AUSTRALIAN
RESEARCH
INDEPENDENT INVESTMENT RESEARCH

Triangle Energy (Global) Limited

June 2020

INDEPENDENT
INVESTMENT RESEARCH

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INDEPENDENT INVESTMENT RESEARCH

Triangle Energy (Global) Limited

Note: This report is based on information provided by the Issuer as at 5 June 2020

Rating

Investment Profile	
Share Price ($) as at 5 June 2020	0.044
Issue Capital:	
Ordinary Shares (M)	360.75
Options (M)	73.95
Performance Shares	29.48
Fully Diluted (M)	464.19
Market Capitalisation (M)	$15.9
12 month L/H ($)	0.049-.014

Board and Management

Directors:

Timothy Monckton – Non Exec Chairman
Robert Towner – Managing Director and CEO
Edward Farrell – Non Exec Director
Wai-Lid Wong - Non Exec Director
Malcolm King - Non Exec Director
Troy Brice – COO
Marvin Chan – CFO
Lucy Rowe – Company Secretary

Major Shareholders	
Tamarind Resource Pte Ltd	16.8%
Institutional	14.0%
Directors	4.7%
Whitebark Energy	4.0%

Share Price Performance

LEVERAGE TO RECOVERING OIL PRICES

Triangle Energy (Global) Limited represents a combination of deep value and exploration leverage, with a rapid and relatively low cost pathway to production given Triangle's existing production assets. Triangle has executed some big moves for a very small company. It has exited Indonesia with cash, with which it purchased production in West Australia's Perth Basin, and has since become operator. It was part of a successful bid for highly prospective Queensland coal gas acreage tender, which it spun out as State Gas, a separate listing giving valuation visibility, and has moved to increase exposure to historically unloved and highly prospective tenements close to its existing production base.

KEY POINTS

Survivability – The company's ability to reset its operations to operate close to cash positive during a period of collapsed oil prices is to be commended, and demonstrates survivability.

Oil price is recovering – Triangle has very high leverage to rising oil prices. The Brent oil price is currently around A$39/bbl and consensus forecasts expect the price to move up over the next two years to A$80/bbl. Generally, very sudden and severe downturns in price are often followed by faster than expected upturns, so there is a risk that any recovery will be faster than expected.

Leverage of existing operations to oil prices – The NPV of the existing corporation excluding exploration upside and the State Gas shareholding is A$0.018/sh in our base case, at a flat oil price equivalent of A$73/bbl, and every additional A$10/bbl adds A$0.018/sh.

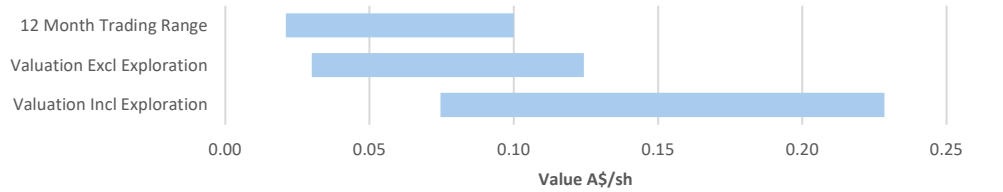
Leverage of State Gas shareholding to oil prices – Triangle holds 0.133 State Gas (ASX:GAS) shares per every Triangle share. At the current State Gas share price of A$0.51/sh, every Triangle share is backed by A$0.068/TEG share of State Gas. State Gas' share price is leveraged to recovering oil prices. Based on history, if the Brent oil price recovers to A$80/bbl as per consensus forecasts, the GAS share price would recover to A$0.57/sh, or A$0.074/TEG share. This could be more if there is positive operational news flow from State Gas. In our valuation, we conservatively assume the shareholding is sold and capital gains tax is paid, removing 30% of the value. However, there are outcomes where Triangle shareholders would see full value.

Leverage of exploration upside to oil prices – Rising oil prices increase the likelihood that major exploration expenditure will be funded and the Prospective Resources identified by the company and documented in its release of 23 April 2020 will be drilled. We have estimated unrisked valuations of 1C at A$0.24/sh, 2C at A$0.38/sh, and 3C at A$0.55/sh, highlighting the large value add to the existing production assets of this exploration is successful. Our valuation includes 20% of the Net Present Value of 2C production.

VALUATION

Our base case valuation of Triangle Energy is A$0.14/sh per share. 50% of that value is driven by risked exploration upside. Our risk factor is 20%. The valuation ranges in the table below assume long term oil prices of A$55/bbl at the low end to A$95/bbl at the high end. Given historical oil prices, this is not an aggressive price range. The direction of the Triangle share price will be largely determined by the direction of the global oil price.

