Gaffney, Cline & Associates

Case Studies of Portfolio Management

The Royal Institution

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Disclaimer

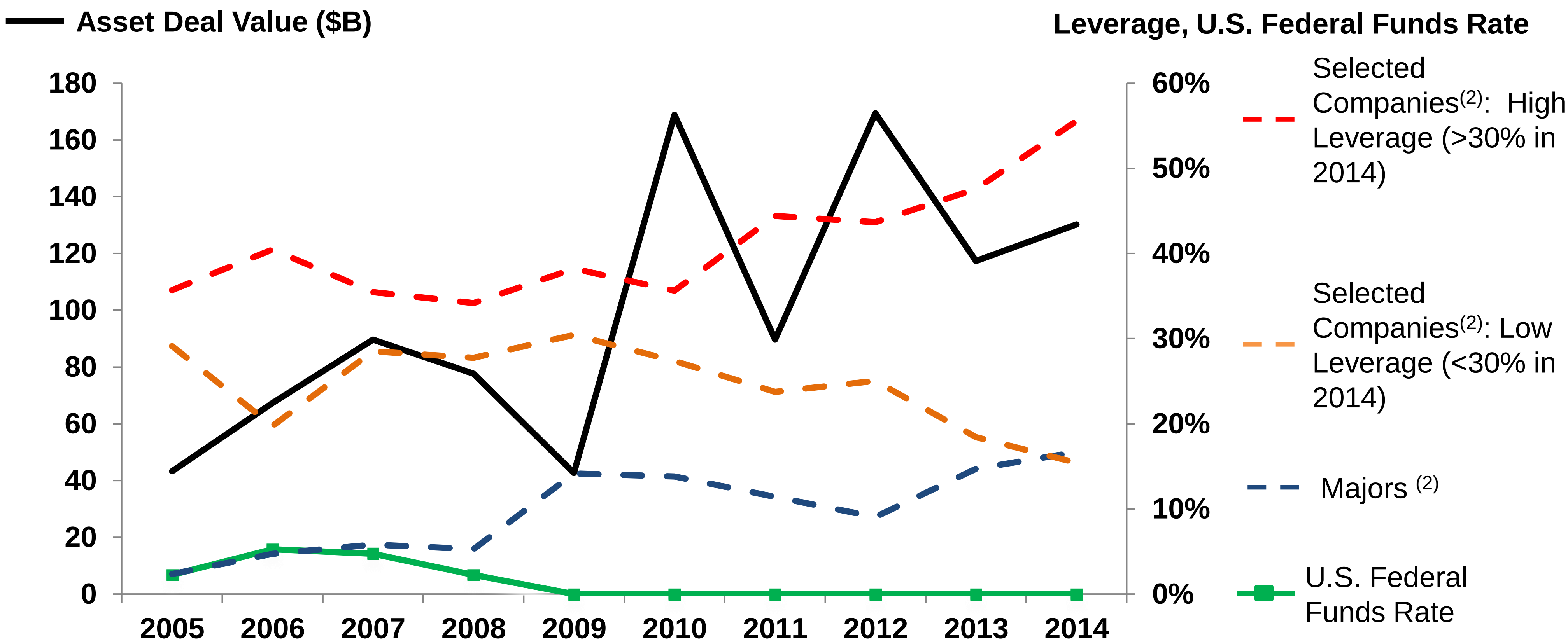
This set of presentations has been prepared exclusively for discussion purposes during this event. The materials presented should not be understood as GCA forecasts or predictions of oil and gas prices or future industry conditions and they should not be understood as a specific recommendation in respect of any particular decision or course of action.

Today's AgendaL

- **Acquisition and Divestiture (A&D) Activity During the Last 10 Years of High Oil Prices**
  - Evolution of Debt-to-Equity Ratios – Majors and Other Selected Companies
  - A&D Activity Drivers
- Case Studies – Best Practices in Portfolio Management
  - QGEP – Building a Portfolio from Scratch
  - Anadarko – Portfolio Reshuffling and Deleveraging Post-Acquisition
  - Midstream – "Outsourcing" Parts of the Value Chain to Suppliers

Since 2005, A&D value increased while leverage levels exhibited varying patterns, suggesting differing uses for extra liquidity

Asset Deal Value [1] vs. Leverage of Majors and Selected Companies [2] and U.S. Federal Funds Rate

