



New Zealand Oil & Gas Limited

Appraisal Report Prepared in Relation to the Proposed
Divestment of New Zealand Oil and Gas' Interests in Kupe

November 2016



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Abbreviations and Definitions

1P / P90	Proved reserves with 90% probability of oil/gas recovery exceeding the P90 estimate
2P / P50	Proved plus probable reserves with 50% probability of oil/gas recovery exceeding the P50 estimate
3P / P10	Proved plus probable plus possible reserves with 10% probability of oil/gas recovery exceeding the P10 estimate
Bbl	Barrels, a unit volume of oil
Boe	Barrel of oil equivalent, a measure of energy equivalent to one barrel of oil
Cue	Cue Energy Resources Limited
EBITDA	Earnings before interest, tax, depreciation and amortisation
EV	Enterprise Value
FY	Financial year ending 30 June
Genesis	Genesis Energy Limited and the relevant purchasing entity for New Zealand Oil & Gas's interests in Kupe under the Proposed Transaction
GJ	Gigajoules (one billion joules)
Appraisal Report	This report prepared by Northington Partners
Joule	A metric measurement of energy
Kupe	The oil and gas interest in Petroleum Mining Lease (PML) 38146
Kt	Kilotonnes (1,000 tonnes)
Methanex	Methanex Corporation and its New Zealand subsidiaries
mmBoe	Million Boe
Northington Partners	Northington Partners Limited
Notice of Meeting	The notice of special meeting of New Zealand Oil & Gas shareholders and accompanying material in relation to the Proposed Transaction
NPAT	Net Profit After Tax
NZ\$	New Zealand dollars
NZO	New Zealand Oil & Gas Limited
NZX	NZX Limited
NZX Listing Rules	NZX Main Board/Debt Market Listing Rules
NZX Main Board	The main board equity securities market operated by NZX
Origin	Origin Energy Limited and via its subsidiaries, the operator of Kupe
PJ	Petajoules (10^{15} joules)
Proposed Transaction	The transaction described in this Appraisal Report detailing NZO's proposal to sell its Kupe interest to Genesis
TJ	Terajoules (10^{12} joules)
Transaction Price	\$168 million, the price paid by Genesis for NZO's interest in Kupe subject to settlement adjustments
US\$	United States dollars



1.0 Overview of the Proposed Transaction

1.1. Introduction

New Zealand Oil & Gas Limited (“**NZO**” or “**Company**”) is listed on the NZX Main Board, being the main board equity securities market operated by NZX Limited (“**NZX**”). NZO is a New Zealand based oil and gas exploration and production company. The Company primarily explores for crude oil, natural gas, liquefied petroleum gas and condensate or light oil. As well as a number of exploration interests, NZO holds interests in New Zealand production fields including a 15% interest in the Kupe oil condensate and gas field (“**Kupe**”) and a 27.5% interest in the Tui area oil fields (“**Tui**”), both located in the offshore Taranaki basin. As of 21 November 2016, the Company also holds a 49.6% shareholding in Australian Securities Exchange (“**ASX**”) listed Cue Energy Resources Limited (“**Cue**”), which has interests in the Maari field in the offshore Taranaki basin as well as interests in Indonesia and Australia.

On 16 November, NZO announced it had entered into a conditional agreement to sell its interests in Kupe to Genesis Power Investments Limited (the “**Proposed Transaction**”), a subsidiary of Genesis Energy Limited (“**Genesis**”), for total cash consideration of \$168 million (“**Transaction Price**”).

Given that NZO and Genesis are both participants in the Kupe joint venture, the Proposed Transaction constitutes a material transaction with a related party under the NZX Listing Rules and must be approved by an ordinary resolution of NZO’s shareholders. As part of that process, NZO has appointed Northington Partners Limited (“**Northington Partners**”) to prepare an Appraisal Report for the benefit of the NZO shareholders not associated with Genesis, for the purposes of assisting those shareholders to decide whether or not to approve the Proposed Transaction. As set out in more detail in Section 2.0, this report has been prepared in accordance with the requirements of Rule 1.7.2 of the NZX Listing Rules.

1.2. Details of the Proposed Transaction

The Proposed Transaction is subject to a number of conditions before it will become binding, the full details of which are set out in the notice of meeting to be sent to NZO shareholders (“**Notice of Meeting**”). A summary of the key terms and conditions is as follows:

- NZO will transfer all of its Kupe interests (held in its wholly owned subsidiaries National Petroleum Limited, Nephrite Enterprises Limited, Petroleum Equities Limited and Kupe Royalties Limited) for the agreed consideration of \$168 million subject to relevant adjustments.
- NZO’s shareholders must approve the Proposed Transaction at a special meeting of shareholders. The voting thresholds for the Proposed Transaction are:
 - (i) a majority of 75% of the votes of the NZO shareholders entitled to vote and voting on the Proposed Transaction for the purposes of section 129 of the Companies Act 1993, rule 9.1.1(b) of the NZX Listing Rules and all other purposes; and
 - (ii) a simple majority of the votes of all NZO shareholders entitled to vote on the Proposed Transaction for the purposes of rule 9.2.1 of the NZX Listing Rules.
- The Proposed Transaction is conditional on approval by NZO shareholders by 31 December 2016, there being no physical events affecting the Kupe joint venture assets and adversely impacting the value of NZO’s Kupe interest by at least 15% of the Transaction Price, the Board of NZO not withdrawing its recommendation for the Proposed Transaction and a number of other conditions detailed in the Notice of Meeting.
- The Proposed Transaction is also conditional on the consent of the Minister of Energy and Resources under the Petroleum Act 1937. If this consent is not agreed by 31 May 2017, or at the conclusion of any extended period as agreed between the parties, the Proposed Transaction will not proceed.
- NZO and Genesis are targeting settlement of the Proposed Transaction in January 2017; NZO will at that point receive the Transaction Price of \$168 million, with an adjustment for any difference in working capital and external indebtedness as against estimated positions.



- If settlement of the Proposed Transaction is delayed and occurs after 1 January 2017, there are provisions designed to ensure that the economic benefits of ownership of Kupe will accrue to Genesis from 1 January 2017 with interest accruing to NZO.
- There will be a further wash-up and adjustment of consideration which will occur in 2017, to reflect final LPG prices under the LPG supply agreement, final Crown royalty payments and final overriding royalty payments.

1.3. Summary of our Assessment of the Proposed Transaction for NZO Shareholders

Our full assessment of the merits of the Proposed Transaction for NZO shareholders is set out in Section 5.0 and Section 6.0, and summarised below in Table 1.

Table 1: Summary of Conclusions in Relation to the Sale of Kupe

Item	Key Conclusions	Further Information
Transaction Price	<ul style="list-style-type: none"> ▪ Our valuation range for NZO's interests in Kupe is \$130 – \$160 million. Our assessment is based on a wide range of assumptions, but is particularly sensitive to the assumed gas and oil condensate production profile. ▪ The agreed Transaction Price of \$168 million is 16% above our mid-point value of \$145 million. We therefore suggest that the Proposed Transaction provides NZO shareholders with a significant premium over the standalone value of the Company's interests in Kupe. ▪ On the basis of this comparison, we conclude that the Transaction Price to be paid by Genesis for NZO's Kupe interests is fair to NZO shareholders not associated with Genesis. 	Section 5.0
Other Considerations	<ul style="list-style-type: none"> ▪ NZO is planning to use the net proceeds from the Proposed Transaction as follows: <ul style="list-style-type: none"> ○ Return \$100 million to shareholders in 2017; ○ Review new investment opportunities including potential acquisition targets that meet NZO's required return thresholds, several of which are currently under review. Based on NZO's pro forma FY2016 statement of financial position following the Proposed Transaction (as detailed in the Notice of Meeting) and assuming a capital return of \$100 million, NZO will still retain approximately \$160 million of cash for reinvestment and for funding retained operations; and ○ If NZO is not able to identify and acquire assets at a value which meets internal return requirements, it may return additional capital to shareholders. ▪ The Proposed Transaction will significantly diminish NZO's profitability and scale. The Company will therefore be less able to obtain future tax relief in relation to the costs of decommissioning Tui, New Zealand corporate costs and exploration expenditure, unless it can successfully acquire New Zealand production assets generating taxable income. ▪ It is unlikely that NZO will generate New Zealand taxable income in the short term and will likely have insufficient imputation credits to pay fully-imputed dividends in the future. ▪ The sale of its interests in Kupe will fundamentally alter NZO's investment mix and risk profile, with its future depending on the success of potential exploration activities and its strategy to reinvest the net proceeds from the Proposed Transaction in other assets. ▪ Kupe currently represents a significant portion of NZO's overall value and, to the extent the net sale proceeds are invested appropriately, NZO may obtain diversification benefits from spreading its investments across a number of production and exploration assets. ▪ While it is not possible to predict the future value outcome for NZO, we believe that the Proposed Transaction is likely to be value enhancing for NZO shareholders. 	Section 6.0



1.4. Overall Conclusion Regarding the Merits of the Proposed Transaction

Taking all the key elements of the Proposed Transaction into account, we conclude that the terms and conditions are fair to the NZO shareholders not associated with Genesis:

- The Transaction Price for NZO's interests in Kupe exceeds our assessment of fair value. In fact, we believe the agreed transaction value incorporates upside potential for the asset which NZO may not be able to realise from retaining its minority interest in Kupe.
- The sale of its Kupe interests will fundamentally alter the future nature of the Company. While NZO will hold a significant cash position following the Proposed Transaction, its earnings will be significantly diminished unless the Company can successfully source and execute appropriate reinvestment opportunities. However, this potential issue is largely mitigated by both the proposed capital return and the fact that NZO will likely diversify its earnings streams and be far less reliant on a single asset (assuming the reinvestment program is successfully completed).



