RISC

decisions with confidence

Critical Factors in Acquisition Case Histories

Gavin Ward, RISC Partner & London Office General Manager

Institute of Directors, London, 2 October 2018

Declaration

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- RISC has no pecuniary interest, other than to the extent of the professional fees receivable for the preparation of this report, or other interest in the assets evaluated, that could reasonably be regarded as affecting our ability to give an unbiased view of these assets.
- The information contained in this document is confidential.

2018 Analysis using Public Data

Now & What's Next?

RISC

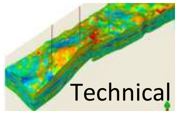
- 16 August 2017 — Project Performance: Outcomes, Why? and How to Improve ? — Simon Whitaker
- 1 November 2017 — Regulatory changes to reserves booking guidelines. — Geoff Salter & Adam Borushek
- 26 February 2018 — Latest LNG issues from an "AustralAsian" perspective: Qatar, Australia, USA...where next? — Martin Wilkes
- 6 June 2018 — Acquisition Due Diligence. Is it as good as it seems? — Peter Stephenson
- 2 October 2018 — Critical Factors in Acquisition Due Diligence — Gavin Ward

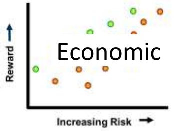
Introduction to new Commercial Advisor - Terry Wells

PRMS 2018 introduction - Adam Borushek

Status → Calibration → Case Histories* → Value Histories* → Conclusions

Good
Bad
Ugly





noble energy
Aspect Energy
bp
PERENCO

VENTURE PRODUCTION plc
centrica

Calibration is King' for continuous improvement

1. Question your assumptions
2. Focus on the **BIG** assets
3. Consider/Flag Black Swan* events
4. RANGES are critical (including Low side) – Banks and Auditors are Sometimes Right
5. Treat Contingent/to be developed fields with extra care

*Analysis using Public Data

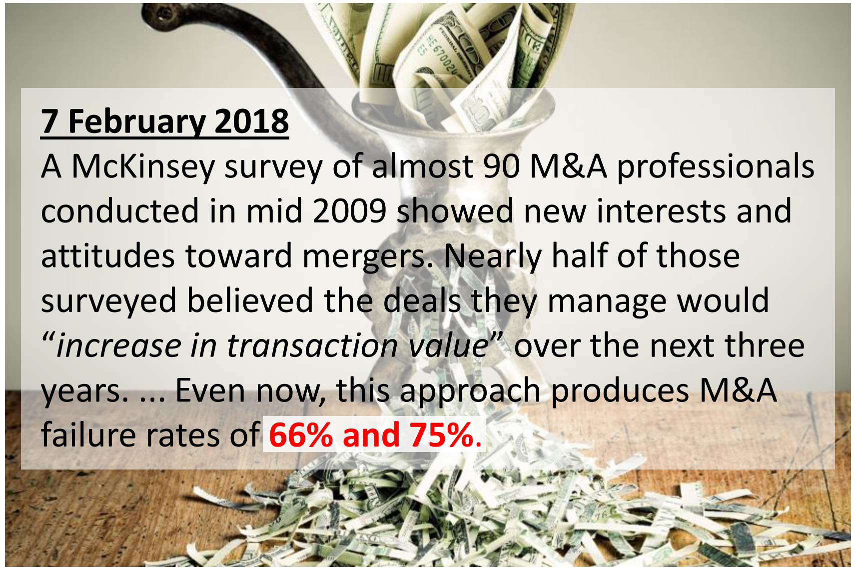
Status: Valuations

- Net Book Value
- EBITDA multiple
- Earnings per share
- Benchmarked $/Boe
- Discounted Cash Flow & WACC

IMPORTANT: Valuation is not the same as the price paid through negotiation

Status: M&A and Project Failures

28 January 2015
According to collated research and a recent **Harvard Business Review** report, the failure rate for mergers and acquisitions sits between **70% and 90%.**



7 February 2018
A McKinsey survey of almost 90 M&A professionals conducted in mid 2009 showed new interests and attitudes toward mergers. Nearly half of those surveyed believed the deals they manage would "*increase in transaction value*" over the next three years. ... Even now, this approach produces M&A failure rates of **66% and 75%.**

From a dataset of 7,059 acquisitions, only one out of every three cases, the price paid by the acquirer was passed on to the investor, by means of an increase in share value.

13 Feb 2018

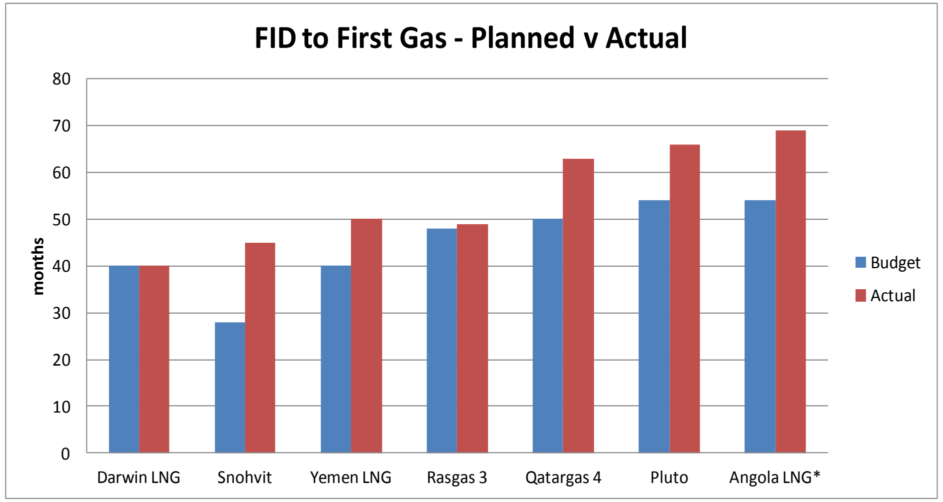
Worse still, in **39%** of the deals, the market cap decreased by more than 10% between the rumour/announcement and the closing dates.

- Larger deals involve many more moving parts, and therefore scope for breakdown
- Including internal issues and external difficulties such as a regulatory hitch or a failure to secure financing.
- **The only way to address these problems is for companies to prepare early and thoroughly.**

Status: Pre FID schedule performance

Operators are overly optimistic about how long it will take to mature the project.