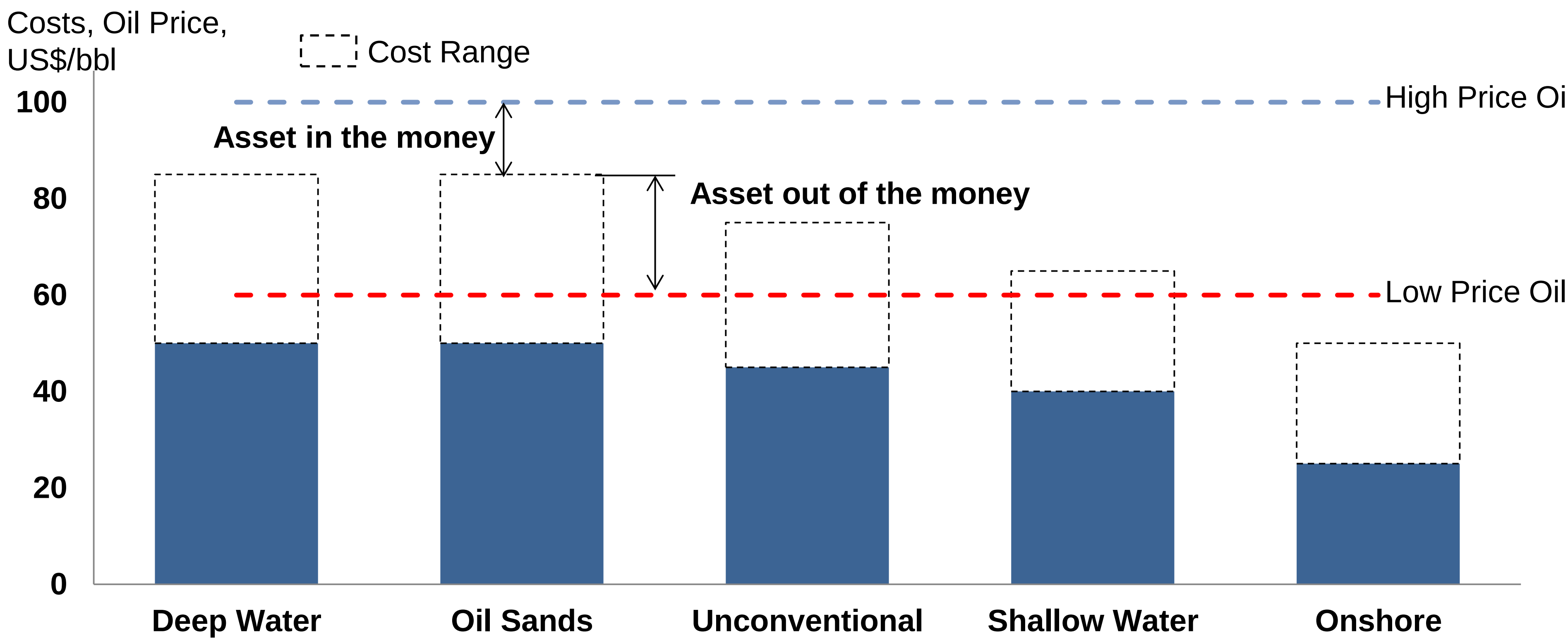


Notes:
(1) Total value of global asset deals worth more than $10 MM each; leverage measured by net debt-to-equity ratio; active companies in A&D activity
(2) Majors: BP, Chevron, Exxon, Shell, Total; Selected Company Group: Anadarko, Apache, BG, BHP, CEPSA, Devon, Ecopetrol, Encana, Eni, Galp, Hess, Marathon, Noble, Petrobras, Petrochina, Pioneer, PTT, Repsol, Sasol, Sinopec, Southwestern, Statoil, Talisman

Sources: IHS Transaction Analysis Report; U.S. Federal Reserve Bank; GCA analysis

In a low oil price environment, assets in a company's portfolio may become "out of the money"

Range of Break-Even Prices [1] by Play Type, US$ / bbl



Conversely, during a high oil price environment, the entire portfolio will very likely be "in the money"

Notes:
(1) Prices such that investment is recouped over project cycle. Indicative cost ranges based on GCA type project modelling
Source: GCA Type Project Modelling

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In a continued low price environment, A&D activity will be driven by companies' needs to adjust their balance sheets

		High Price Oil – A&D Drivers	Low Price Oil – A&D Drivers
E&P Balance Sheet	**Cash**	Plenty of cash available – all assets are "in the money"	Reduced cash generation – some assets in portfolio "out of the money"
	Leverage	Overall, companies with low leverage ratios	Eventual impairments and reduced asset values will impact leverage levels
E&P Finding and Develop-ment	**Development**	High development costs – "buying rather than drilling"	High development costs – "buying rather than drilling" persists – though there might be some relief on cost side
	Exploration	Still enough cash available to fund exploration programs and farm-ins	Reduced cash generation to fund riskier exploration – exploration suffers most
Capital Markets	**Public and Private Equity**	Public and private equity markets (energy focused) are available	Public and private equity markets (energy focused) are still available, but become more selective
	Cost of Money	Cheap money (low interest rates) available	Cheap money policy to continue for some time
		A&D is driven by "liquidity" provided by financial markets	**A&D is driven by balance sheet pressure to adjust the portfolio**

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- ❑ **Case Studies – Best Practices in Portfolio Management**
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Well-run companies must manage a financial platform that is both able to generate cash and fund long-term activities

Best Practices in Portfolio Management

Cash-generating

Cash-consuming

Generate cash from operations

Cash generation from producing assets (and from balance sheet sources) should be enough to fund "cash consuming" activities

Development projects

Projects that will generate cash in the medium term (3 to 6 years) and at benchmark development indicators ($/boe, time to first oil, etc.)

