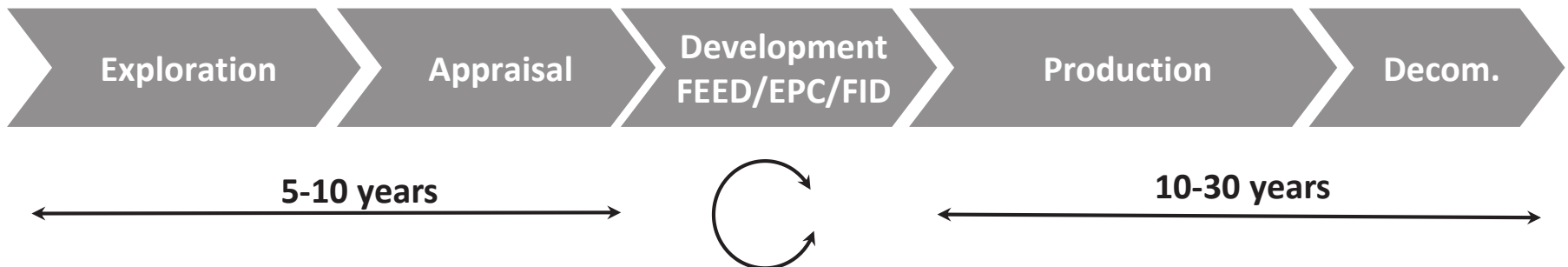
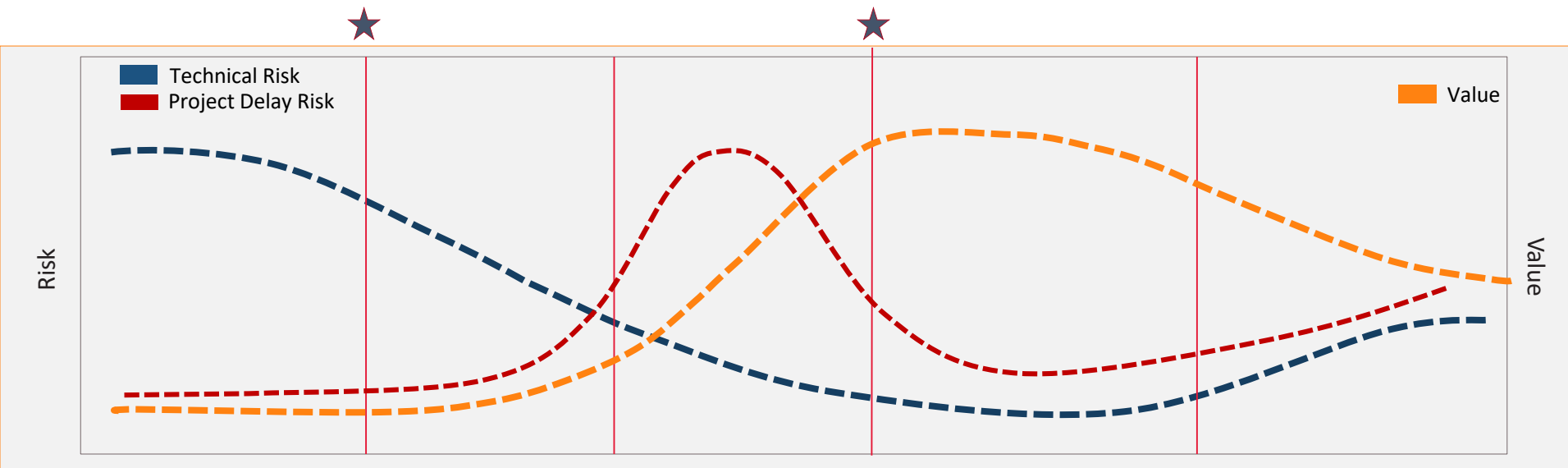
Cash flows are adjusted for Risk Adjustment Factors for reserve / resource categories

Health Warning

*NAV Analysis has limitations. An NAV is only as accurate as the underlying **reserves data, cost assumptions and strip price**. Incomplete data or incorrectly applied RAFs can produce unreliable valuation estimates and this can be devastating for investors.*