Project	Target FID	Actual FID
Pluto 1, Woodside	2007	August 2007
Gorgon 1-3, Chevron/Exxon/Shell	2004/2008	September 2009
QC LNG, BG Group	Early 2010	November 2010
GLNG, Santos/Petronas	Mid 2010	January 2011
APLNG, Origin/CoP (Train 1)	End 2010	July 2011
Wheatstone, Chevron	End 2011	September 2011
Ichthys, Inpex/Total	End 2010	January 2012
APLNG, Origin/CoP (Train 2)	End 2011/Early 2012	July 2012
Browse	Mid 2012	TBA

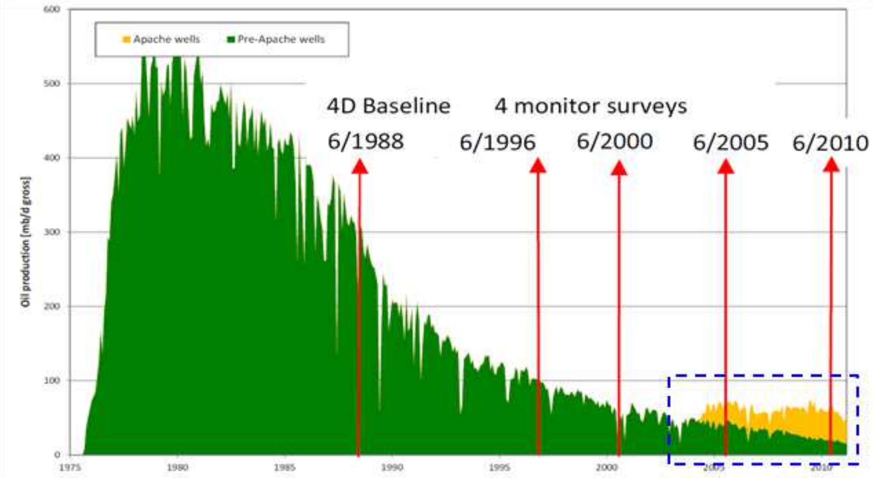


Schedule performance – FID to RFSU
Is execution schedule performance any better?
Analysis shows that 10 months schedule overrun is the mean (23%)

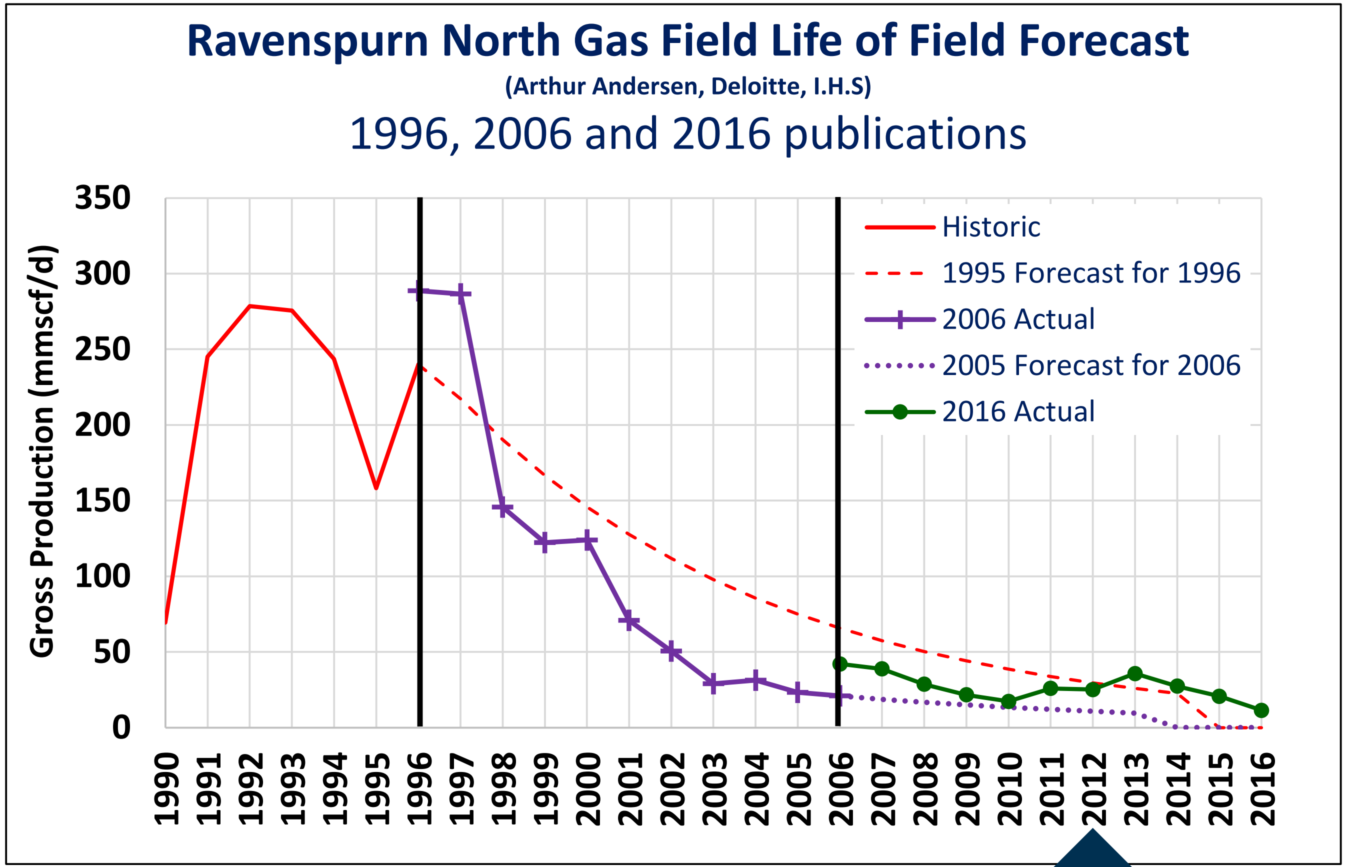
Publicly announced targeted FID for recent LNG projects and when FID actually occurred. Australian projects only
Almost everyone misses their target FID date and this is not just restricted to Australian projects
Only Wheatstone & Pluto met targets