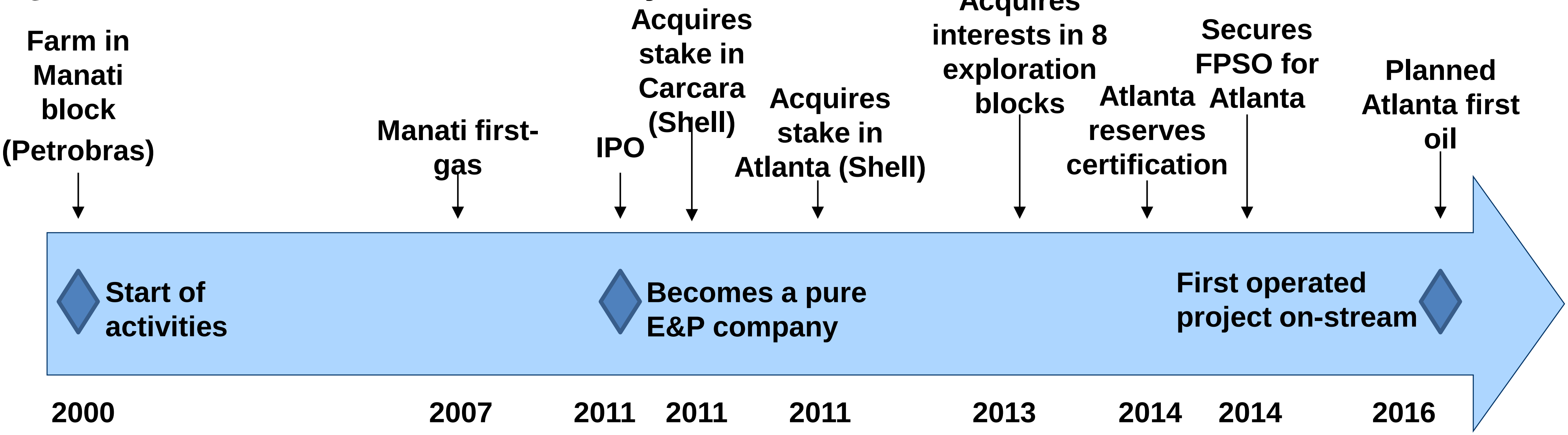
Exploration projects

Projects that will generate cash in the longer term (5 to 10 years) and at benchmark exploration indicators (hit rate, average discovery size, etc.)

Ultimately companies must also be able to pay dividends to their shareholders or make cash payments to their governments

QGEP grew its portfolio position gradually, starting within an oilfield services company and then becoming a pure E&P firm

QGEP [1] Historical Overview and Key Milestones



Incubation Phase

- E&P activities carried out within oilfield services company
- Acquires interests in several exploration projects
- 20 wells drilled (non-operated)

IPO – Early 2011

- E&P activities are carved out of oilfield business
- Raises US$ B 0.9
- Invests in exploration rights, also assuming operatorship of some
- Relinquishment of unattractive assets

Notes:
(1) During the “incubation” phase the company had no operated assets; Atlanta is the first asset operated by the company

Sources: Company information; GCA analysis

Despite operating only in a single country, the company built a diversified portfolio across 8 distinctive basins