Upstream Value and Risk

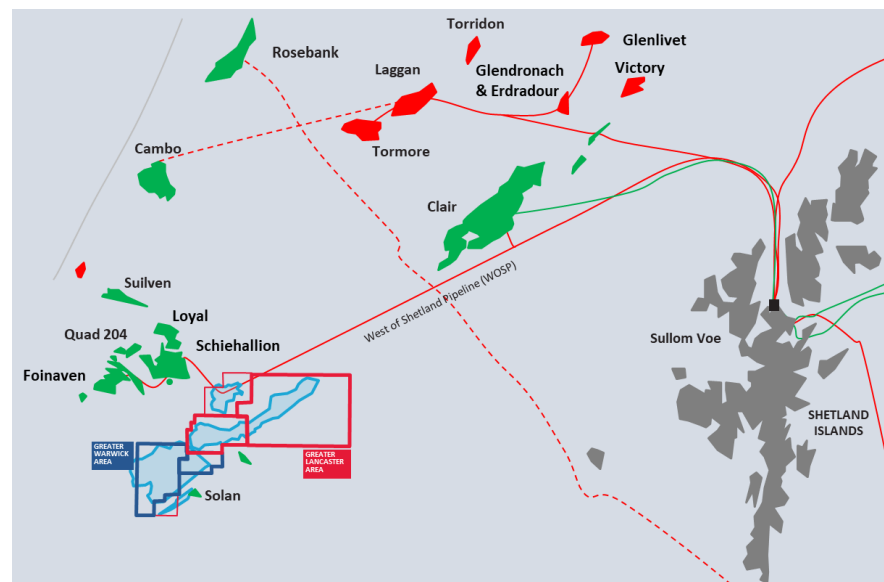
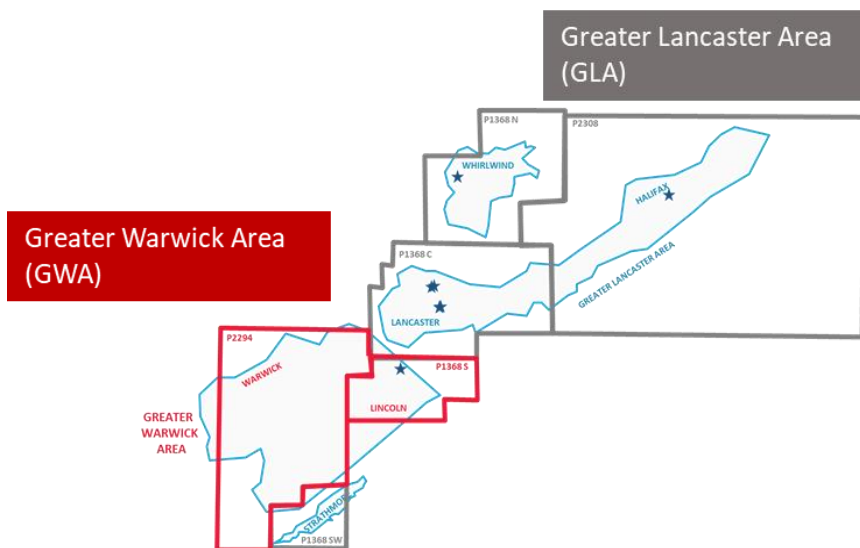


A photograph of three people wearing red jackets with white logos, standing in a line. The person in the foreground is wearing a jacket with a large white 'a' logo. The person in the middle is wearing a jacket with a white 'G' logo. The person in the background is wearing a jacket with a white 'G' logo. The background is dark and out of focus.

Hurricane to Spirit 2018



Spirit Farms in to Hurricane's Greater Warwick Area



Area	Licences	Interest	Fields	Gross Reserves and Resources (RPS Energy May/Dec 2017)			
Greater Lancaster Area (GLA)	▪ P1368 Central	100%	Lancaster	37	486		Combined GLA: 1,758
	▪ P2308	100%	Halifax		1,235		
Greater Warwick Area (GWA)	▪ P1368 South	50%	Lincoln		604		Combined GWA: 1,539 mmboe
	▪ P2294	50%	Warwick		935		