Ref: http://riscadvisory.com/conference-papers/

Status: M&A Success, and Practicalities of Prediction



Change of operator
2003

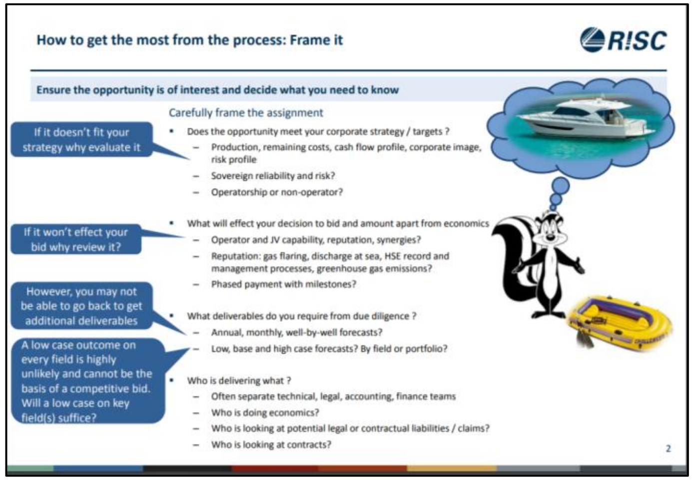


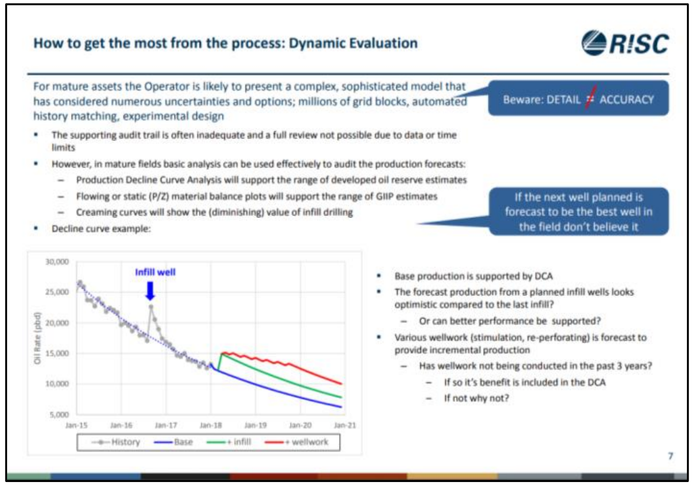
Change of operator
2012

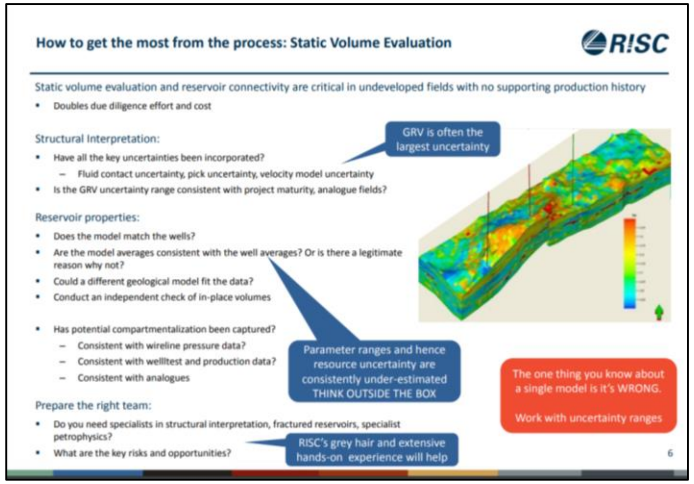
Ref: SPE (The Practicalities Of Optimizing the Bottom Line For Mature Fields)

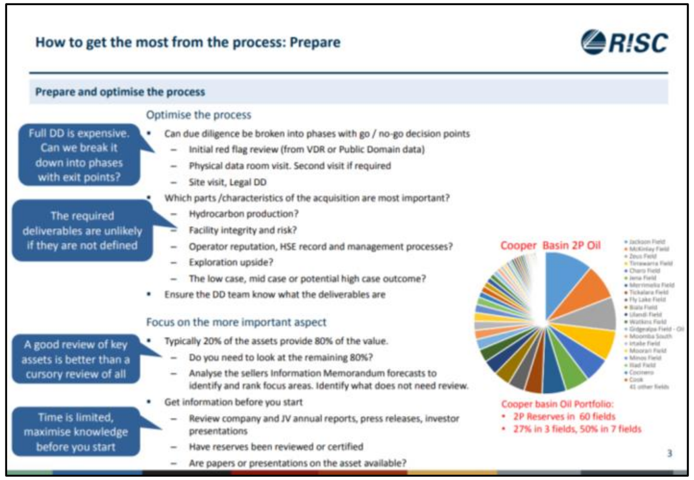
Calibration: Technical & Cost Estimation