Valuation Ranges



FINANCIAL STATEMENTS

Table 1 Profit and Loss

PROFIT & LOSS	Jun-19	Jun-20	Jun-21	Jun-22	Jun-23	Jun-24	Jun-25
Operating Revenue	13.17	12.78	10.67	11.66	11.74	10.73	10.40
Other Income	0.16	0.00	0.00	0.00	0.00	0.00	0.00
Revenue	13.34	12.78	10.67	11.66	11.74	10.73	10.40
Operating Costs	-9.75	-8.82	-9.03	-8.52	-8.47	-8.59	-8.71
Corporate OH	-2.89	-4.00	-3.00	-2.50	-2.00	-2.00	-2.00
Exploration	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Costs	-12.64	-12.82	-12.03	-11.02	-10.47	-10.59	-10.71
EBITDA	**0.70**	**-0.04**	**-1.37**	**0.64**	**1.27**	**0.14**	**-0.31**
D&A	-0.64	-0.80	-0.80	-0.80	-0.80	-0.80	-0.80
EBIT	**0.05**	**-0.84**	**-2.17**	**-0.16**	**0.47**	**-0.66**	**-1.11**
Share of Loss in Associates	-0.41	0.25	-0.22	0.16	0.19	-0.03	-0.10
Interest Costs	-0.44	0.00	0.00	0.00	0.00	0.00	0.00
Financing Costs	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hedging Gains	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Amort of Restoration	-0.30	0.00	0.00	0.00	0.00	0.00	0.00
PBT	**-1.11**	**-0.59**	**-2.38**	**-0.01**	**0.66**	**-0.69**	**-1.20**
Tax Expense	-0.66	0.18	0.72	0.00	-0.20	0.21	0.36
NPAT	**-1.76**	**-0.41**	**-1.67**	**0.00**	**0.46**	**-0.48**	**-0.84**
Shares on Issue	312.75	360.75	360.75	361.15	361.15	361.15	361.15
Options on Issue M	103.44	103.44	31.29	30.89	30.89	30.89	30.89
Adj EPS A$/sh	-0.01	0.00	0.00	0.00	0.00	0.00	0.00

Source: IIR estimates

Notes to the accounts

- Most of the line items of the Profit and Loss are driven by Triangle's 57.5% interest in Cliff Head.
- Triangle also owns 21.25% of Cliff Head through its 50% interest in Triangle Energy Operations, which is accounted for as an equity accounted associate. This asset shows up in the accounts as single line items in the P&L (Share of Profit in Associate), in the Balance Sheet (Investment in Associates) and in the Cash Flow Statement (Dividends from Associates).
- The valuable investment in State Gas has no impact on the Profit and Loss, and is at zero in the balance sheet.
- We assume no PRRT and no Income Tax is expensed or paid because of the sizeable recognised and unrecognised losses. The Deferred Tax Asset doesn't change, because we assume there are unrecognised Deferred Tax Assets that will be recognised. These losses are discussed in more detail in the valuation section.

KEY ASSUMPTIONS

Table 2 Assumptions including Triangle's 78.75% share of oil production

Assumptions	Jun-19	Jun-20	Jun-21	Jun-22	Jun-23	Jun-24	Jun-25
Oil Production bopd	690	771	714	666	666	622	581
Oil Production mbbl	251.89	281.50	260.75	242.94	242.92	227.03	212.17
Oil Price (Brent) US$/bbl	68.54	49.50	41.03	52.19	56.59	58.30	59.68
BP Premium	-3.02	3.55	3.00	3.00	3.00	3.00	3.00
Realized US$/bbl	65.53	53.06	44.03	55.19	59.59	61.30	62.68
AUDUSD	0.713	0.669	0.615	0.662	0.710	0.746	0.735
Cost Inflation		2.0%	2.0%	2.0%	2.0%	2.0%	2.0%

Source: Consensus Economics for Brent oil price and AUDUSD forecasts, the rest are IIR estimates

Table 3 Balance Sheet

BALANCE SHEET	Jun-19	Jun-20	Jun-21	Jun-22	Jun-23	Jun-24	Jun-25
Cash	2.49	3.92	1.66	1.63	3.61	3.77	4.14
Receivables	1.14	0.25	0.20	0.22	0.23	0.21	0.20
Inventories	0.47	1.05	0.99	0.91	0.86	0.87	0.88
Other	0.00	2.97	2.97	2.97	2.97	2.97	2.97
Total Current Assets	4.10	8.18	5.82	5.72	7.66	7.81	8.18
Equity Accounted Investments	0.49	0.50	-0.08	-0.62	-1.16	-1.66	-2.14
Financial Assets	0.11	0.11	0.11	0.11	0.11	0.11	0.11
PP&E	0.08	0.08	0.08	0.08	0.08	0.08	0.08
Intangibles	4.95	4.95	4.95	4.95	4.95	4.95	4.95
Expln & Mine Devt	10.78	9.52	8.72	7.92	7.12	6.32	5.52
Deferred Tax Asset	7.82	7.99	8.71	8.71	8.71	8.92	9.28
Total Non Current Assets	24.23	23.15	22.49	21.15	19.81	18.71	17.80
Total Assets	**28.33**	**31.34**	**28.30**	**26.87**	**27.47**	**26.52**	**25.98**
Trade Payables	3.81	4.00	2.64	1.21	1.15	1.16	1.17
Borrowings	0.87	0.63	0.63	0.63	0.63	0.63	0.63
Provisions	21.13	21.00	21.00	21.00	21.28	20.71	20.49
Total Liabilities	**25.81**	**25.63**	**24.27**	**22.84**	**23.25**	**22.50**	**22.30**
Net Assets	**2.52**	**5.71**	**4.04**	**4.03**	**4.22**	**4.02**	**3.69**
Issued Capital	33.36	36.96	36.96	36.96	36.96	36.96	36.96
Reserves	0.58	0.58	0.58	0.58	0.58	0.58	0.58
Retained Profits	-31.42	-31.83	-33.50	-33.50	-33.32	-33.51	-33.85
Shareholder Equity	**2.52**	**5.71**	**4.04**	**4.03**	**4.22**	**4.02**	**3.69**