2.0 Scope of the Report

2.1. Regulatory Requirements

2.1.1. Companies Act 1993 Requirements

The Proposed Transaction is a “major transaction” for the purposes of section 129 of the Companies Act 1993 (“**Companies Act**”) and accordingly requires shareholder approval (by special resolution) under the Companies Act¹.

2.1.2. NZX Listing Rule Requirements

The Proposed Transaction is subject to both rule 9.1 and rule 9.2 of the NZX Listing Rules. Pursuant to rule 9.1.1(b), the Transaction must be approved by a special resolution of NZO shareholders and the Notice of Meeting must contain such reports and other information necessary for shareholders to appraise the implications of the Proposed Transaction.

Genesis and NZO are both participants in the Kupe joint venture, a relationship which could influence decision making in relation to NZO. This does not mean such influence actually exists – it is enough that the influence “could” exist. Genesis is therefore an associated person of NZO and a related party of NZO for the purposes of rule 9.2.3 of the NZX Listing Rules, and the Proposed Transaction constitutes a material transaction with related parties under rule 9.2.1 of the NZX Listing Rules. NZO is therefore required to seek shareholder approval of the Proposed Transaction by means of ordinary resolution at a meeting of shareholders.

Listing Rule 9.2.5(b) requires that the notice of meeting to consider the ordinary resolution referred to above must be accompanied by an Appraisal Report, prepared by an independent adviser to opine on the fairness of the transaction to shareholders not associated with the related parties. NZO has stated, in the Notice of Meeting, that it is not aware of any shareholder that is associated with Genesis.

This report will accompany the Notice of Meeting to be sent to all NZO shareholders and sets out our opinion on the merits of the Proposed Transaction. This report should not be used for any other purpose and should be read in conjunction with the declarations, qualifications and consents set out in Appendix 4.

2.1.3. Declarations

Pursuant to Listing Rule 1.7.2, we state that:

- (i) In our opinion, the consideration and the terms and conditions of the Proposed Transaction are fair to shareholders of NZO other than those associated with Genesis. The grounds for this opinion are set out in Section 5.0 and elsewhere in this report.
- (ii) We believe that the shareholders entitled to vote on the resolution in relation to the Proposed Transaction will be provided with sufficient information to understand all relevant factors and on which to make an informed decision. The two main sources of information are this report and the Notice of Meeting;
- (iii) We confirm that we have been provided with all of the information that we believe is required for the purposes of preparing this report; and
- (iv) The material assumptions on which our opinion has been based are clearly set out in the body of this report.

¹ We note that the Companies Act may confer minority buy-out rights on an NZO shareholder who votes against the special resolution to approve the Proposed Transaction, whereby such a shareholder may give written notice to NZO requiring it to purchase that shareholder’s shares. Further details on minority buy-out rights are set out in the Notice of Meeting that will be sent to NZO shareholders in relation to the Proposed Transaction.



2.2. Basis of Assessment and Evaluation

The content required to be included in the Appraisal Report pursuant to the NZX Listing Rules is clearly set out in rule 1.7.2. Among other things, the Appraisal Report must state whether or not the reporter considers that the terms and conditions of the proposed transaction are “*fair*” to the Company’s shareholders other than those shareholders (if any) that may be associated with the related parties to the transaction. Although there is no statutory definition of “*fair*” or any specific guidance provided in the NZX Listing Rules, our assessment of the fairness of the Proposed Transaction is based on a consideration of:

- The consequences for the existing shareholders if the Proposed Transaction is approved or not approved; and
- The overall terms of the Proposed Transaction.

Northington Partners has evaluated the Proposed Transaction by reviewing the following factors which are considered in this report:

- The assessed value range for Kupe and the cash consideration offered by Genesis when compared to that assessed value range; and
- Other considerations that may be necessary for shareholders to make an informed decision in relation to the Proposed Transaction.



3.0 Profile of New Zealand Oil & Gas and Kupe

3.1. Overview of New Zealand Oil & Gas

NZO is an upstream oil and gas exploration and production business with its primary operating assets consisting of interests in New Zealand production fields (Kupe (15%), Tui (27.5%) and Maari (5% through NZO's 49.6% interest in Cue Energy)). NZO also owns several other production and exploration assets in New Zealand and Indonesia, as summarised in Figure 1.

Figure 1: NZO Overview

	NZO				
Segment	Kupe	Tui	Oil & Gas exploration	Corporate	Cue ¹
Production and Exploration Interests / Description	<ul style="list-style-type: none"> 15% interest in Kupe 	<ul style="list-style-type: none"> 27.5% interest in Tui oil 	New Zealand <ul style="list-style-type: none"> 50% interest in Clipper (52717) 30% interest in Toroa (55794) 30% interest in Vulcan (55793) Indonesia <ul style="list-style-type: none"> Various interests in Kisaran, Palmerah Baru and Bohorok 	<ul style="list-style-type: none"> Head office and corporate functions for broader NZOG subsidiaries 	Production <ul style="list-style-type: none"> 5% interest in Maari, NZ (38160) 15% interest in Sampang (Indonesia) Exploration <ul style="list-style-type: none"> Various interests in North West Shelf (Australia) Various interests in Mahato and Mahakam Hilir (Indonesia)
2P Reserves (mmBoe)	10.20	0.85	NA	NA	3.24
FY2016 Segment Results (NZ\$m)					
Revenue	\$52.3	\$19.5	-	\$0.2	\$53.6
EBITDA	\$39.8	\$2.5	(\$4.0)	(\$8.0)	\$8.9

Source: NZO FY2016 Annual Report and NZO.

(1) Includes 100% share of Cue 2P reserves, revenue and EBITDA. NZO currently has a 49.6% interest in Cue.

As summarised in Table 2, NZO had total 2P reserves of 14.28 mmBoe as at 30 June 2016, of which 10.20 mmBoe relates to its interests in Kupe. Figure 1 and Table 2 demonstrate that Kupe comprised more than 100% of group EBITDA for FY2016 and over 70% of group reserves at the end of FY2016.

Table 2: NZO Proven and Probable (2P) Oil and Gas Reserves at 30 June 2016

Proven and Probable (2P) oil and gas reserves at 30 June 2016	Oil and Condensate (million bbl)	Natural Gas (PJ)	LPG (Kt)	mmBoe
New Zealand				
Kupe	1.49	44.09	183.97	10.20
Tui	0.85			0.85
Maari ¹	1.30			1.30
Indonesia				
Sampang PSC ¹	0.06	8.54		1.46
USA				
Pine Mills ^{1,2}	0.48			0.48
Total	4.18	52.63	183.97	14.28

Source: NZO. mmBoe has been calculated as the total oil equivalent of the oil, condensate/light oil, natural gas and LPG figures, using conversion factors consistent with the Society of Petroleum Engineers (SPE) guidelines. Conversion factors used are: 163.4 Boe per TJ of natural gas and 8.15 Boe per tonne of LPG.

¹ Includes 100% of Cue's reserves.

² Cue's interests in Pine Mills were sold on 10 November 2016 for approximately US\$1m.

While NZO's Kupe investment provides some insulation from international oil prices due its contracted gas and LPG prices, NZO's share market performance demonstrates a strong correlation with oil price expectations. This is shown in Figure 2 below which compares NZO's share price relative to 3-month forward Brent Crude oil futures prices.



Figure 2: NZO Share Price Performance Relative to 3 Month Forward Brent Oil Price



Source: Capital IQ to November 2016. 3-month forward Brent Oil price rebased to NZO share price and based on the S&P GSCI 3 Month Forward Brent Oil Index.

3.2. Overview of Kupe

Some of the key features of the Kupe asset are summarised below. A detailed overview of Kupe is included in Section 4 of the Notice of Meeting.

3.2.1. Kupe Reserves

The Kupe joint venture partners have undertaken an extensive review of Kupe over the last few years, including tests to support an update to field development plans and to enhance production and reservoir recoveries. As a result of this work, Kupe materially upgraded both developed and undeveloped reserves with 2P reserves in Boe increasing 52.8% from 30 June 2015 to 30 June 2016. Table 3 provides a summary of Kupe reserves as at 30 June 2016.