6 June 2018 Acquisition Due Diligence. Is it as good as it seems? Peter Stephenson







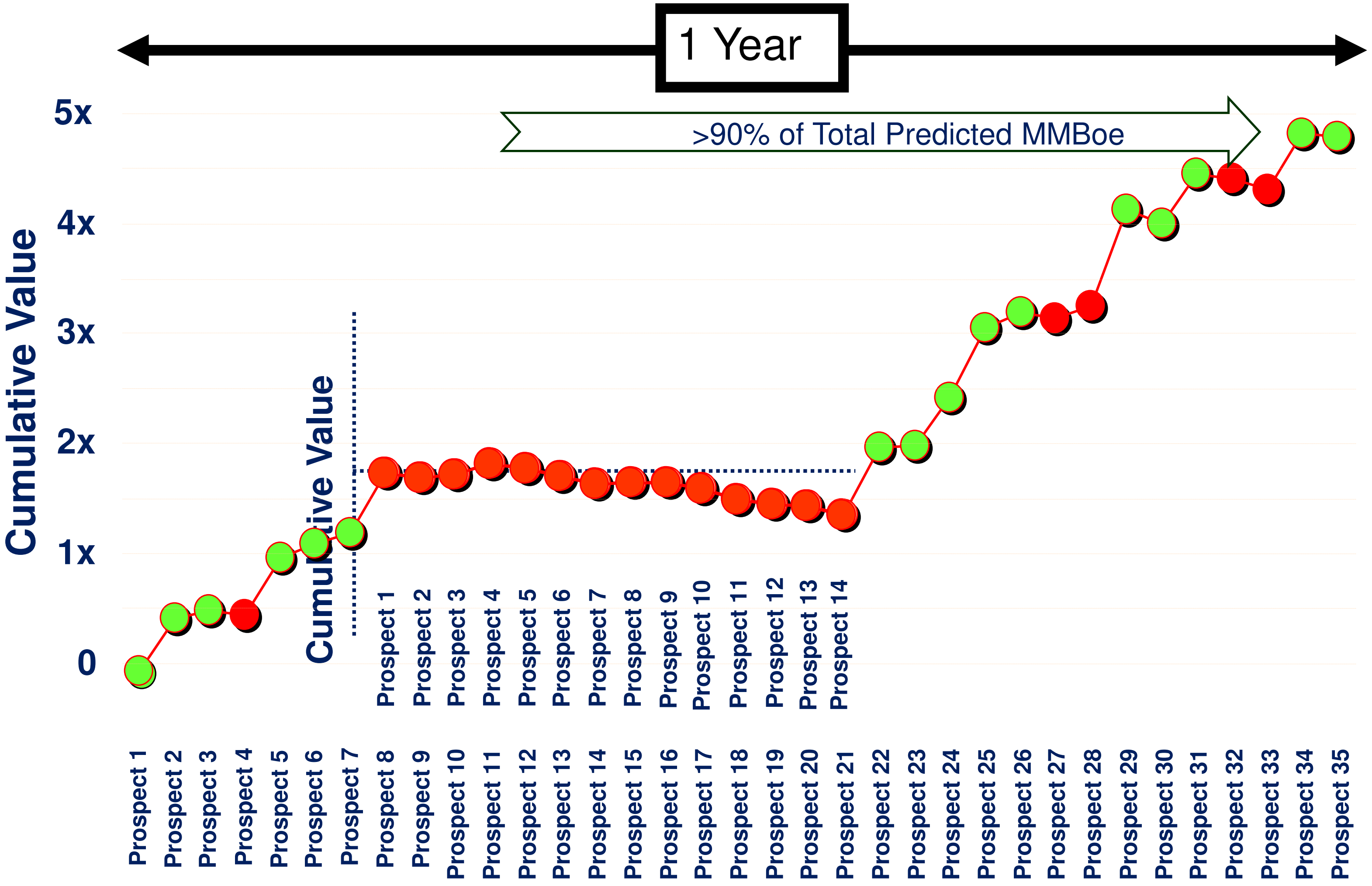


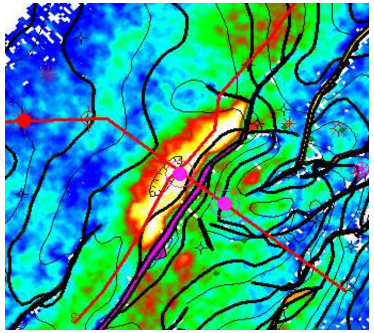
Ref: http://riscadvisory.com/conference-papers/

Calibration: Volume Prediction & Exploration Portfolio Valuation (35 wells)

Onshore, Gulf of Mexico, USA

'Expect' approximately four to seven 6's with thirty five rolls of the die





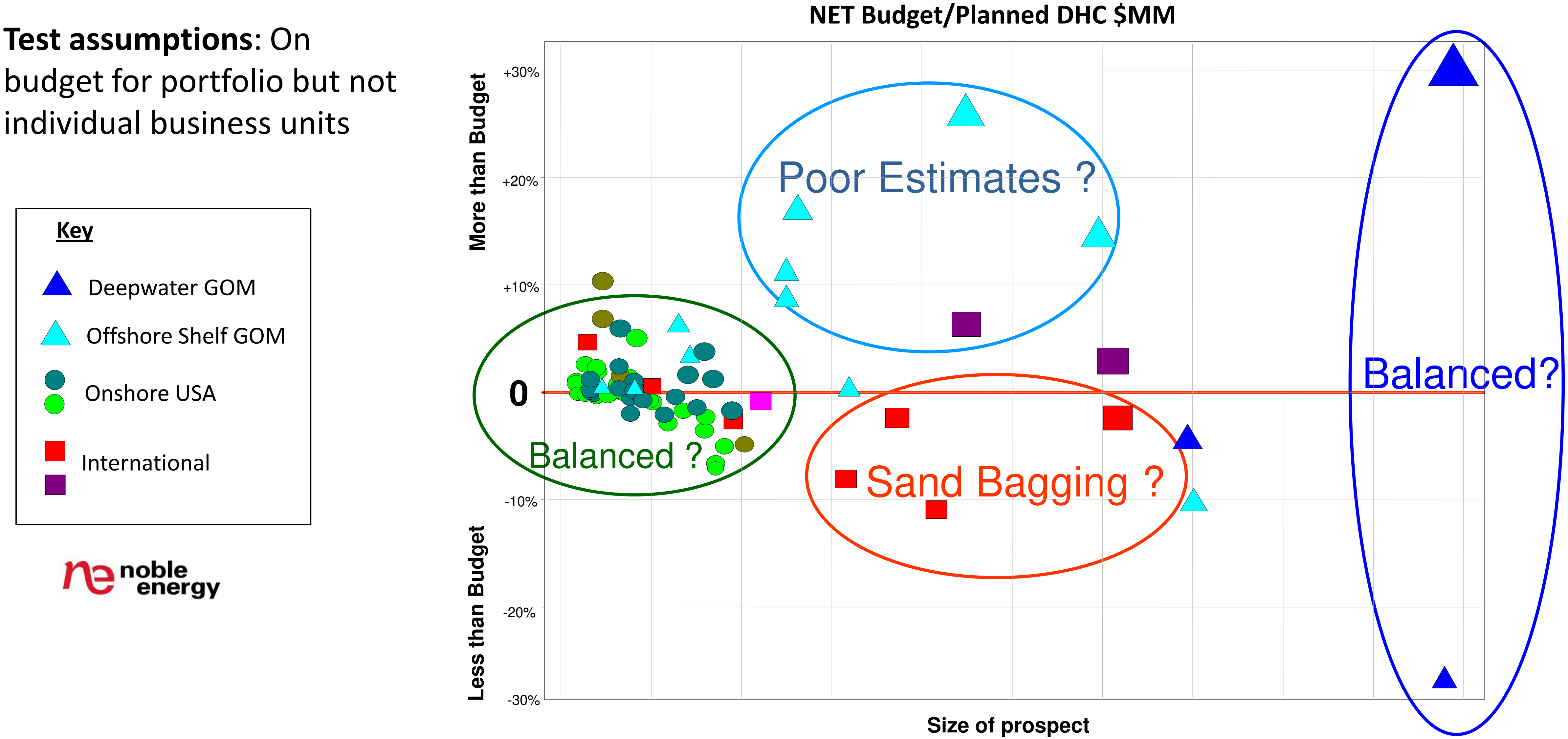
noble energy

Aspect Energy

Ref: AAPG 2006 (Basics are Boring – The Essentials of Good Portfolio Management at Independent Oil and Gas Companies)