QGEP Asset Base (1) Overview

1 Amazonas basin – 1 block

2 Pa-Ma basin – 2 blocks

3 Ceará basin – 1 block

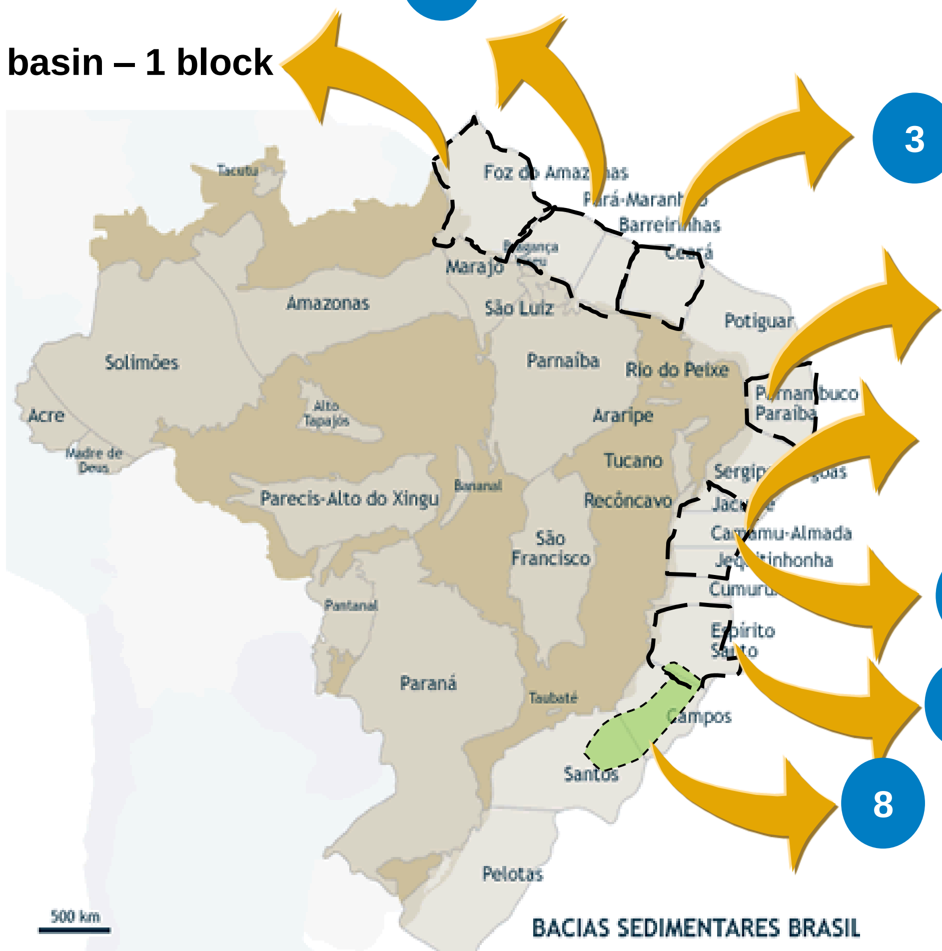
4 Pe basin – 2 blocks

5 Ca-Al basin – 2 blocks

6 Jeq basin – 1 block

7 ES basin – 2 blocks

8 Santos basin – 2 blocks



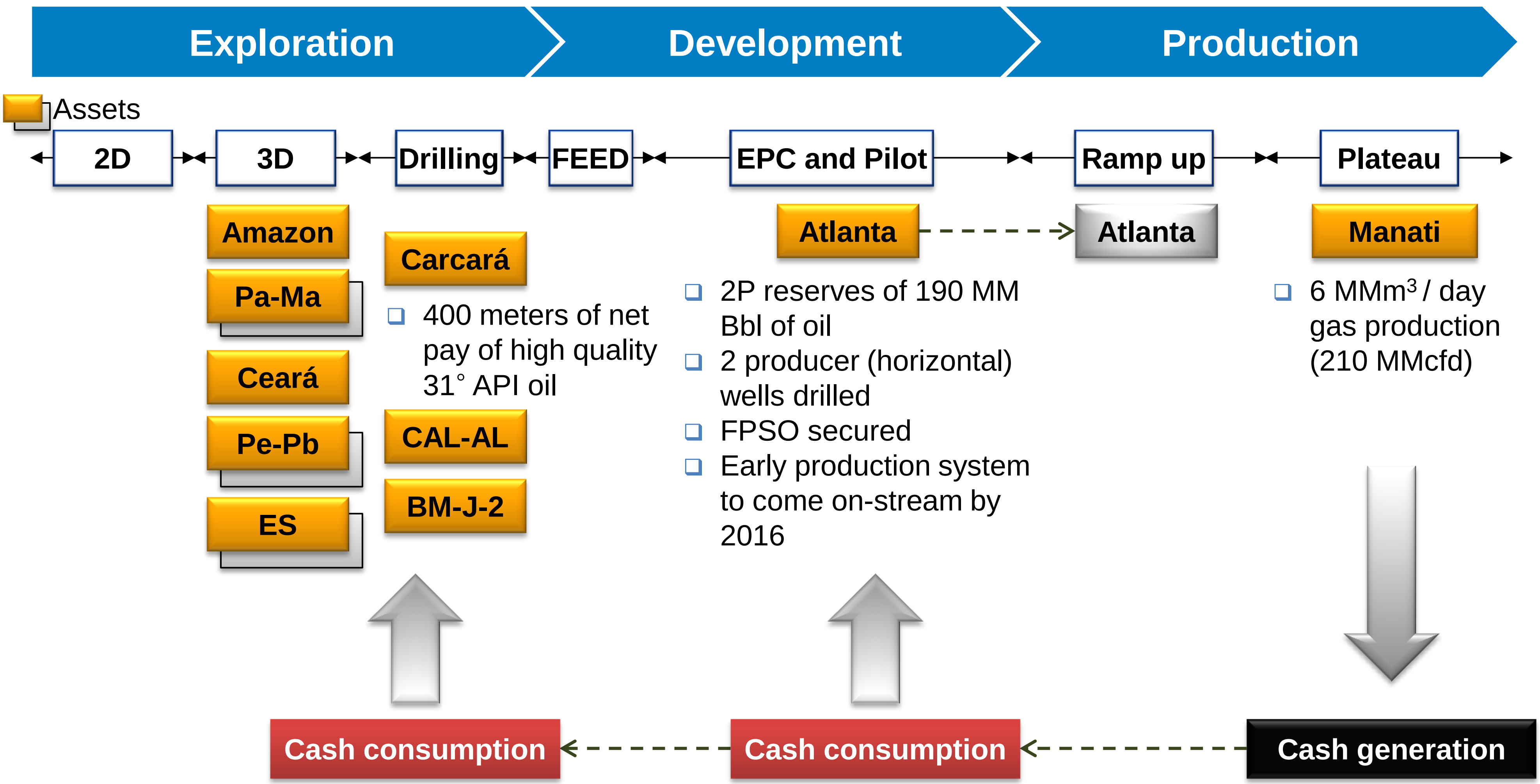
Presalt

Notes:
(1) Company had some interests in onshore assets that were relinquished over time