Source: IIR estimates

- The investment in State Gas Limited was A$0.5M at June 2018, and zero at June 2019. The market value of Triangle's State Gas holding has consistently been in excess of Triangle's market capitalization.

Table 4 Cash Flow

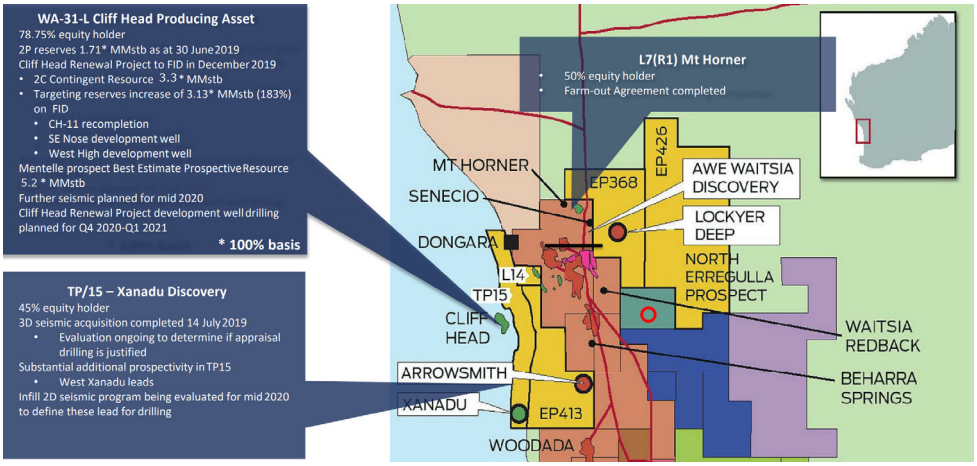
CASH FLOW	Jun-19	Jun-20	Jun-21	Jun-22	Jun-23	Jun-24	Jun-25
Receipts From Customers	13.81	13.67	10.71	11.64	11.74	10.75	10.41
Payments to Suppliers	-13.17	-13.34	-13.33	-12.37	-10.48	-10.58	-10.71
Cash Flow form Operations	0.63	0.33	-2.62	-0.73	1.26	0.16	-0.30
Exploration	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Other Revenue	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Interest Received	0.01	0.00	0.00	0.00	0.00	0.00	0.00
Financing Costs	-0.31	0.00	0.00	0.00	0.00	0.00	0.00
Taxes Paid	1.03	0.00	0.00	0.00	0.00	-0.20	0.00
Net Cash from Operations	**1.35**	**0.33**	**-2.62**	**-0.73**	**1.26**	**-0.04**	**-0.30**
Investments	-0.02	0.00	0.00	0.00	0.00	0.00	0.00
PP&E	-2.16	0.00	0.00	0.00	0.00	0.00	0.00
Exploration	-3.23	-2.50	0.00	0.00	0.00	0.00	0.00
Investing Activity	**-5.40**	**-2.26**	**0.36**	**0.70**	**0.73**	**0.47**	**0.38**
Issue of Equity.	5.07	3.60	0.00	0.00	0.00	0.00	0.00
Dividends	0.00	0.00	0.00	0.00	0.00	-0.28	0.29
Net Borrowings	-1.60	-0.24	0.00	0.00	0.00	0.00	0.00
Financing Costs	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Financing Activity	**3.46**	**3.36**	**0.00**	**0.00**	**0.00**	**-0.28**	**0.29**
FX Difference	0.12	0.00	0.00	0.00	0.00	0.00	0.00
Net Increase in Cash	**-0.47**	**1.43**	**-2.26**	**-0.03**	**1.98**	**0.16**	**0.37**
YE Cash on Hand	**2.49**	**3.92**	**1.66**	**1.63**	**3.61**	**3.77**	**4.14**