Table 3: NZO Share of Kupe Reserves as at 30 June 2016

Reserves	Developed			Undeveloped			Total			Total (mmBoe)
	Gas (PJ)	LPG (kt)	Oil (mmBoe)	Gas (PJ)	LPG (kt)	Oil (mmBoe)	Gas (PJ)	LPG (kt)	Oil (mmBoe)	
1P / P90	20.03	84.88	0.82	9.95	40.72	0.42	29.98	125.59	1.23	7.15
2P / P50	25.00	105.21	0.92	19.09	78.76	0.57	44.09	183.97	1.49	10.20
3P / P10							55.34	233.13	1.78	12.72

Source: NZO. See NZO's 2016 annual report for the relevant reserves statements.

All Kupe joint venture parties hold the same technical reserves position as at 30 June 2016. The current estimate of Kupe reserves (across all categories) includes a comprehensive uncertainty analysis performed by the field operator and has resulted in a suite of new deterministic models. The technical work has been subject to technical and commercial peer review, including endorsement by several reserves authorities across the joint venture. The updated estimate is fully compliant with the Petroleum Resource Management System (PRMS) guidelines.

In relation to the reserves we note:

- Reserves are quantities of petroleum products anticipated to be commercially recoverable from known accumulations from a given date that are judged to be discovered, recoverable, commercial and remaining.
- Proven (1P) reserves are estimated quantities of oil and gas which geological and engineering data demonstrate with reasonable certainty (90% chance) to be recoverable in future years from known reservoirs under existing economic and operating conditions. Probable (2P) reserves have a 50% chance or better of being technically and economically



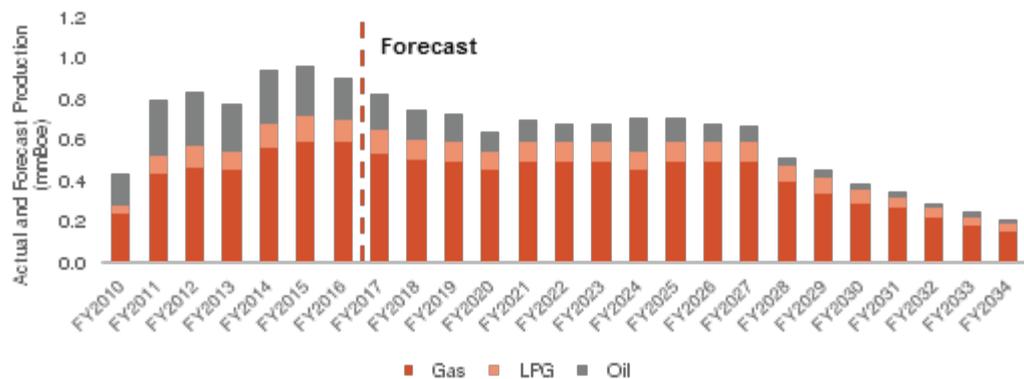
producible. Possible (3P) reserves have a 10% chance or better of being technically and economically producible based on currently known features of the reservoir.

- Developed reserves are expected to be recovered from existing wells and facilities. Undeveloped reserves are quantities expected to be recovered following future capital investment (e.g. new wells, compressors, and other facilities). Total reserves are the sum of developed and undeveloped reserves at a given level of certainty.

3.2.2. Historical and Forecast Production

Based on Kupe's 2P developed and undeveloped reserve estimates and NZO's estimated production profile, Kupe is expected to be capable of delivering gas and oil condensate up to FY2034 as illustrated in Figure 3.

Figure 3: Kupe Historic and 2P Forecast Production Profile



Source: NZO historic production and estimated forecast production profile based on 2P developed and undeveloped reserves (non-accelerated production profile).

Kupe's forecast production profile may vary considerably depending on the extent of any new development and whether the joint venture partners agree to accelerate production. There are significant risks to the future production profile:

- A 2P developed and undeveloped production profile as depicted in Figure 3 will require substantial development expenditure. This includes an additional new well (or wells) and the commissioning of new plant (see Section 5.2.2). The cost and viability of any further investment is subject to ongoing field and production analysis and the approval of the Kupe joint venture partners.
- Based on its current configuration, only 2P developed reserve volumes are producible through existing infrastructure.
- The joint venture partners can agree to accelerated production from Kupe's current plant configuration, potentially increasing production from approximately 70 TJ a day (non-accelerated production) to approximately 77 TJ a day (accelerated production). Kupe's joint venture partners have agreed to an accelerated production profile until the end of 2017 subject to sufficient demand. However, accelerated production beyond 2017 requires consent of the joint venture partners and is highly dependent on sustained gas demand, particularly from Kupe's contracted gas supply counterparty (Genesis). Any demand shocks such as the potential closure of the Tiwai Aluminium smelter or reduced methanol production from Methanex would likely result in reversion to the non-accelerated production profile.
- With a minority (15%) interest, NZO's ability to determine or influence Kupe development or production decisions may be limited relative to other major partners (Origin and Genesis).



3.2.3. Summary Kupe Financial Results

A five-year summary of the historic financial performance of NZO's interest in Kupe is provided in Table 4 below.

Table 4: Kupe Historical Financial Summary

Operating Statistics (Production)	FY2012	FY2013	FY2014	FY2015	FY2016
Gas (GJ)	2,900,000	2,700,000	3,500,000	3,640,000	3,595,000
Oil (bbl)	269,400	233,500	257,700	242,417	206,769
LPG (tonnes)	12,500	11,600	14,400	15,391	13,584
Total Production (Boe)	845,135	769,220	946,960	962,630	904,902

Profit and Loss for Year Ending 30 June (NZ\$000)	FY2012	FY2013	FY2014	FY2015	FY2016
NZ Sales	\$37,175	\$36,695	\$43,615	\$42,903	\$40,551
International Sales	\$37,160	\$32,151	\$32,307	\$19,582	\$9,385
Total Sales	\$74,335	\$68,846	\$75,922	\$62,485	\$49,936
Total Expenses ¹	(\$42,481)	(\$22,767)	(\$24,337)	(\$32,604)	(\$31,347)
Segment Result	\$31,854	\$46,079	\$51,585	\$29,881	\$18,589
Add: Depreciation & Amortisation	\$21,189	\$18,357	\$21,924	\$22,570	\$21,176
EBITDA	\$53,043	\$64,436	\$73,509	\$52,451	\$39,765

Kupe Segment Asset Value for Year Ending 30 June (NZ\$000)	FY2012	FY2013	FY2014	FY2015	FY2016
Opening Kupe assets	\$208,456	\$198,387	\$184,890	\$159,450	\$151,330
Depreciation & amortisation	(\$21,189)	(\$18,357)	(\$21,924)	(\$22,570)	(\$21,176)
Capital Expenditure and Other ²	\$11,120	\$4,860	(\$3,516)	\$14,450	\$3,082
Closing Kupe assets	\$198,387	\$184,890	\$159,450	\$151,330	\$133,236

Source: NZO Annual Report segment results, Northington Partner's analysis.

¹Represents total expenses as derived from the difference between segment sales and segment results.

²Represents the reconciling difference between Kupe's opening asset value less depreciation and amortisation and Kupe's closing asset value and will therefore include capital expenditure as well as other balance sheet adjustments.

NZO's historic segment results for Kupe are based on its 15% share in the Kupe joint venture. New Zealand sales relate to domestic gas and LPG sales while international sales relate to oil sales. The main features of the Kupe segment results are summarised as follows:

- While NZO's share of Kupe production has generally varied between 850,000 – 960,000 Boe per annum, FY2013 and FY2016 volumes were lower due to programmed major maintenance outages.
- Kupe's domestic sales have been less variable than international sales on a per Boe production basis due to the large portion of contracted volumes for gas (with Genesis as the counterparty) and LPG (with Vector as the counterparty).
- International sales have exhibited significant volatility on a per mmBoe basis due to significant declines in oil prices from 2012 to 2016. Prices dropped by more than 50% over this period.
- While there is some variability in segment costs, a high portion of fixed costs has resulted in a 25% decline in EBITDA over the FY2012 to FY2016 period. However, some of this decline is also attributable to lower production levels in FY2016 due to maintenance outages (6% lower than FY2015).
- NZO's reported book value for Kupe largely reflects the historic accumulation of development expenditure less depreciation and amortisation over its economic life. This value excludes segment liabilities including provisions for restoration and rehabilitation costs and therefore does not reflect the net carrying value of NZO's investment in Kupe.