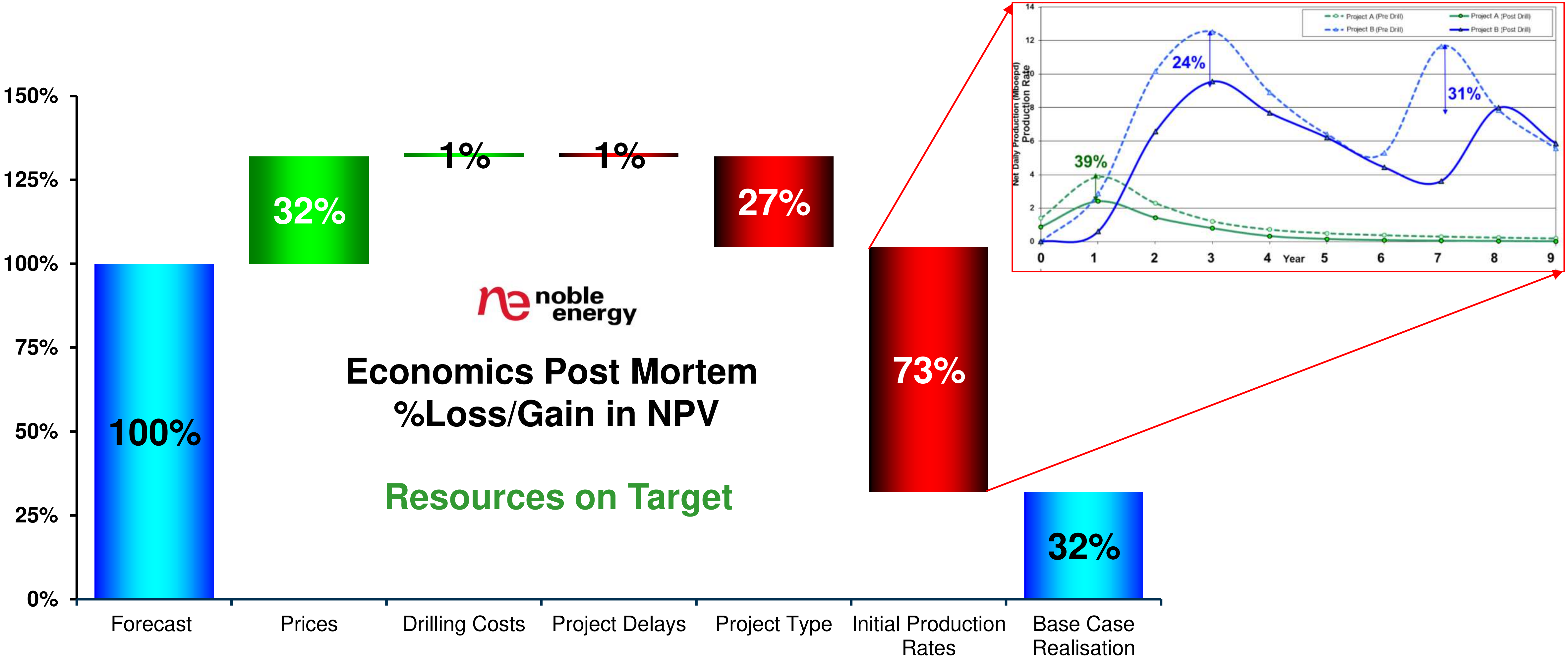
Calibration: Sum of the Parts & Know Your Assumptions

Test assumptions: On budget for portfolio but not individual business units



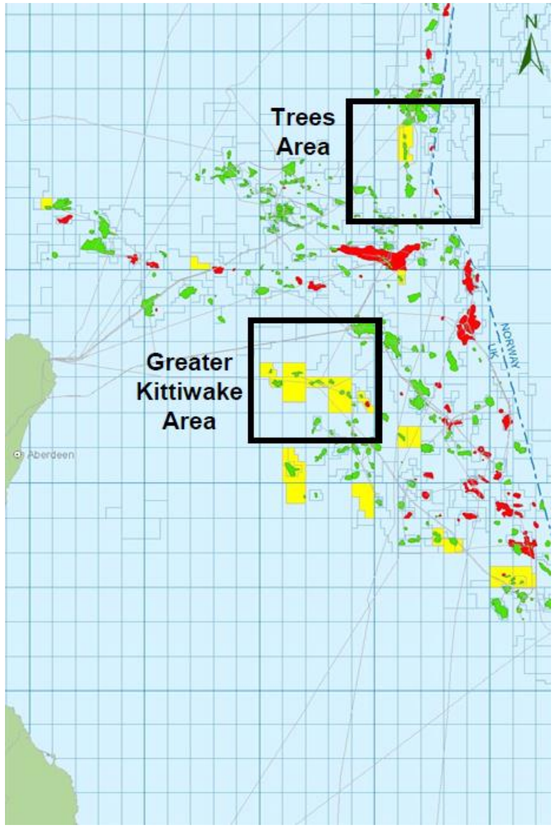
Ref: AAPG 2006 (Basics are Boring – The Essentials of Good Portfolio Management at Independent Oil and Gas Companies)

Case History: Test Assumptions & Know Your Process



Ref: AAPG 2006 (Basics are Boring – The Essentials of Good Portfolio Management at Independent Oil and Gas Companies)

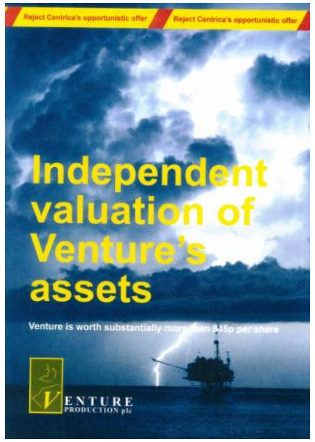
Value Histories: Venture Production 2009 Portfolio in 2018