Source: IIR estimates

OVERVIEW

- Triangle Energy is an asset rich company that is heavily leveraged to the recovery in oil price levels.
- The company has shown that it is a survivor, with an ability to adapt and preserve cash flow in the extraordinary economic and oil price environment, and by surviving, it has a very high degree of leverage to recovering oil prices. That leverage comes from both the existing operations, and from the leverage to the uplift in the value of its exploration potential, as oil prices recover.
- It is an oil explorer, with the significant advantage of being an oilfield operator, so the risk of transitioning from exploration success to production is low, and it has existing production capacity close to where it is exploring, so can rapidly translate any exploration success into cash flow, and at minimum capital cost and risk.
- In recent times, the international oil price has not been helpful, a victim of the US China trade war, the break between Russia and OPEC, and more recently the Corona Virus. We see all these factors as being relatively temporary, and like many event induced demand slow downs, once the effects of these influences abate, the demand rebound can be relatively strong, and often surprisingly so.
- The Cliff Head offshore platform and the Arrowsmith separation plant assets are currently valuable, and could easily be more so with exploration success, either from low risk workovers, or from larger step-outs from the Cliff Head platform, or new fields delivering to the Arrowsmith separation plant, including Mt Horner and Xanadu. However, the cost of new wells is likely to be higher than can be accommodated by Triangle's current cash flow, or by its ability to issue shares in the current market, so value adding from this source will be farm-out dependent.
- The Mt Horner farm in commenced in December 2019, so this asset will start to generate news flow for Triangle over the next year.

Figure 1 Triangle is building a solid asset base in the Northern Perth Basin

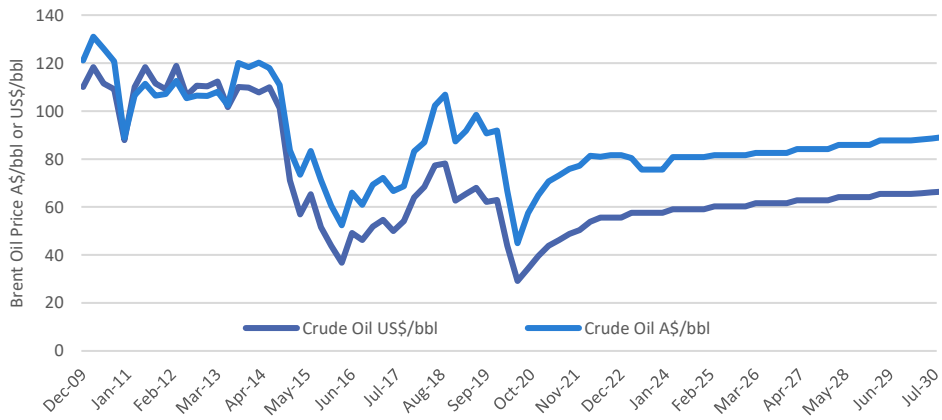


Source: TEG AGM presentation 19 November 2019

VALUATION

- Triangle is an asset rich company with existing oil production currently operating around break even. Our base case valuation is A$0.14/sh (see Table 6). That valuation is heavily leveraged to the oil price.
- The current oil price is at very depressed levels due to a split between OPEC and Russia, and more recently COVID 19's impact on demand. We use the summary of a number of global oil price forecasters compiled by Consensus Economics, forecasting an increase from the current levels of around A$45/bbl to A$80/bbl by the start of 2022, with a positive trend (ie bull market) between now and then.

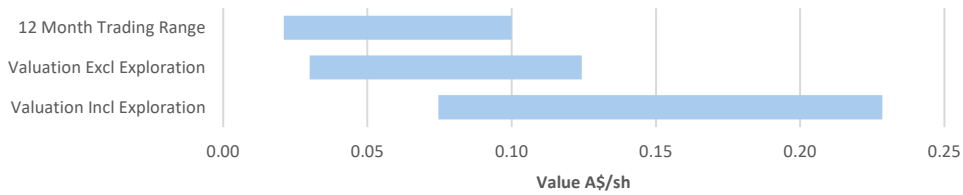
Figure 2 Brent oil price history and Consensus forecast



Source: History from ICE, RBA, forecasts from Consensus Economics

- If the oil price were to follow the path forecast, the Triangle share price is likely to be a strong upside performer because of the company's valuation leverage to a rising oil price. The leverage comes from a number of sources, including the higher cash flow from existing production, the impact of higher energy prices on its shareholding in State Gas, and the greater likelihood of exploration taking place and expanding production.
- The chart and table below highlight the last 12 months trading range, and our valuation ranges, depending on whether exploration success occurs or not.