Source: Company information; GCA analysis

Its balanced portfolio is providing the necessary cash to fund future growth

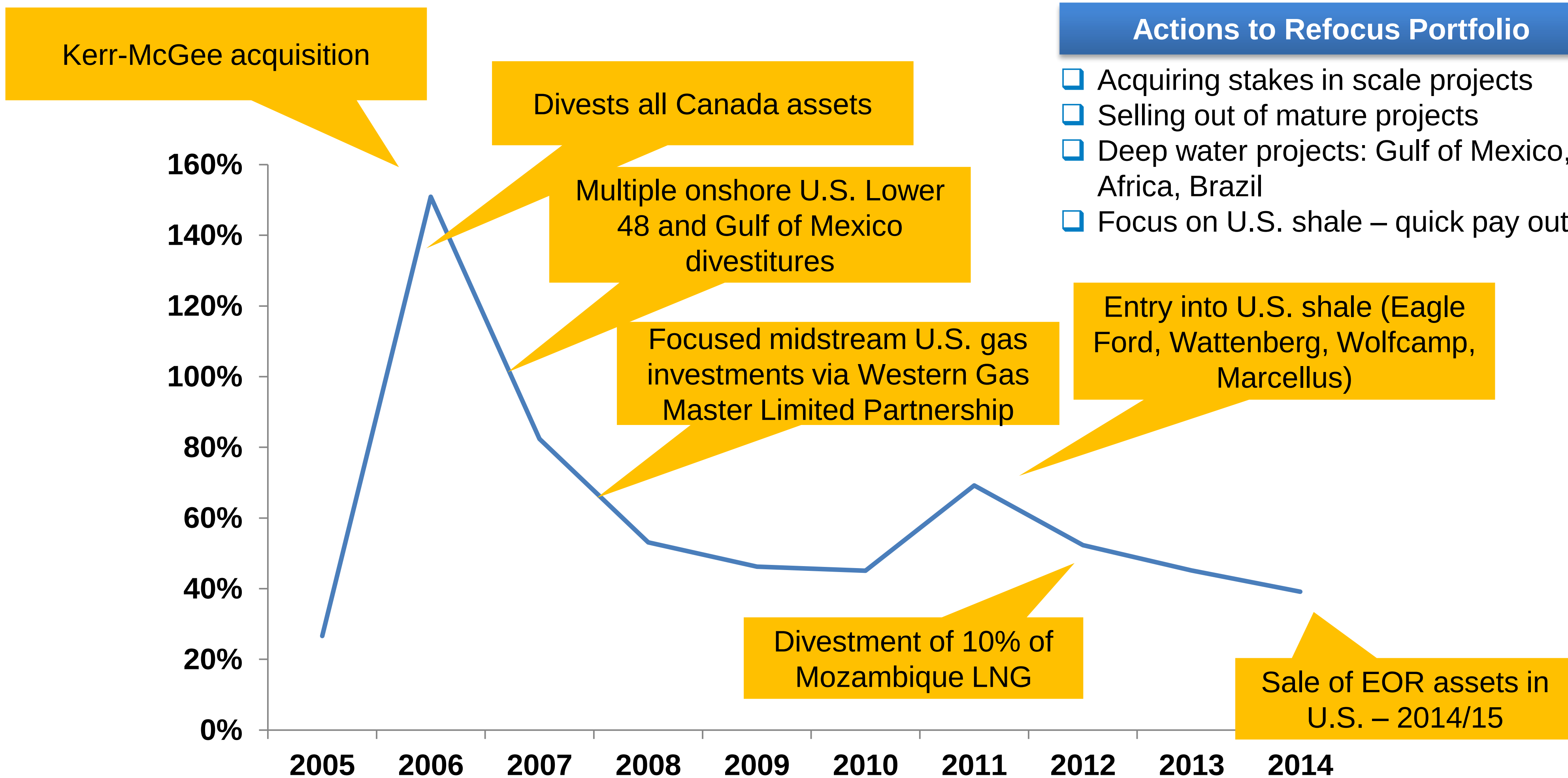
QGEP Asset Base by Maturity



Source: Company information

After Anadarko acquired Kerr-McGee, it engaged in a series of divestments as part of an effort to refocus and manage exposure