4.0 New Zealand Gas Market Overview

4.1. Introduction

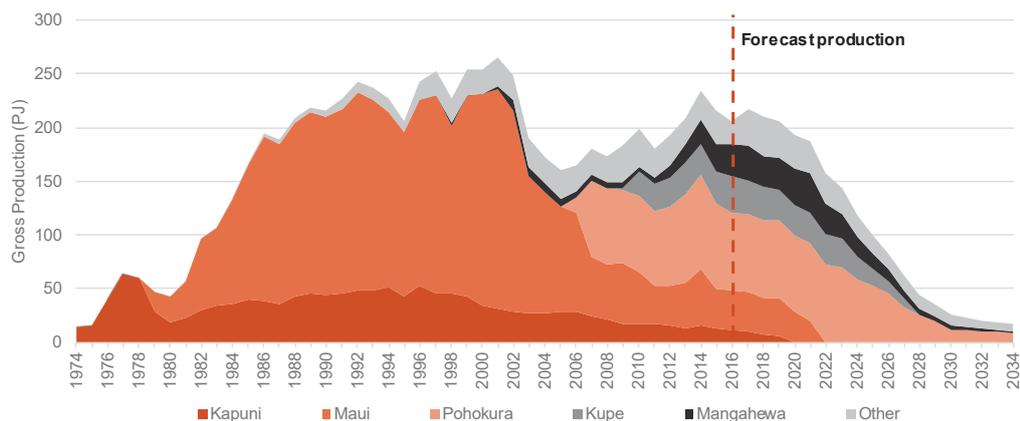
Gas is the primary Kupe output, and is less exposed to international commodity prices because New Zealand is isolated from international gas markets (with no pipeline or LNG import / export facility). That means that any gas that is discovered in New Zealand must be 'consumed' in New Zealand to be commercialised. This differs from the oil and condensate market where New Zealand imports significant volumes of crude product for refining into transport fuels. Given the significance of imported products, New Zealand oil and condensate market prices are determined by international market forces.

This section therefore focuses on some of the domestic market factors for gas and LPG which influence the future price Kupe may receive for uncontracted gas and LPG production.

4.2. Supply and Demand Dynamics

Figure 4 summarises New Zealand's historic gas production since 1974. The production profile has been influenced by the world-scale development of Maui in the 1970s and more recent development of Pohokura and Kupe. Based on current expectations for existing gas fields, New Zealand gas supply is expected to drop significantly unless new fields are developed (existing or newly discovered).

Figure 4: Annual Gross Gas Production by Field (PJ): 1974 – 2015 Actual and 2016 – 2034 Forecast



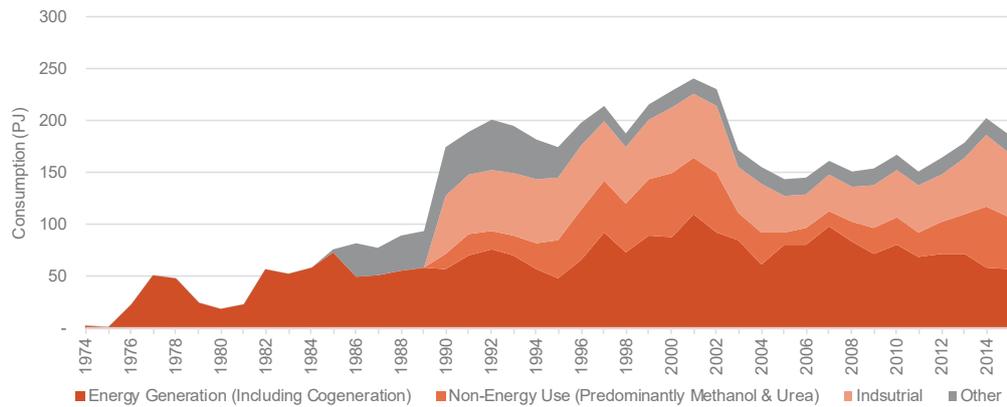
Source: Ministry of Business, Innovation and Employment. Includes both gas and LPG

The domestic prices for New Zealand gas have been heavily influenced by field exploration and discovery, as well as industrial demand for gas. The 'lumpy' nature of new gas field discoveries and production have meant that some gas users have needed to significantly increase or decrease demand to match the changing overall supply position. Historically, the power generation and petrochemical sectors have fulfilled this role in New Zealand – particularly Methanex's two methanol production plants which have significantly varied their consumption to match the changing supply / demand position over the last 20+ years. The presence of this large source of flexible demand (Methanex's methanol plant capacity can use up to 90 PJ of gas per annum, almost half of total New Zealand production in 2015) is considered to have been a key enabler of upstream exploration and production.

Figure 5 illustrates historical gas consumption by sector, and clearly shows that the electricity generation and non-energy use (principally representing methanol and urea production) sectors have been responsible for more than 50% of recent consumption.



Figure 5: Annual Gas Consumption by Sector (PJ): 1974 – 2015 Actual



Source: Ministry of Business, Innovation and Employment. Includes both gas and LPG

4.3. Wholesale Gas Prices

While significant volumes of domestic gas supply are priced under commercial gas supply agreements (“GSAs”) with industrial users such as Genesis and Methanex, the Ministry of Business, Innovation & Employment monitors domestic wholesale gas prices. Figure 6 summarises the annual average wholesale gas prices from 1999 to 2015.

Future gas prices will be influenced by new gas discoveries and the ability for market demand to adjust to supply scenarios or large demand-side changes (e.g. the Tiwai Aluminium smelter closing or high lake levels increasing hydro generation, both of which will impact on gas generated electricity demand). Methanol production is likely to continue to act as the main ‘balancing’ source of demand to match supply, provided a sizeable proportion of the existing methanol plant capacity in Taranaki is available for operation. This means that future gas prices will likely be strongly influenced by the economics of producing methanol in New Zealand versus other international locations. Such methanol-linked prices are currently predominating in New Zealand, with wholesale prices having generally ranged between \$5 – 7 per GJ over the last 5 years.

While we have not explicitly forecast possible future gas supply and demand scenarios to consider future prices for Kupe’s gas production, we have assumed a continuation of market conditions broadly in line with recent history and general equilibrium between supply and demand. This is consistent with industry central case price forecasts of \$5 – \$7 per GJ² and forms the basis for our assumed future gas prices (see Section 5.2.2).

Figure 6: New Zealand Wholesale Gas Annual Price History (real \$/GJ)



Source: Ministry of Business, Innovation and Employment.

² See “Long term gas supply and demand scenarios – 2016 update”, 5 October 2016 commissioned by Gas Industry Company.



5.0 Valuation of New Zealand Oil & Gas's Interest in Kupe

An assessment of the fairness or otherwise of the Proposed Transaction to shareholders not associated with Genesis is largely a valuation exercise. This section sets out our valuation of NZO's interest in Kupe, and provides a comparison of that value to the Transaction Price.

5.1. Valuation Methodology

For most assets, value should be determined as a function of the estimated level of cash returns that the assets are expected to generate in the future. The specific approach that is used to estimate this value is dependent on the nature of the asset and the expectations regarding future performance. The two main approaches usually adopted in the valuation of larger assets and companies are summarised as follows:

- **Earnings Multiple:** This method determines value by applying a valuation multiple to the assessed level of maintainable annual earnings (or cash flows), where the multiple is chosen to reflect the risk associated with the future performance of the asset. Depending on the nature of the business, earnings can be appropriately measured at the EBITDA, EBITA, EBIT, or NPAT levels.
- **Discounted Cash flows:** A DCF approach is based on an explicit forecast of the annual cash flows that will be generated over a specified forecast period (typically between 5 and 10 years). The value of cash flows that may occur after the end of the explicit forecast period is incorporated into the valuation process by capitalising an estimate of maintainable cash flows for the terminal period. A DCF model is therefore usually made up of two components:
 - (i) The present value of the projected cash flows during the forecast period; and
 - (ii) The present value of all other cash flows projected to occur after the explicit forecast period. This component is commonly referred to as the terminal value.

Given the nature of the Kupe asset, a DCF approach is clearly most appropriate and has been adopted as our primary valuation method. However, given the expected finite life of the asset, our valuation of NZO's interest in Kupe comprises the present value of the projected cash flows over the full remaining economic life of the asset (with no allowance for a terminal value). This approach is standard in the oil and gas industry.

5.2. Discounted Cash Flow Valuation

5.2.1. Overview

Our DCF framework for NZO's interest in Kupe is based on cash flow models prepared by NZO, with a range of modifications to reflect our assessment of the key input parameter values. Given the nature of the asset, we have relied on a range of specialist technical reports in relation to the remaining reserve estimates, production profiles, operating costs and capital costs.

Details of the model structure are set out in Table 5, and a summary of the input parameters is presented in the following section.

Table 5: DCF Model Structure

Assumption	Discussion
Valuation Date	1 January 2017
Model Term	Based on an assumed 2P production profile. With Phase II development (see further detail in Section 5.2.2) to obtain undeveloped 2P reserves, the model assumes a remaining operational life of 17 years (to 2034). We test the sensitivities to the 2P production profile in Section 5.2.5.
Cash Flow Basis	Post-tax nominal
Cash Flow Timing	Mid-period discounting



5.2.2. Key Cash Flow Assumptions

Table 6 below summarises the key assumptions and variables used to forecast Kupe's future cash flows. We note that many of the assumptions are commercially sensitive and full details cannot be disclosed in our report.