Figure 3 Valuation ranges



Source: IIR estimates

Table 5 Valuation ranges

Valuation Table A$/sh	Min	Max
Valuation Incl Exploration	0.075	0.229
Valuation Excl Exploration	0.030	0.124
12 Month Trading Range	0.021	0.100

Source: IIR estimates

Table 6 Valuation Base Case

	A$M	A$/sh
Cliff Head 57% Interest	8.61	0.024
Triangle Energy (Operations)	3.42	0.009
Corporate Overhead	-8.49	-0.024
Cash on hand	3.92	0.011
Debt	-0.63	-0.002
Recognised Tax Asset	2.22	0.006
Rehabilitation	0.00	0.000
Net Working Capital	-2.70	-0.007
Operating Assets	6.35	0.018
State Gas Shareholding	16.91	0.047
Exploration Risked 20%	27.30	0.076
Valuation A$M	50.6	0.140
Issued Shares M	360.8	
Discount Rate	7.1%	

Source: IIR estimates

- We have valued Triangle's direct interest in Cliff Head separately from its interest via 50% owned Triangle Energy Operations.
- The forecast oil production from 1 July 2019 to end of reserve is 1.8 MMbbl on a 100% of field basis vs the 2P reserves at 30 June 2019 of 1.71 MMbbl.
- The assumptions are stated in Table 2. While we model declining oil production and rising oil prices, our valuation is the same as if we assumed oil production at 660bopd and a Brent Price of A$73/bbl.
- We have estimated unrisked valuations of 1C at A$0.24/sh, 2C at A$0.38/sh, and 3C at A$0.55/sh. Our valuation includes 20% of the Net Present Value of 2C production.
- Only Triangle Energy Operations pays PRRT, and neither Triangle (57.5%) nor Triangle Energy Operations pay income tax. Triangle is currently paying tax at 27.5%, but we use the higher rate as a conservative measure, when calculating the use of prior losses.
- We have not included the A$21M (A$0.058/sh) rehabilitation liability in our valuation, because we believe that ultimately exploration success will push the payment of that liability down the road many years, and if Triangle found itself unable to fund the exploration, the operation and the liability would be sold to another company. Given the historical Triangle share price, the market appears to have adopted the same view, and ignored its valuation impact.

SENSITIVITY

- Triangle valuation is highly sensitive to the oil price. The current share price appears to be factoring in either A$45/bbl including some value for exploration potential, or A$65/bbl with no allowance for exploration potential (see bottom two lines of Table 7). The current oil price is around A$39/bbl and heading higher so the market appears to be pricing the company between these two scenarios.

Table 7 Sensitivity of existing Cliff Head Operations to volume and price assumptions

Oil Price A$/bbl	45	55	65	75	85	95
Existing Cliff Head Operation A$/sh						
Operating Corporation	-0.019	-0.008	0.001	0.023	0.046	0.064
GAS value A$/TEG share						
Value at market	0.046	0.054	0.062	0.070	0.078	0.086
Tax on holding if sold	-0.014	-0.016	-0.019	-0.021	-0.023	-0.026
Net value	0.032	0.038	0.044	0.049	0.055	0.060
Value of Cliff Head Exploration risked at 20% A$/sh						
Exploration assuming C1	0.011	0.024	0.037	0.048	0.058	0.069
Exploration assuming C2	0.028	0.045	0.062	0.076	0.090	0.104
Exploration assuming C3	0.031	0.048	0.065	0.080	0.095	0.110
Valuation of Triangle Energy A$/sh						
Valuation without Exploration	0.013	0.030	0.045	0.072	0.101	0.124
Valuation with Risked C2 Exploration	0.041	0.075	0.106	0.148	0.190	0.229

Source: IIR estimates

- The exploration valuation assumes the drilling of four exploration wells at a cost of A$15M each, resulting in the production of 100% of the company's stated C1, C2, and C3 with a production profile similar to the original Cliff Head field.

Table 8 Upside potential of the potential resource that could be accessed from the Cliff Head platform

Oil Price A$/bbl	45	55	65	75	85	95
Unrisked valuation of Cliff Head Exploration Potential A$/sh						
Assuming C1 Resource	0.053	0.120	0.187	0.239	0.290	0.344
Assuming C2 Resource	0.139	0.223	0.308	0.379	0.448	0.521
Assuming C3 Resource	0.153	0.239	0.327	0.401	0.473	0.550
Risked valuation assuming 20% risk factor A$/sh						
Assuming C1 Resource	0.011	0.024	0.037	0.048	0.058	0.069
Assuming C2 Resource	0.028	0.045	0.062	0.076	0.090	0.104
Assuming C3 Resource	0.031	0.048	0.065	0.080	0.095	0.110

Source: IIR estimates

TAX SHIELD LIKELY TO COVER A$56M OF PRRT EARNINGS AND A$17M OF PROFIT

- Triangle is assessed for the Commonwealth Petroleum Resource Rent Tax and corporate Income Tax.
- The company has significant recognised and unrecognised Deferred Tax Assets of A$7.8M and A$23.5M respectively, which we estimate will mean that it will not have to pay PRRT on the next A$56.12M of assessable income, and on the next A$17.28M of income assessable for Income Tax. This is in relation to its 57.5% direct interest in Cliff Head only.
- TEG also owns 21.25% through Triangle Energy Operations Pty Limited, its 50% owned associate company. The accounts of that entity include a $6M recognised Deferred Tax Asset, but we have no detail as to its split between PRRT and Income Tax benefits. We assume that this entity has to pay PRRT.
- That means that for the level of earnings we are forecasting in our model, and for the range of sensitivities we have tested, the company will not pay out cash in respect of these taxes except for Triangle Energy Operations paying PRRT.
- The Profit and Loss is likely to show amounts on the income tax line, relating to the movement of in the various provisions and deferred accounts, but we have chosen not to try to estimate these movements because that does not impact cash flow nor valuation.