Anadarko Debt-to-Equity Evolution and Key A&D Milestones



Actions to Refocus Portfolio

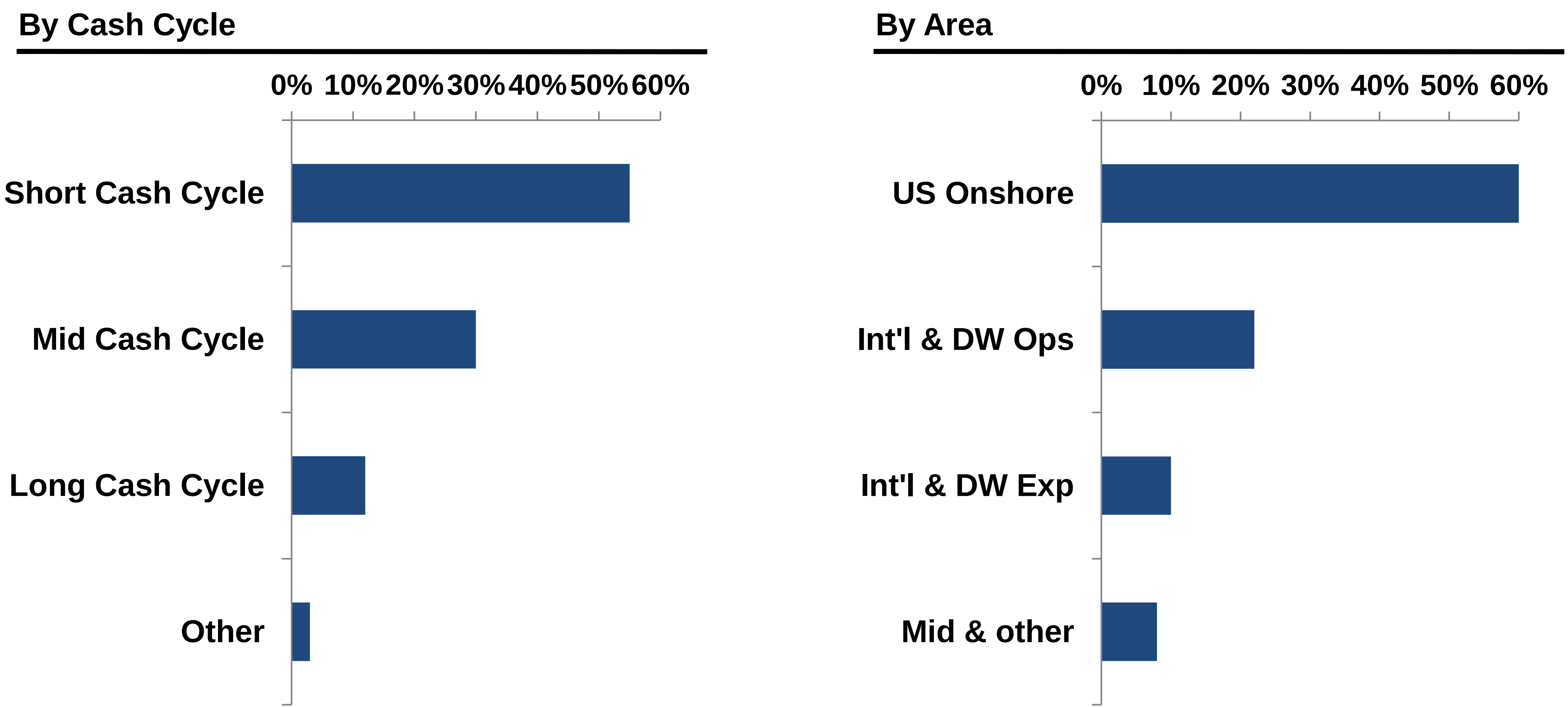
- Acquiring stakes in scale projects
- Selling out of mature projects
- Deep water projects: Gulf of Mexico, Africa, Brazil
- Focus on U.S. shale – quick pay outs