20 Producing Fields

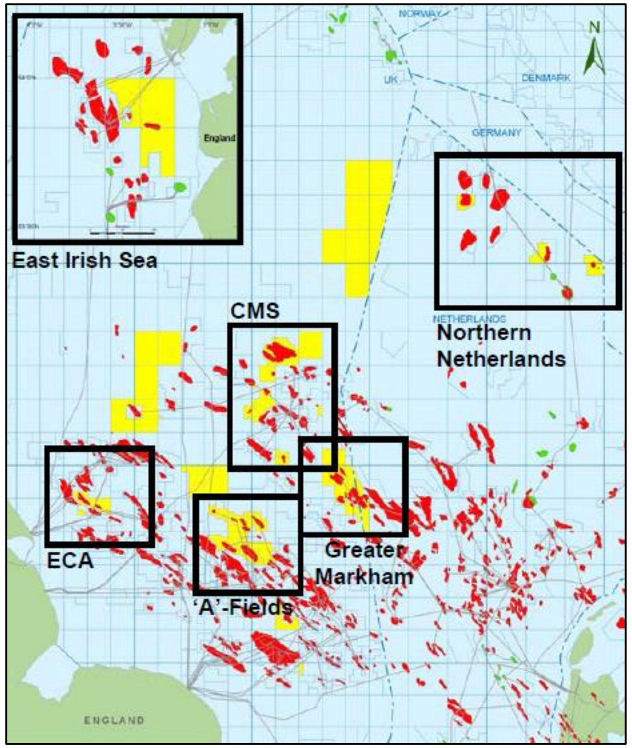
26 Discovered Non-Producing

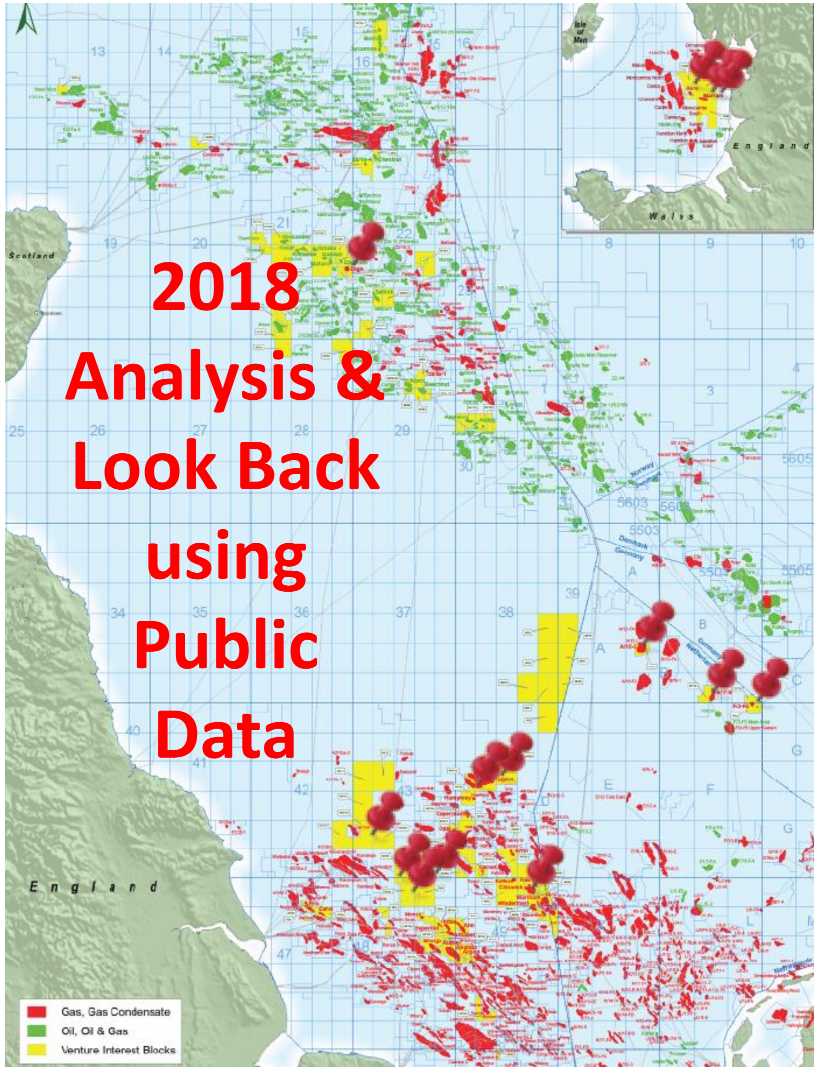
> 50 Prospects & Leads



Centrica plc paid £1.3 bill

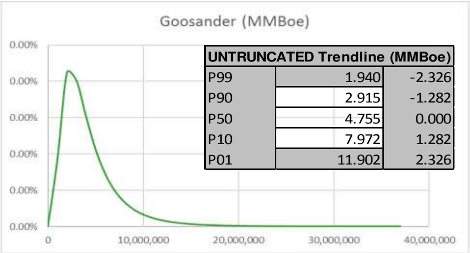
Venture Petroleum	Lowside Scenario (£ mill)	Base Scenario (£ mill)	Upside Scenario (£ mill)
Reserves	-	1,742	2,209
Contingent & Prospective	-	160	225
Other assets	-	8	8
Total	**-**	**1,910**	**2,442**



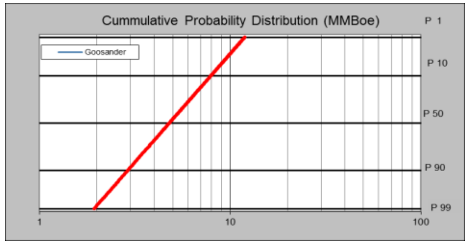


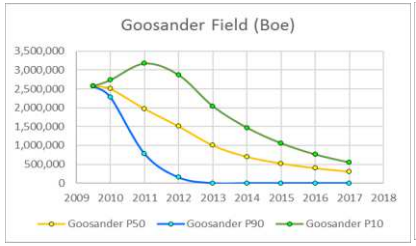
Value Histories: £1.3 Billion Acquisition 2009

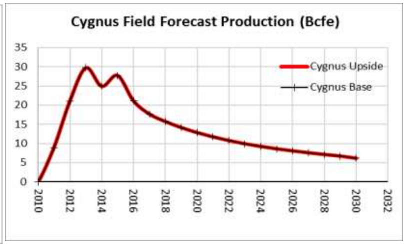
2018 Analysis & Look Back using Public Data



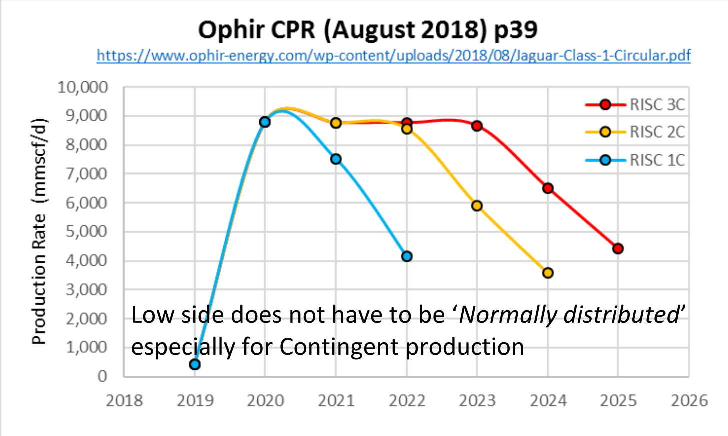
UNTRUNCATED Trendline (MMBoe)		
P99	1.940	-2.326
P90	2.915	-1.282
P50	4.755	0.000
P10	7.972	1.282
P01	11.902	2.326







- RISC reviewed over 80% of Ventures assets on a 2P reserves basis.
- Contingent & Prospective resources valued using a unit value method ($/Boe).
- Effective date = 1 July 2009
- No Lowside: only Base & Upside requested*