Table 9 PRRT and Income Tax information from the Triangle accounts for the 57.5% direct share.

	Deferred Tax Asset Recognised	Deferred Tax Assets not Recognised	Income neutralised
Relevant to PRRT			@40%
PRRT (credit on decomissioning)	6.47	5.81	30.70
Project Pool Costs	4.25	9.69	34.85
Assessable Receipts	-1.78		-4.45
Other		0.19	0.48
Exploration Assets	-2.19		-5.47
Total	6.76	15.69	56.12
			@27.5%
Tax Losses	1.06	5.88	25.23
Exploration Assets	-2.19		-7.95
Total	-1.12	5.88	17.28

Source: TEG 2019 annual report note 1.3

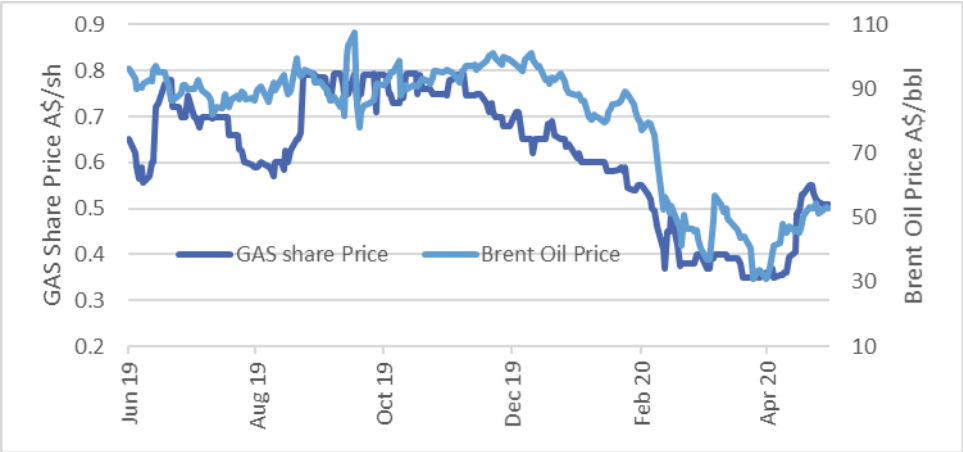
A$10.6M VALUATION OF CLIFF HEAD BASED ON 2017 TRANSACTION

- Triangle/Royal paid US$3.75m to acquire the ROC 42.5% share in May 2017. The presence of Royal in the transaction provides third party validation of this valuation. On the basis of this transaction, Triangle's 78.75% share of the Cliff Head/Arrowsmith facilities is worth US$6.95M or A$10.6M at current exchange rates.
- Referring to Table 6, our NPV of the 57.5% direst interest is A$8.6M fully taxed, and the 21.25% interest via Triangle Energy Operations is A$3.4M fully taxed, giving a value of A$12.0M for TEG's 78.75% total interest. We generate an additional value of A$2.2M being the tax shield on the 57.5% interest. Our A$ oil price assumption is likely to be higher than at the time of the purchase.
- The original acquisition of 57.5% on 30 June 2016 was for A$3.214M plus a royalty of US$5/bbl on oil price in excess of US$70/bbl. The royalty makes simple metrics difficult to calculate.
- The cost to develop the field originally was A$327M with historical production of 14.8M bbls, of which Triangle's share would be A$258M.
- The historical cost is irrelevant if the assets are approaching the end of reserve life, as is the purchase price paid by Royal in 2017. The question is what did Royal and Triangle see in the asset in 2017. Given Triangle had two years to get to understand the asset, it would make little sense for the management to throw good money after bad, and the presence of Royal appears to support the Triangle analysis.

VALUATION OF TRIANGLE'S HOLDING IN STATE GAS

- Triangle owns 47,830,149 shares in State Gas, or 0.133 GAS shares per TEG share. Our valuation assumes a value of the shares at the current market price of A$0.51/sh or A$24.2M or A$16.9M net of capital gains tax. Triangle has some capital losses that could be offset, but we have not recognised them.
- The State Gas share price is sensitive to both the oil price and project delivery. We have not recognised any value upside for project delivery, but in Table 7 we attempt to estimate what would happen to the State Gas share price if the oil price were to continue to rise, based on recent history, as shown in Fig 4 below)