Sources: Company information; GCA analysis

The company's capital expenditure allocation is commensurate with its portfolio strategy

Anadarko's Capital Expenditure Expectations [1], 2015

$ Billion



Notes:
(1) Capital expenditure expectation at $5.4-5.8 B, a 33% reduction over 2014. Short cycle = investments in current fiscal year; Mid cycle = growth in returns within 2 to 3 years; Long cycle = growth in returns over 3 years

Sources: Company information; GCA analysis

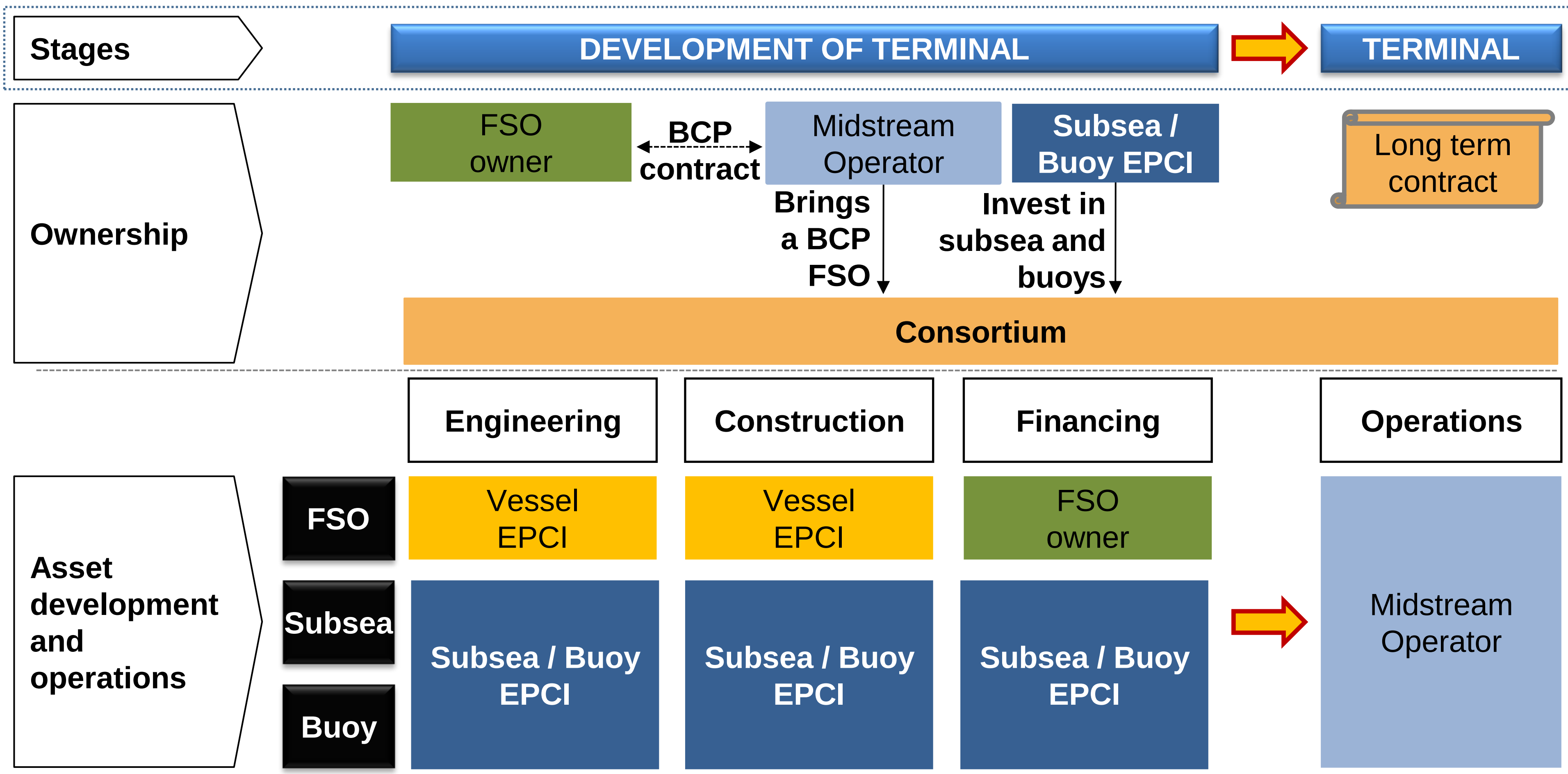
To reduce its exposure, a midstream company looked for a new business model so it could "divest" future CAPEX requirements

Midstream Terminal Concept

Note: (1) CALM = Catenary Anchor Leg Mooring
Source: GCA analysis

The innovative model involved the participation of key suppliers in the engineering, construction, and financing of the asset