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Reserves	1,275 ?	1,742	2,209
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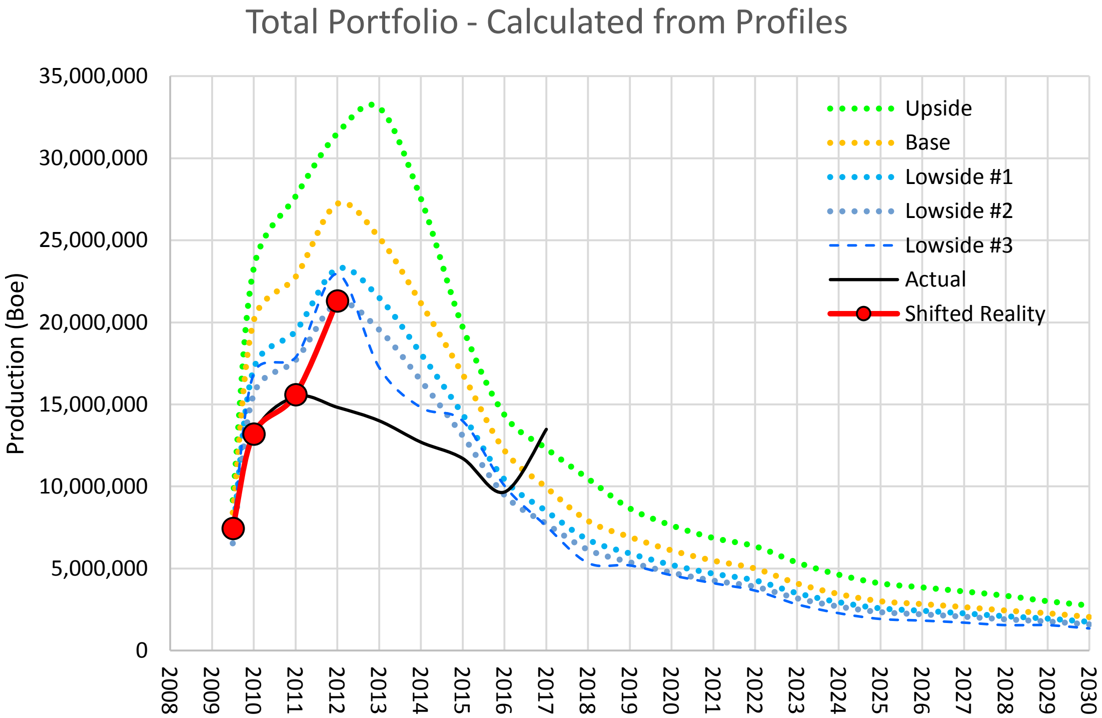
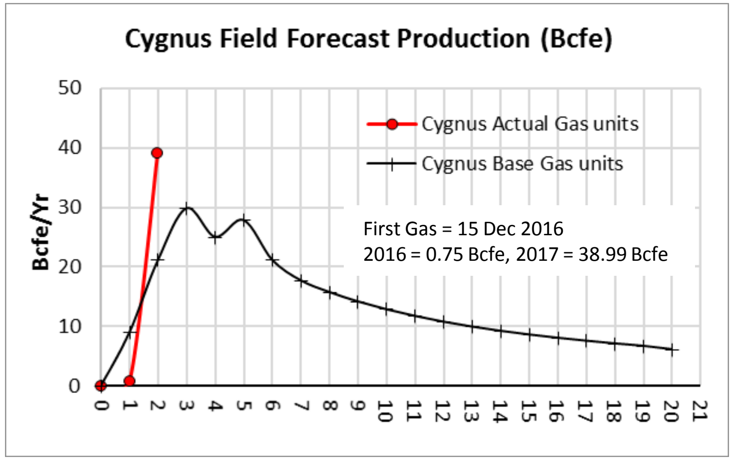
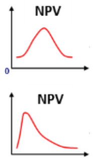
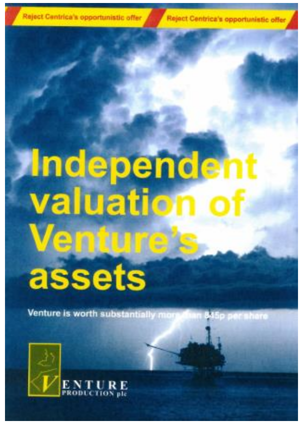