Table 6: Key Cash Flow Assumptions

Assumption	Discussion
Reserves	<p>Our valuation is based on 2P reserves certified by NZO as of 30 June 2016 (see Section 3.2.1), less 6-months estimated depletion for production from 1 July to our assumed valuation date of 1 January 2017.</p> <p>Sensitivities to our valuation based on alternative reserve scenarios (1P, 2P developed only and 3P) are provided in Section 5.2.5.</p>
Production Profile	<p>The assumed production profile is based on Kupe's 2P developed and undeveloped reserves as estimated by NZO, with an accelerated production rate until the end of 2017 (see Section 3.2.2). While the undeveloped production profile is yet to be approved by the Kupe joint venture partners and requires Phase II development, we have assumed Phase II proceeds as part of the base case production profile. Phase II development is economically viable under other base case assumptions and our valuation considers Kupe in isolation (i.e. it does not consider the value other investors such as Genesis may obtain from the operational flexibility Kupe provides, including the ability to use Kupe for gas storage to provide gas-fired electricity generation flexibility or to defer Phase II development).</p> <p>A significant portion of NZO's interest in Kupe gas is contracted under a long term take-or-pay arrangement with Genesis. Similarly, LPG is contracted with Vector under a long-term arrangement.</p> <p>Based on Kupe's current and forecast production profile, contracted gas and LPG volumes are expected to make up approximately 70-80% of total revenue over the medium term.</p>
Domestic Gas & LPG Prices	<p>For the contracted gas and LPG volumes, we have assumed sale prices consistent with the contract terms. This includes an allowance for annual growth at an assumed PPI value of 1.5% over the remaining term of the contract (determined by the expected timing of when contracted volumes have been fulfilled).</p> <p>Spot and uncontracted gas sales are valued using a wholesale gas price path. As discussed in Section 4.3, the outlook for domestic gas prices in New Zealand is subject to considerable uncertainty. Gas prices are impacted by a range of regulatory, economic and supply/demand factors, particularly the outlook for gas fired electricity generation (which will be impacted by the outlook for the Tiwai Point aluminium smelter) and methanol production by Methanex. Moreover, the interaction of each of these factors in determining gas prices is difficult to assess.</p> <p>We have reviewed market commentary and expectations for domestic gas prices (including reports from the Gas Industry Company and the Electricity Authority, the current methanol linked implied gas prices and broker views) based on a number of possible market scenarios. Based on these observations, we have adopted a long-term base price of \$6/GJ for uncontracted gas increasing at assumed PPI of 1.5% per annum.</p> <p>Uncontracted LPG sale prices (which are nil until Vector's supply contract has been fulfilled) are derived from assumed oil prices (LPG prices have exhibited strong historic price correlation with oil prices).</p> <p>Once contracted volumes to Genesis and Vector have been delivered, we have assumed prices for all gas and LPG sales reflect the uncontracted gas and LPG price paths outlined above.</p>
Oil Prices for Light Condensate	<p>The Brent crude oil price is accepted as an international price benchmark for Kupe's condensate production, with a potential allowance for a discount / premium relative to the Kutubu price (a field in Papua New Guinea which produces condensate with properties similar to Kupe condensate).</p> <p>We have assessed a range of independent forecasts for Brent crude and have adopted a forecast price path set out in the chart below. This is broadly based on broker consensus forecasts and forward market contracts.</p> <p>To convert the Brent crude price path to a forecast price for NZO's condensate production, we have assumed:</p>



Assumption	Discussion
	<ul style="list-style-type: none"> That there is no discount / premium relating to the Kutubu price. While Kupe condensate has historically achieved modest premiums to the Kutubu price, it has varied considerably and at times reflected a discount. Marketing and shipping costs based on historical rates.
	<p>Forecast Brent Crude Price (USD, Real)</p> <p>Source: Northington Partners based on a review of broker consensus price forecasts from Capital IQ, Bloomberg and other broker reports.</p>
US\$ Exchange Rate	We have assumed a constant US\$ exchange rate of approximately US\$0.70 per NZ\$ over the term of the forecast period based on the average rate for the last 2 years. On balance and given the considerable uncertainty in forecast exchange rates, we believe a single fixed rate is adequate for our purposes and avoids the complexities of estimating and applying a long-term forward curve. Section 5.2.5 also demonstrates a relatively low sensitivity to the assumed US\$ exchange rate due to a significant portion of Kupe's cash flows being denominated in NZ\$ (generated from domestic gas sales).
Overriding Royalty Payments	NZO receives overriding royalty payments from Genesis and Origin in relation to oil, LPG and gas produced at Kupe. These payments are assumed to continue at the contracted rates.
Operating Costs	Based on NZO's forecast estimate of its share of operator costs charged by the operator (Origin).
Capital Expenditure	As with operating costs, maintenance capital expenditure is based on NZO's forecast estimate of its share relating to Kupe. Projected average annual capex is approximately \$2.0 million per annum. Capital expenditure for undeveloped reserves (" Phase II Capex ") involves the installation of onshore compression and a future potential additional well (or wells) offshore. These works are expected to be completed within the next five years but are subject to ongoing field and production analyses and a final investment decision by the Kupe joint venture partners. NZO currently estimates the total cost of Phase II Capex at approximately \$250 million in real terms, of which NZO's share would be 15%.
Abandonment Costs	Based on estimates from NZO. The total abandonment costs are estimated to exceed \$250 million in nominal terms, of which NZO's share would be 15%.
Tax	We have estimated the forecast taxation payable for NZO's share of Kupe on a standalone basis. We assume an effective tax rate of 28%.

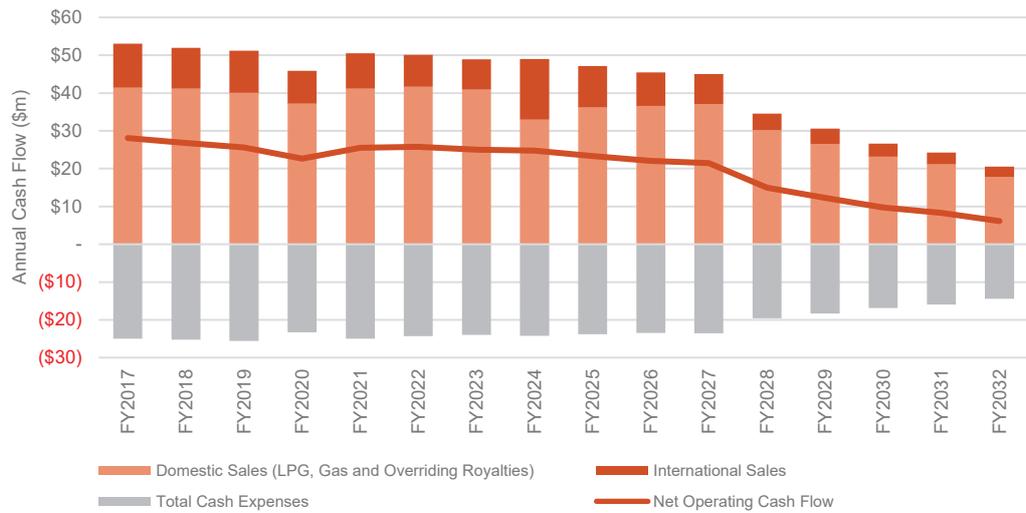
5.2.3. Summary Operating Cash Flow Forecasts

Figure 7 below summarises the forecast operating cash flows for NZO's interest in Kupe based on the assumptions set out above. The projections show:

- Total production sales are forecast to remain relatively constant for the next 10 years, with the field then expected to decline from around FY2028.
- Operational costs (excluding tax) are largely fixed, which results in reduced profitability in later years as production falls.



Figure 7: Forecast Operating Cash Flows



Source: Northington Partners' analysis based on 2P developed and undeveloped reserves.

5.2.4. Required Rate of Return

We believe that an appropriate required rate of return for NZO's interest in Kupe ranges between 7.50% and 8.50%, with a mid-point of 8.00%. Our assessment is based on comparable market evidence and considers the operational status of Kupe and NZO's contractual arrangements with high credit quality counterparties. A summary of the key inputs to our assessment are set out in Appendix 3.

5.2.5. Valuation Range and Transaction Price

We have assessed a valuation range of \$130 to \$160 million for NZO's interest in Kupe. As set out in Figure 8 below, the Transaction Price exceeds the top end of our valuation range, and is \$23 million (16%) higher than our mid-point assessment of \$145 million.

Figure 8: Summary Valuation Assessment



Source: Northington Partners' analysis.

Our assessed valuation range is sensitive to possible future scenarios for production rates, field reserves, product prices, exchange rates and the required rate of return: Figure 9 shows the relative value impact for reasonable changes to each of the key assumptions, as set out in Table 7.