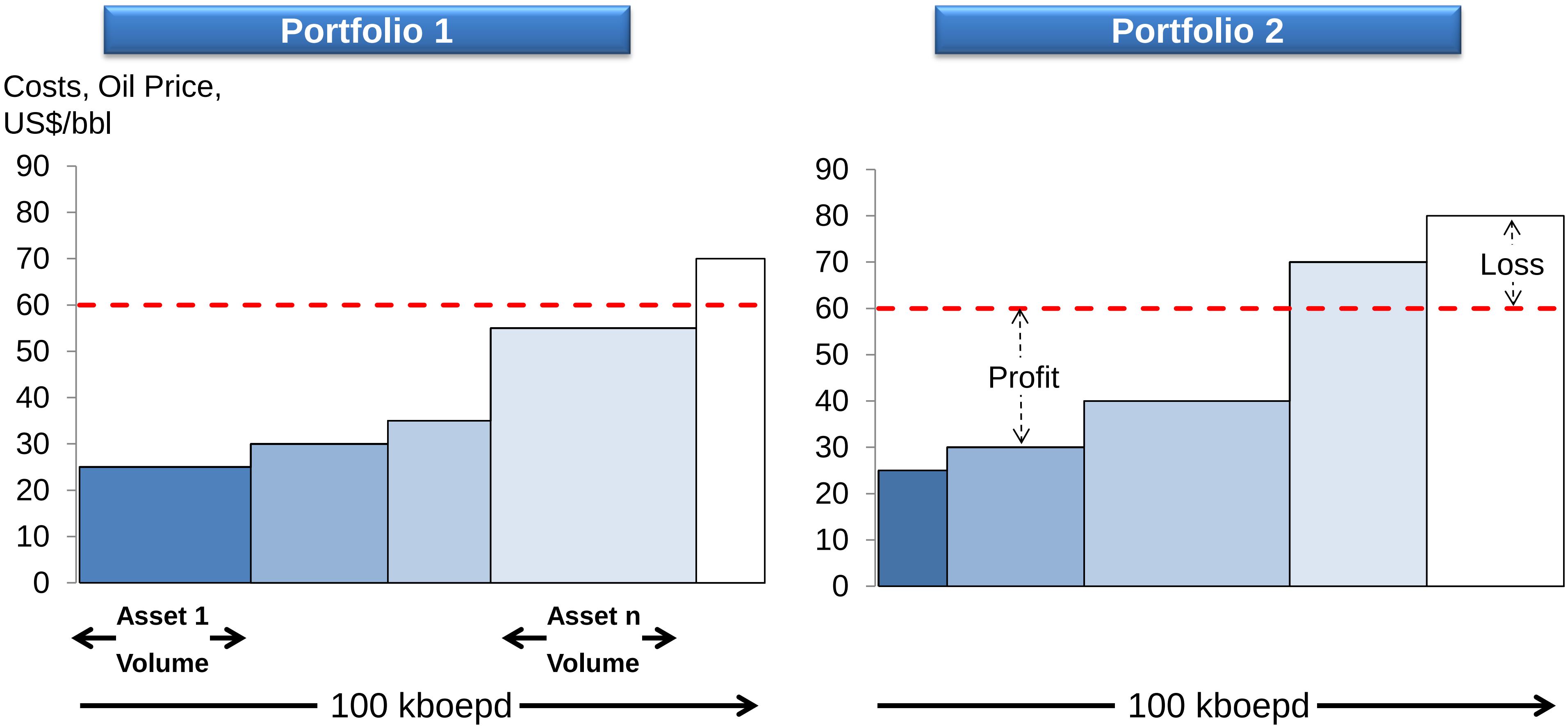
Proposed Business Model [1]



Note: (1) BCP = Bareboat Charter Party; FSO = Floating Storage and Offloading; EPCI = Engineering, Procurement, Construction and Installation
Source: GCA analysis

If you had a choice which portfolio would you pick and why?

Cumulative Production vs. Costs



The answer is not a simple one…

The Profit & Loss is simply a snapshot of the whole picture

- What are the contingent and prospective resources?
- Is it there room for redevelopment and/or for newer technologies?
- What is the maturity of the portfolio?
- Could cost cutting initiatives take assets back to be “in the money”?

Key Takeaways

- Since 2005, acquisition and divestiture (A&D) value tracked oil price, implying that valuations are influenced by higher earnings in the sector
- Following this A&D positive trend, and on the back of a loose monetary policy cycle, companies increased their overall levels of leverage (debt-to-equity ratio)
- However, if a low oil price scenario persists, many assets in a company's portfolio may become "out of the money", stressing balance sheets even further
- A combination of lower cash generation and highly leveraged balance sheets may force companies to review their portfolio strategies
- Best practice companies pursue a constant equilibrium between cash generation activities (production) and cash consuming ones (development and exploration)
- Several case studies illustrate how companies develop their strategies and use A&D to adjust their portfolios accordingly