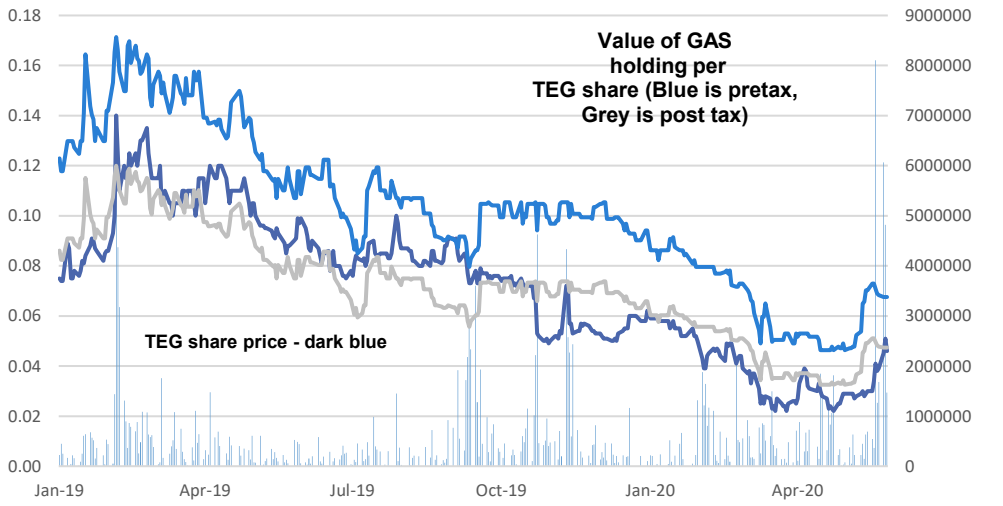
Figure 4 State Gas share price vs the Brent Oil Price in A$/bbl



Source: ICE, RBA

- The share price of State Gas has fallen with the rest of the oil and gas sector in response to the lower oil and energy prices, but the company is in a strong position with the recent Australian Federal Government energy plan emphasising gas as the short to medium preferred energy source, positive exploration success, and capital markets remaining open for funding.
- If the stake was sold, the company would have to pay capital gains tax of 30% on the profits. Triangle's book value was A$1.8M in June 2017, so our valuation of the shareholding is based on the conservative after tax cash from sale at market. However, there may be alternative structures that eliminate the need to pay tax, including remerging with State Gas, or distribution GAS shares to shareholders, which would increase the value of the holding.

Figure 5 Triangle share price v State Gas value per TEG share before and after tax



Source: ASX share prices, TEG 3B releases for issued TEG shares

The figure above shows the Triangle share price vs the before and after tax value per Triangle share of the Triangle holding in State Gas Limited (ASX:GAS). Triangle has been trading at a discount to the after tax value of its State Gas Holding since October 2019.

- If someone wanted to bid for State Gas, Triangle would be a discounted entry, and given the buyer would not be planning to sell the State Gas holding, the issue of paying tax would not arise, and so Triangle would represent a way of gaining a potentially controlling stake in State Gas at a 30% discount to the current State Gas share price.
- On 4 February 2019, GAS announced that it had appointed an advisor "to help it respond to potentially interested parties", and the possibility of a take-out and cash realization for Triangle may have been the driver of the price jump from A$0.08/sh to A$0.17/sh at that time.
- Since then, the Triangle share price has fallen below the implied value of its GAS shareholding.

FINANCIAL POSITION

- At 31 March 2020, Triangle had cash of $4.17M of which A$1.66M was in escrow (the Pase Receivable), and the company had no external debt.
- The ASX quarterly reporting has changed and companies no longer report outgoings. This has been replaced by "Estimated Cash from future operating activities" which in Triangles case for the June 2020 quarter is a positive cash flow of A$0.375M, which would be a very good outcome, relative to what the market would have expected at current oil prices.

Pase PSC receivable

- Triangle is owed US$1.02M (A$1.66M) currently held in escrow, in relation to the Pase PSC in Indonesia, which was sold to PT Enso Asia in February 2016. It should be released to Triangle once the appropriate authority provides approval of the change of control of the PSC.
- This is not recognised in the accounts, and we have not included this in our valuation, because we are uncertain of the timing of the receipt on this cash.
- It is material to the current market capitalization of the company, and should positively impact the share price if received.