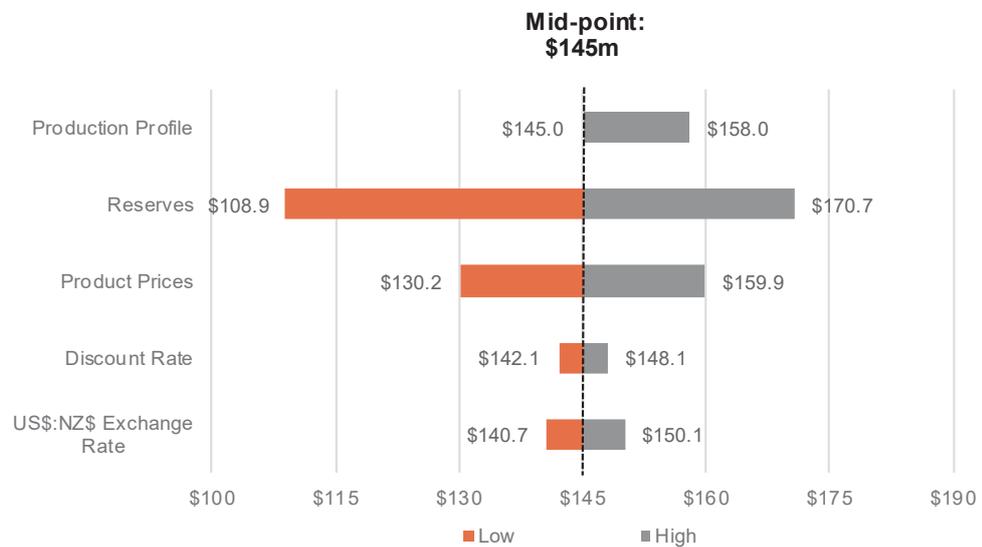
Table 7: Parameters for Sensitivity Analysis

Production Profile	Value upside reflects an accelerated production profile for Kupe's full economic life. We note that while the Kupe joint venture partners have agreed to accelerated production until the end of 2017, extension of the accelerated production profile requires sustained
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	gas demand and the continued support of other Kupe joint venture partners (see Section 3.2.2).
Reserves	Value range based on (i) total reserves consistent with non-accelerated 2P developed only reserves (i.e. Phase II development does not proceed) and; (ii) a production profile based on non-accelerated 3P developed and undeveloped reserves. We note the value under the 2P developed only reserves scenario is broadly similar to the valuation under non-accelerated 1P developed and undeveloped reserves.
Product Prices	Based on a range of forecast oil prices as discussed in Table 6 (which also impact assumed LPG prices) and an uncontracted gas price range of \$5.00 - \$7.00 per GJ.
Discount Rate	A discount rate range of 7.5 – 8.5%.
US\$:NZ\$ Exchange Rate	Range of US\$0.65 – US\$0.75 per NZ\$

Figure 9: Valuation Range for Sensitivity Analysis (\$m)



Source: Northington Partners' analysis.

Our valuation is clearly most sensitive to changes to the assumed reserves and production profile:

- As discussed in Section 3.2.2, NZO's ability to influence Kupe's accelerated production and Phase II development to access undeveloped reserves is limited.
- Consequently, the Production Profile value range represents the difference between accelerated production until the end of 2017 (as currently agreed) under base case assumptions and continued accelerated production over the remaining economic life of the asset (high end of the value range).
- The low end of the valuation range for the Reserves sensitivity represents value assuming production based on 2P developed reserves only. This value is coincidentally similar to the valuation outcome under a 1P developed and undeveloped production profile.
- While a scenario where Phase II development does not proceed seems unlikely given it is NPV positive (as reflected by our mid-point base case valuation), NZO may not have the ability to ensure that Phase II development goes ahead. Therefore, the low end of the Reserves sensitivity range effectively incorporates a "minority discount" due to the non-controlling nature of NZO's interest in Kupe.
- The high end of the Reserves sensitivity range reflects a 3P developed and undeveloped production profile, and therefore represents an optimistic case (10% chance or better of reserves being technically and economically producible based on currently known features of the field).



The valuation ranges set out in Figure 9 are based on changes to each individual assumption viewed in isolation, and contemporaneous changes to more than one variable will clearly have a cumulative value impact which is greater than that shown in our analysis. Within the context of our valuation framework, our analysis suggests that a positive view of both an accelerated production profile and other assumptions (reserves, product prices, discount rate, or exchange rate) would likely be necessary to derive a valuation consistent with the Transaction Price of \$168 million.

However, we also note that the value Genesis ascribes to NZO's interest in Kupe will reflect other strategic benefits that Genesis may derive from the Proposed Transaction and which are not reflected in our valuation. If the Proposed Transaction is approved, Genesis will move from a 31% interest in Kupe to a 46% interest, and will therefore have greater control over the future management of the joint venture. The potential benefits of the increase in Genesis' control position are likely to account for the value premium we believe is incorporated into the Transaction Price.

5.2.6. Implied Proposed Transaction IRR

Another way to evaluate the Transaction Price from NZO's point of view is to consider the implied internal rate of return ("IRR") from the transaction.

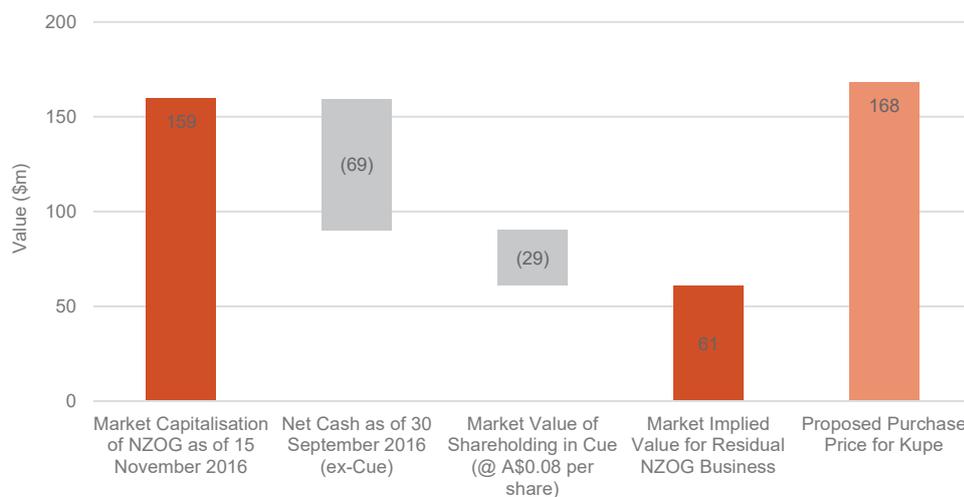
Based on the Transaction Price of \$168 million and our base case 2P production cash flow assumptions, the implied IRR of the Proposed Transaction is approximately 4% – 6% (reflecting variations in the assumed production profile). This effectively means that the Proposed Transaction will be value enhancing for NZO shareholders if the Company can reinvest the proceeds of the Proposed Transaction in projects / acquisitions with expected post-tax returns greater than 4% – 6%.

5.3. Market Implied Valuation of NZO's Operations

Figure 10 below illustrates the implied value of NZO's operations immediately prior to the announcement of the Proposed Transaction, relative to the Transaction Price of \$168 million, assuming the market was ascribing full value to NZO's shareholding in Cue and the value of NZO's net cash position. This suggests an implied value of approximately \$61 million for NZO's remaining assets and represents the collective market value for NZO's interests in Kupe, Tui, its New Zealand and Indonesian exploration interests and corporate overheads.

Based on this comparison, we suggest that the market was attributing significantly less value to NZO's Kupe interests than the Transaction Price. This view is supported by the positive market price reaction to NZO's announcement of the Proposed Transaction, with a \$37 million increase in market capitalisation (a 23% increase) on the day of announcement.

Figure 10: Market Implied Value of NZO's Operations Immediately Prior to Announcement of the Proposed Transaction



Source: Northington Partners' analysis. Note: does not adjust for the dividend of \$0.04 per share paid by NZO on 25 October 2016.



5.4. Multiple of Reserves Valuation Analysis

Assessed values for assets like Kupe are often benchmarked against multiples of earnings and multiples of reserves. We believe that this type of analysis has limited value in this case, given the nature of Kupe and the fact that the available evidence will be impacted by a wide range of factors. These factors include the extent of reserves and implicit life of the assets, production profiles, prevailing energy prices, production costs, the extent of exploration (which may have valuable resources but no reserves), and other operational aspects.

Notwithstanding these issues, we have reviewed the current implied multiples for a range of oil and gas production companies which have a material Australasian presence. The available evidence is summarised in Table 8 below and in Appendix 2. We suggest that the trading multiples for Australasian oil and gas producers are more relevant as they are derived from companies operating under similar market conditions to Kupe (whereas historic transaction multiples will reflect prevailing oil and gas prices at the time).

Table 8 shows there is significant variation in the observed multiples, with an average enterprise value (“EV”) per Boe of \$17.6 and EV per GJ of \$2.9. The average is heavily influenced by large businesses with significant reserves and a long trading history, as opposed to Kupe which represents a single asset with a finite life. Nonetheless, the implied value per Boe and GJ from the Proposed Transaction is \$16.5 per Boe and \$2.7 per GJ which we suggest is reasonably consistent with the available evidence.