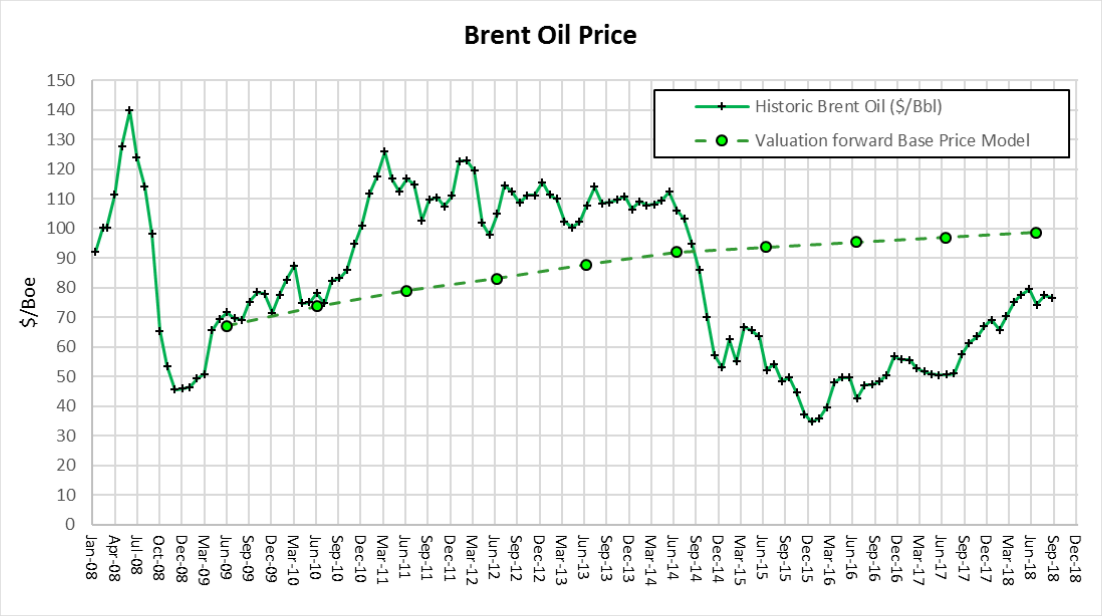


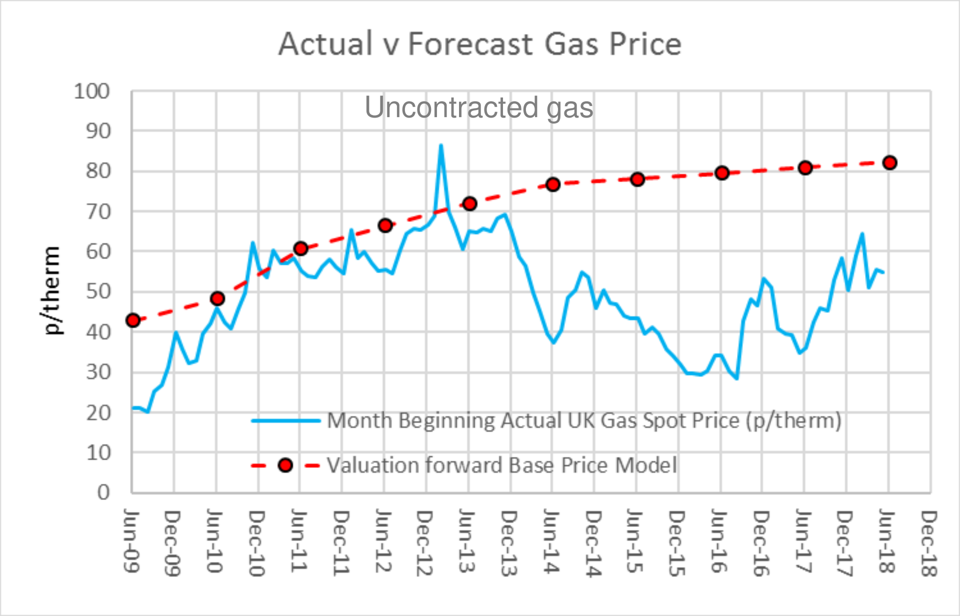


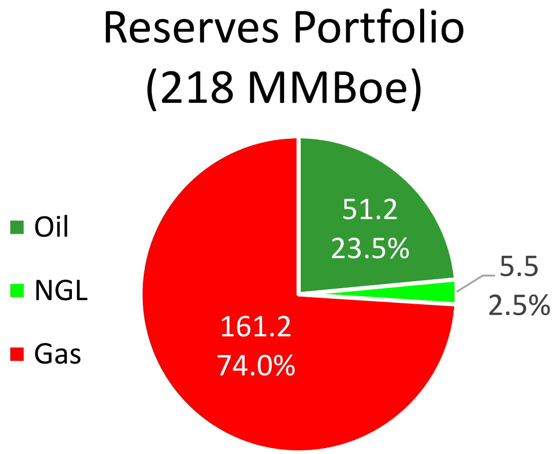
(Ref: Production data from OGA & Netherlands https://www.nlog.nl/en/data)

*Lowside production volume from Normalised type curves based on Base and Upside cases

Value Histories: Price Prediction







Value Histories: £1.3 Billion Acquisition 2009 (Base Valuation = £ 1.9 Bill)

	Base Forecast 2009 - 2017	Actual 2009 - 2017	Variance 2009 - 2017	%Variance
Cygnus Delay	£1,910 mill	£1,750 mill	(£-160) mill	-8.3%
Oil Price Change	£1,910 mill	£1,985 mill	£75 mill	3.9%
Uncontracted Gas Price Change	£1,910 mill	£1,469 mill	(£-441) mill	-23.1%
FX £:$	£1,910 mill	£1,935 mill	£25 mill	1.3%
Volume	TBA	TBA	TBA	TBA
TOTAL	£1,910 mill	£1,409	(£-501) mill	-26.4%

Area	Gain/(Shortfall) Actual Produced Volume 2009 – 2017 (MMBoe)
UK Gas	(-32.3)
Trees (CNS)	(-11.7)
CNS	(-8.5)
NL	(-0.5)
GKA	(-0.3)
GMA	1.9
Total	(-51.4)

FINANCIAL TIMES

Venture concedes and accepts Centrica bid

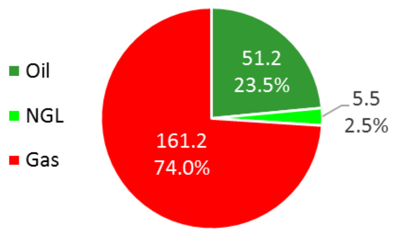
Carola Hoyos AUGUST 25, 2009

Venture Production has grudgingly accepted defeat in its battle to thwart a £1.3bn takeover by Centrica, the UK's biggest utility.

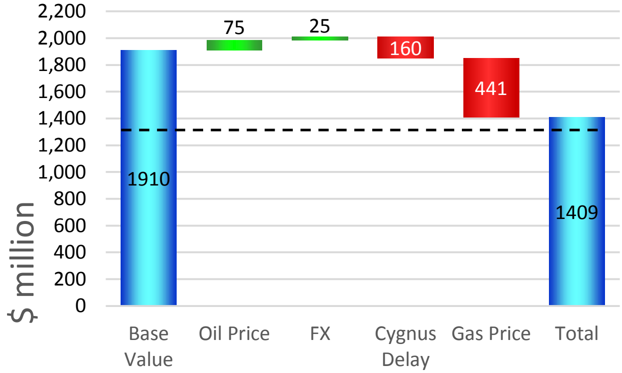
Venture's board on Tuesday at last recommended that investors accept Centrica's 845p offer. Even so, the board, which holds 12.5 per cent of the stock, reiterated its belief that the price undervalued the company.

Larry Kinch, one of Venture's founders, and ArcLight Capital Partners, the investment group, together own 12.8 per cent of Venture. For more than a month they had insisted the shares were worth at least £10. But after Centrica had managed to secure more than 50 per cent of Venture's shares, they told Venture's board on Tuesday they would accept the bid.

Reserves Portfolio (218 MMBoe)



Gain/Loss in Value (2009 – 2017)



VENTURE PRODUCTION plc

centrica

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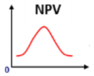

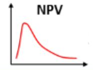

Conclusions?

'*Calibration is King*' for continuous improvement

1. Question your assumptions (eg: New owner/acquirer uses same investment plan)
2. Focus on the BIG assets
3. Consider/Flag Black Swan* events
4. RANGES are critical (including Low side) – Banks and Auditors are Sometimes Right
5. and………………Treat Contingent/to be developed fields with extra care

*Black Swan event is a metaphor that describes an event that comes as a surprise, has a major effect, and is often inappropriately rationalized after the fact with the benefit of hindsight. (Cygnus field?)

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