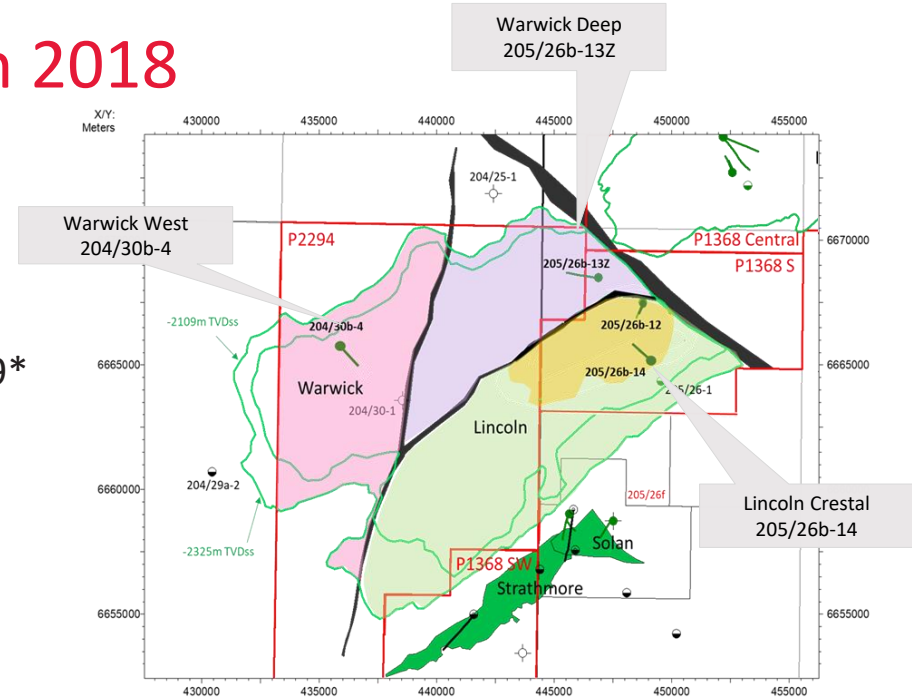
Contingent

Prospective



Greater Warwick Area Farm-In 2018

- Spirit farmed-in for \$180 – 387mm
- Hurricane fully carried for 2019 well campaign
- Three horizontal wells drilled and tested in 2019*
- Planning for 2020 campaign underway
- Hurricane reduces appraisal risk and spend
- Spirit reduces exploration / appraisal cycle



Deal structure

	Hurricane Operatorship			Spirit Energy Operatorship	
	FID	FID	FID	FID	
	3 E&A Wells + GWA Tie-back Preparation	GWA Tie-back (Inc. Host Mods and Gas Tie-in)	3 Additional Wells	GWA FFD FEED	GWA FFD
Gross Cost	\$180.6m	\$187.5m	TBD	TBD	TBD
Net Cost	\$90.3m	\$93.8m	TBD	TBD	TBD
Carry	\$90.3m	\$46.9m	- ¹	- ¹	Up to \$250m*
Net Effective Cost	-	\$46.9m	TBD	TBD	TBD
Cumulative Carry	\$90.3m	\$137.2m	\$137.2m	\$137.2m	Up to \$387m*



Upstream Deals : A Value Accretive Effort ?

1. Timing : Macroeconomics

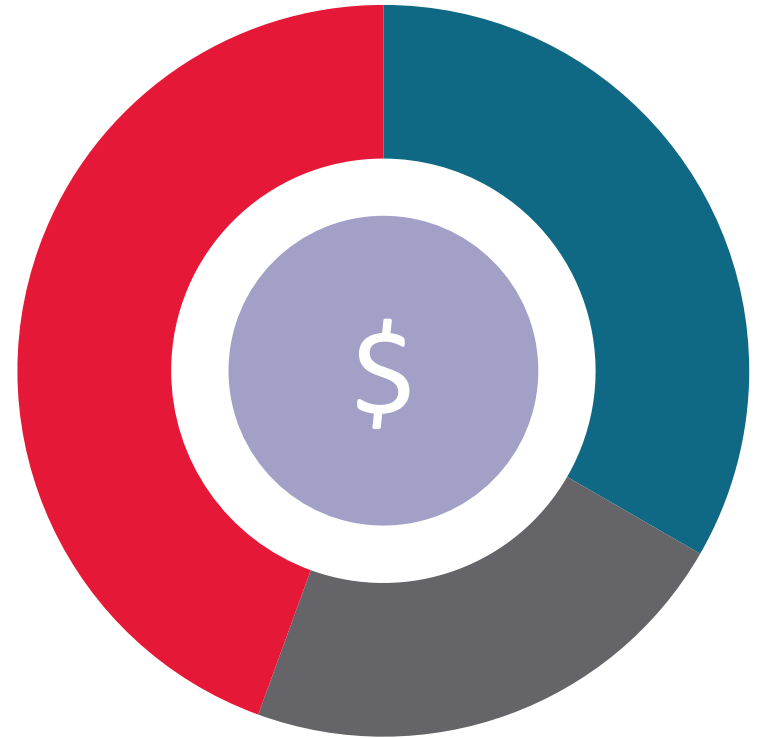
Deals closed at the bottom of the market the PE golden entry between 2014 – 2018 – have benefited most....irrespective of investment and operational efficiency. Judgement or luck ?

2. Lifecycle : Capability vs Corporate Strategy

Operatorship offers control. Aligning with strong operators with a minority equity can advantage smaller players. Overarching corporate strategies for reserves or production “growth” at any cost erodes value

3. Operatorship : Control

Producing Assets have performed better than deals during appraisal / pre-production. Capital Risk, development delays and subsurface uncertainty can be at their highest and most vulnerable in the pre-Concept Select / FID period.



Contribution of key drivers to deal success 2012 – 2018