Table 8: Comparable Listed Entities

Company	Domicile	EV (NZ\$m)	Net Debt / (Cash)	2P Reserves (mmBoe)	2P Reserves (PJe ¹)	EV / LTM EBITDA	EV / NTM EBITDA	NZ\$ / Boe	NZ\$ / GJ
<i>Kupe</i>	<i>New Zealand</i>	<i>\$168m</i>	<i>NA</i>	<i>10.2</i>	<i>62.4</i>	<i>NA</i>	<i>NA</i>	<i>\$16.5</i>	<i>\$2.7</i>
Cue Energy Resources	Australia	\$37m	(\$20m)	3.2	20	12.9x	1.6x	\$11.5	\$1.9
Woodside Petroleum	Australia	\$33,211m	\$4,176m	1,508	9,223	8.1x	8.2x	\$22.0	\$3.6
Santos	Australia	\$13,578m	\$4,163m	945	5,780	9.7x	7.8x	\$14.4	\$2.3
Beach Energy	Australia	\$1,530m	(\$53m)	69.8	427	8.2x	4.3x	\$21.9	\$3.6
Oil Search	Papua New Guinea	\$15,795m	\$3,141m	462.9	2,831	11.8x	12.4x	\$34.1	\$5.6
TAG Oil	Canada	\$39m	(\$15m)	3.6	22	10.4x	4.5x	\$10.7	\$1.7
Origin Energy	Australia	\$20,542m	\$9,734m	1,026.3	6,277	14.1x	7.9x	\$20.0	\$3.3
AWE Limited	Australia	\$305m	(\$18m)	71.0	434	58.0x	5.9x	\$4.3	\$0.7
Cooper Energy	Australia	\$105m	(\$50m)	3.0	18	NA	5.5x	\$35.1	\$5.7
Senex Energy	Australia	\$184m	(\$102m)	83.4	510	7.0x	9.7x	\$2.2	\$0.4
Average (ex-Kupe)						15.6x	6.8x	\$17.6	\$2.9

Source: Capital IQ as of 18 November 2016. Northington Partners' analysis.

¹PJ equivalent level based on industry conversion factors.

5.5. Valuation Conclusion

We have valued NZO's interest in Kupe at \$130 million to \$160 million with a mid-point value of \$145 million.

Our valuation assessment is based on assumptions for a range of key parameters, and is sensitive to changes to a number of factors:

- The quantity of Kupe's reserves has become more apparent with ongoing surveys and analysis having proved up substantial increases in reserves. However, the ability for NZO to realise further upside value will largely depend on the Phase II development needed to access undeveloped reserves. This development requires further assessment and approval by the joint venture partners and significant development expenditure.
- While a significant portion of NZO's share of Kupe production volumes are contracted, the future prices it receives for uncontracted volumes of gas and LPG are highly uncertain.
- Domestic demand for gas has been variable but continues a general upward trend, particularly following the reinstatement of Methanex's methanol plants. Gas fired power stations have also provided a strong demand base but will be highly influenced by a range



of factors affecting future electricity supply (including the eventual outcome for the Tiwai Aluminium smelter).

- Alternative sources of new domestic natural gas supply will be highly dependent on new field discoveries, with marginal consumption currently largely provided by Methanex. New field discoveries and the economics of producing methanol may therefore also have a large influence on domestic gas prices.
- International oil prices have exhibited significant volatility and are dependent on international market forces outside of NZO's control.

Genesis will pay \$168 million for NZO's Kupe interests if approved by NZO shareholders and all purchase conditions are met. The Transaction Price is above our valuation range and we therefore believe that the proposed price is fair to NZO shareholders other than those shareholders (if any) that may be associated with Genesis.



6.0 Other Considerations for the Proposed Transaction

6.1. Indicative Financial and Taxation Impacts on NZO Post the Proposed Transaction

Section 5 of the Notice of Meeting illustrates the pro forma financial impact of the Proposed Transaction on NZO for the FY2016 period. This analysis shows that:

- Net assets excluding cash reduce from \$124.4 million to \$47.4 million largely representing NZO's interests in Tui, Cue and its exploration assets.
- Earnings from operating activities excluding amortisation, impairment and net finance costs will reduce from an operating profit of \$38.3 million to a loss of \$1.4 million. This reflects the loss of Kupe income and the fact that the remaining Tui and Cue interests generate insufficient income to offset exploration and administration costs.
- Net cash flows from operating activities reduce from \$56.2 million to \$26.6 million. The on-going cash flows primarily relate to NZO's interest in Tui, which also has a limited remaining production life, and Cue.

Kupe contributed all of NZO's New Zealand taxable income in 2016. Following the sale of its interests in Kupe, NZO will lose some of its ability to obtain future tax relief in relation to the costs of decommissioning the Tui field, New Zealand corporate costs and on-going exploration expenditure unless it is successful in acquiring New Zealand taxable income generating assets. We note that NZO has previously indicated forecast annualised overheads will reduce to \$8.5 million within two years: without offsetting taxable income, the annualised overheads alone give rise to \$2.4 million in lost tax benefits.

As it is unlikely that NZO will generate New Zealand taxable income in the short term, it is also likely that NZO will no longer generate imputation credits. Consequently, NZO's ability to impute future dividends (if any) may be limited or be tax inefficient to the extent dividends are paid to New Zealand tax residents without imputation credits.

6.2. NZO's Strategy Following the Sale of Kupe

The sale of Kupe will fundamentally alter NZO's investment mix and risk profile. While Kupe is a mature production asset, Tui is nearing the end of its economic life and, apart from the 49.6% shareholding in Cue, NZO's other assets largely consist of exploration interests in New Zealand and Indonesia. Consequently, the Company's outlook beyond the sale of its interests in Kupe will depend on potential exploration success and its strategy for the reinvestment of the retained proceeds from the Proposed Transaction.

Following completion of the Proposed Transaction, NZO is proposing to use the net proceeds to:

- Return \$100 million to shareholders over the course of 2017. While there are no imputation credits gained by the sale of Kupe, we understand that there should be sufficient available subscribed capital to return capital to shareholders on a tax efficient basis.
- Review potential new investment opportunities including potential acquisition targets that meet NZO's required return thresholds, several of which are currently under review. NZO has also not ruled out reinvesting in Kupe again if an appropriate opportunity arises and there is additional value that can be derived.
- Based on NZO's pro forma FY2016 statement of financial position following the sale of Kupe (as detailed in the Notice of Meeting) and a capital return of \$100 million, NZO will still retain approximately \$160 million of cash for reinvestment and for funding its remaining operations.
- If NZO is not able to identify and acquire assets at a value which meets its return expectations, the Company may return additional capital to shareholders.

NZO is also expected to retain sufficient funds to continue its exploration interests (albeit at a level reflecting the current oil price environment) and other work programs. We note that NZO is aiming to reduce annualised overheads to less than \$8.5 million over the next two years. The sale of Kupe will allow for a renewed organisational structure to ensure corporate overheads are appropriate for NZO in the future.



In relation to NZO's proposed acquisition strategy, we note that the \$168 million proceeds from the Proposed Transaction exceeded the market capitalisation of NZO prior to the announcement and represents the majority of NZO's value. While it is not necessarily unusual for an exploration and production company to have the majority of its value and cash flows derived from a single asset, a diversification strategy across exploration and production assets will mitigate against event and operational risks. Assuming capital is reinvested appropriately, the Proposed Transaction should allow NZO to better diversify its cash flows and risk exposure.

6.3. Value of Remainder of NZO Following the Proposed Transaction

NZO shareholders are likely to receive a capital return of \$100 million during 2017 if the Proposed Transaction is approved and all other conditions are met. In addition to the capital return, shareholders may wish to consider the value of NZO without its interests in Kupe. While it is not possible to predict the eventual value outcome for NZO following the Proposed Transaction, all else equal we anticipate that the total cash value realised from the sale of Kupe and the attributable value for NZO's remaining business is materially higher than the value ascribed to NZO immediately prior to the announced sale and the value in the absence of the Proposed Transaction.

This is evident in the 23% increase in the value of NZO shares on the announcement date (16 November 2016) of the Proposed Transaction (see Section 5.3). If the Proposed Transaction is not approved by shareholders, or does not proceed for any other reason, there is a risk that the NZO share price will reduce.

Appendix 1. Sources of Information Used in this Report

Other than the information sources referenced directly in the body of the report, this assessment is also reliant on the following sources of information:

- Annual reports for NZO for 2013, 2014, 2015 and 2016
- Audited financial statements for NZO for the period FY2012 to FY2016
- Discussions with senior management personnel of NZO
- The NZO website
- A final Draft Notice of Meeting to be sent to NZO shareholders, containing details of the Proposed Transaction
- Pro forma financial information as provided in the Notice of Meeting
- Key contracts relating to Kupe
- Various other documents that we considered necessary for the purposes of our analysis

Appendix 2. Comparable Company Information

The table below provides a brief description of listed companies that are broadly comparable to NZO, along with the most recent leverage and asset beta data.

Company	Country	Description	Net debt / EV	Asset Beta (5 yr monthly)
Cue Energy	Australia	Cue Energy Resources explores for, develops, and produces petroleum through projects located in Australia, New Zealand and Indonesia. NZO holds a 49.6% shareholding in Cue.	-56%	-0.47
Woodside Petroleum	Australia	Woodside Petroleum is Australia's largest petroleum exploration and production company. The company's products include liquefied natural gas, pipeline natural gas, condensate, liquefied petroleum gas, and crude oil. It holds interests in the North-West Shelf project located in Western Australia, and operates five floating oil production, storage, and offloading vessels in Australia. The company's exploration portfolio includes emerging and frontier provinces in Australia and the Asia-Pacific region, the Atlantic margins and Latin America, and Sub-Saharan Africa.	13%	0.91
Santos	Australia	Santos explores for, develops, produces, transports, and markets hydrocarbons in Australia and internationally. The company produces natural gas, ethane, liquefied gas, crude oil, condensate, naphtha, and liquefied petroleum gas from assets in Australia, Indonesia, Vietnam and Papua New Guinea. In addition, it has further exploration activities in Malaysia and Bangladesh.	31%	1.67
Beach Energy	Australia	Beach Energy explores, develops, produces, and sells oil, gas, and gas liquids. It holds interests in approximately 300 exploration and production tenements in Australia, Tanzania, and New Zealand. It is Australia's largest onshore oil producer with its core focus on the inland 69,000 square kilometre Copper Basin in Queensland. The company was formerly known as Beach Petroleum Limited.	-3%	1.86
Oil Search	Australia	Oil Search is involved in the exploration, evaluation, development, production, and sale of liquefied natural gas, condensate, and naphtha, as well as power generation activities. Most of its assets are in Papua New Guinea where it has interests in all the nation's oil fields. Additionally, it has operations in the Republic of Yemen, the Republic of Iraq, the Tunisian Republic, and Australia.	20%	0.40
TAG Oil	Canada	TAG Oil engages in the exploration, development, and production of oil and gas with an Australasian focus. While listed in Canada, its current interests are all in the Taranaki Basin in New Zealand. It has started to expand into Australia in 2016, signing an agreement to acquire petroleum assets in the Surat Basin.	-38%	1.43
Origin Energy	Australia	Origin Energy, an integrated energy company, engages in energy retailing, power generation, and natural gas production businesses in Australia, New Zealand, and internationally. It has a 50% interest in the Kupe project and additionally owns interests in Queensland, South Australia and Taranaki, Canterbury and the Song Hong basin in Vietnam. The company also generates power using natural gas, coal, wind, pumped water storage, solar, hydroelectricity, and cogeneration plants; and supplies electricity, natural gas, LPG, and greenpower and green gas products. The company serves approximately 4.2 million gas, electricity, and LPG customers; and has a power generation portfolio of approximately 6,000 megawatts.	48%	0.75
AWE	Australia	AWE Limited engages in the exploration and production of oil and gas properties in Australia, New Zealand, and Indonesia. It produces and sells gas, crude oil, condensate, and LPG products. The company's producing assets include the BassGas project situated in offshore Bass Strait, Tasmania; the Casino gas project located in the offshore Otway Basin, Victoria; the Tui Area oil project, which are located in offshore Taranaki basin, New Zealand; and the onshore Perth Basin interests in Western Australia.	-55%	1.32
Cooper Energy	Australia	Cooper Energy Limited discovers, develops, and sells oil and gas properties. The company holds interests in petroleum exploration tenements in the Cooper, Otway, and Gippsland basins in Australia; the South Sumatra basin in Indonesia; and the Bargou, Nabeul, and Hammamet permit areas off the coast of Tunisia.	-6%	1.27
Senex	Australia	Senex Energy explores, develops, and produces oil and gas resources in Australia through onshore assets. It holds a portfolio of oil and gas assets in Australia's Cooper-Eromanga Basin, as well as coal seam gas tenements in Queensland's Surat Basin. The company was formerly known as Victoria Petroleum NL.	-49%	2.15
Average			-19%	1.06

Source: Capital IQ.

Appendix 3. Input Parameters for Required Rate of Return

Assumption	Discussion
Risk Free Rate	Estimated at 2.5%, based on the current yield to maturity for 5-year NZ Government Bonds.
Market Risk Premium	7% based on a range of market based observations including the Commerce Commission's market risk premium applied to regulated industries in New Zealand.
Asset Beta	Considering the significant portion of contracted revenue for NZO's interest in Kupe and the credit quality of the counterparties (Genesis and Vector, who themselves have asset betas significantly below 1), we have adopted an asset beta of 0.9 for Kupe.
Debt/Equity Mix	Oil and gas companies either have cash reserves or relatively low gearing (see Appendix 2). Those companies with significant exploration activities and little if any production usually hold cash to fund those activities. Companies with contracted offtake arrangements and companies which have substantial production businesses and greater certainty of cash flow (such as Santos, Origin and Woodside) often do carry debt. However, on balance considering the finite life of Kupe and the likelihood of any debt needing to be amortised over a short period, we have assumed no gearing (i.e. the required rate of return for Kupe reflects the cost of equity).

Appendix 4. Declarations, Qualifications and Consents

Declarations

This report is dated 22 November 2016 and has been prepared by Northington Partners at the request of the directors of NZO to fulfil the requirements of the NZX Listing Rules in relation to the Proposed Transaction. This report, or any part of it, should not be reproduced or used for any other purpose. Northington Partners specifically disclaims any obligation or liability to any party whatsoever in the event that this report is supplied or applied for any purpose other than that for which it is intended.

Prior drafts of this report were provided to NZO for review and discussion. Although minor factual changes to the report were made after the release of the first draft, there were no changes to our methodology, analysis, or conclusions.

This report is addressed to the directors of NZO not associated with Genesis and provided for the benefit of all of the shareholders of NZO that are being asked to consider the Proposed Transaction, and Northington Partners consents to the distribution of this report to those people. Being part of the Notice of Meeting which will enter the public domain, this report may also be publicly disclosed.

Our engagement terms did not contain any term which materially restricted the scope of our work.

Qualifications

Northington Partners provides an independent corporate advisory service to companies operating throughout New Zealand. The company specialises in mergers and acquisitions, capital raising support, expert opinions, financial instrument valuations, and business and share valuations. Northington Partners is retained by a mix of publicly listed companies, substantial privately held companies, and state owned enterprises.

The individuals responsible for preparing this report are Greg Anderson B.Com, M.Com (Hons) and Ph.D and Jonathan Burke B.Com (Hons), BCM. Each individual has a wealth of experience in providing independent advice to clients relating to the value of business assets and equity instruments, as well as the choice of appropriate financial structures and governance issues.

Northington Partners has been responsible for the preparation of numerous independent reports in relation to takeovers, mergers, and a range of other transactions subject to the Takeovers Code and NZX Listing Rules.

Independence

Northington Partners has not been previously engaged on any matter by NZO or (to the best of our knowledge) by any other party to the Proposed Transaction that could affect our independence. None of the Directors or employees of Northington Partners have any other relationship with any of the directors or substantial security holders of the parties involved in the Proposed Transaction.

The preparation of this independent report will be Northington Partners' only involvement in relation to the Proposed Transaction. Northington Partners will be paid a fixed fee for its services which is in no way contingent on the outcome of our analysis or the content of our report.

Northington Partners does not have any conflict of interest that could affect its ability to provide an unbiased report.

Disclaimer and Restrictions on the Scope of Our Work

In preparing this report, Northington Partners has relied on information provided by NZO. Northington Partners has not performed anything in the nature of an audit of that information, and does not express any opinion on the reliability, accuracy, or completeness of the information provided to us and upon which we have relied.

Northington Partners has used the provided information on the basis that it is true and accurate in material respects and not misleading by reason of omission or otherwise. Accordingly, neither Northington Partners nor its directors, employees or agents, accept any responsibility or liability for any such information being inaccurate, incomplete, unreliable or not soundly based or for any errors in the analysis, statements and opinions provided in this report resulting directly or indirectly from any such circumstances or from any assumptions upon which this report is based proving unjustified.

We reserve the right, but will be under no obligation, to review or amend our report if any additional information which was in existence on the date of this report was not brought to our attention, or subsequently comes to light.

Indemnity

NZO has agreed to indemnify Northington Partners (to the maximum extent permitted by law) for all claims, proceedings, damages, losses (including consequential losses), fines, penalties, costs, charges and expenses (including legal fees and disbursements) suffered or incurred by Northington Partners in relation to the preparation of this report, except to the extent resulting from any act or omission of Northington Partners finally determined by a New Zealand Court of competent jurisdiction to constitute negligence or bad faith by Northington Partners.

NZO has also agreed to promptly fund Northington Partners for its reasonable costs and expenses (including legal fees and expenses) in dealing with such claims or proceedings upon presentation by Northington Partners of the relevant invoices.