CLIFF HEAD OPERATIONS

HISTORY

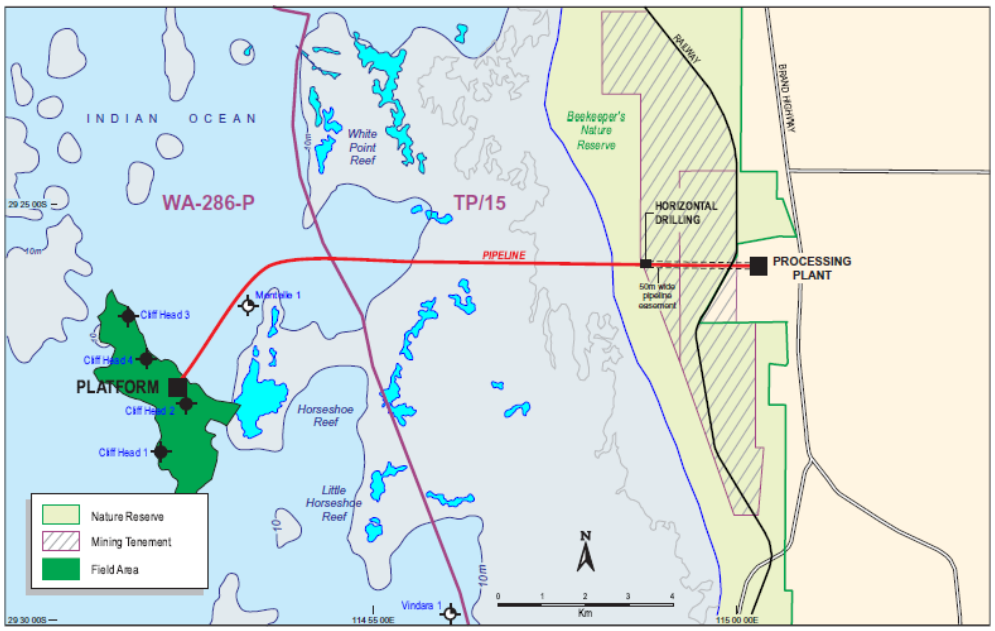
- Cliff Head is located ~300km north of Perth and was the first commercial offshore Perth Basin discovery (2001) and commenced production in 2006. The development consisted of the Cliff Head Alpha unmanned platform and twin injection and production pipelines to the onshore Arrowsmith plant for a capex cost of US$327 million.
- Cliff Head was the first commercial oil discovery developed in the offshore Perth Basin. The development cost of the field was A$327m with first oil production commencing in May 2006. To-date the field has produced over 14.8 million barrels and continues to produce at above originally forecast rates.
- In June, 2016 Triangle acquired 57.5% interest in Cliff Head, including the Arrowsmith onshore oil processing plant, from AWE Limited (ASX:AWE). The operating 42.5% was owned by Roc Oil Company Ltd (Roc).
- On the 6 September 2016, the Department of Mines and Petroleum (DMP), formally accepted for use the TPL/18 Cliff Head Development Pipeline Management Plan in accordance with Regulation 25 of the Petroleum (Submerged Lands)(Pipelines) Regulations 2007 along with the PL70 Cliff Head Development Safety Case in accordance with Regulation 36(1) of the Petroleum Pipeline (MoSoPO) Regulations 2010.
- The next five yearly revision, is now due during September 2021. (Source TEG Quarterly Activities Statement 1 November 2016)
- Triangle and Royal Energy entered into a 50/50 share purchase agreement, to purchase the remaining 42.5% interest in Cliff Head from ROC on 22 May 2017. Triangle now holds 78.75% interest in Cliff Head and is the Operator, with Royal Energy holding an interest of 21.25%.
- Triangle Energy (Operations) Pty Ltd became the Registered Operator of the Cliff Head asset on the 17th July 2018.

OWNERSHIP

- Triangle Energy is the Registered Operator and majority owner of the Cliff Head Oil Field.
- 57.5% was acquired on 30 June 2016. This is reported as a direct production interest, showing up as revenues, costs, etc in the P&L, Cash Flow and Balance Sheet.
- 42.5% was acquired by a 50:50 joint venture between Triangle and Royal, for US$3.75M (TEG share US$1.875M or A$2.5M), giving Triangle another 21.25% interest, and is accounted for as an investment in associates, so appears as a single line item in the P&L, and as a single line item in the Balance Sheet.
- Under the equity method of accounting, the investment is recognised at cost in the Balance Sheet, and that amount is adjusted to reflect the associates reported profit or loss. The carrying value is reduced by any dividend paid, and increased by any capital injections.

CLIFF HEAD PRODUCTION ASSETS

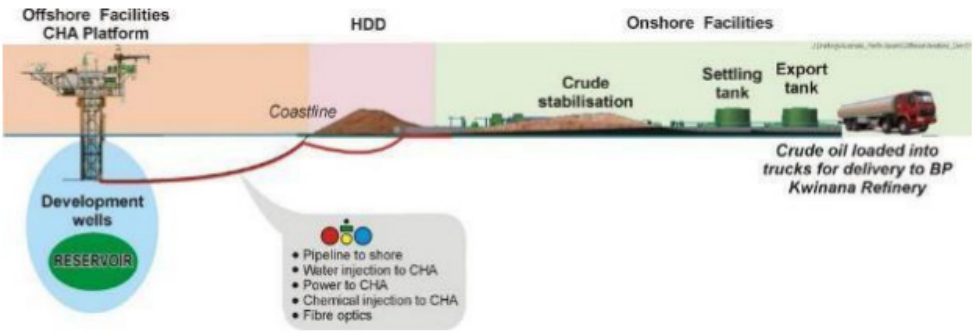
Figure 6 Cliff Head platform and Arrowsmith processing plant 270Km north of Perth, WA, Australia



Source: ROC Cliff Head Development PER April 2004

- The Cliff Head Oil Field is located in the Perth Basin about 270 kilometres north of Perth and 12 kilometres off the coast of Dongara in Western Australia. Cliff Head is located at a shallow water depth of 15-20 metres.
- Production is currently from five ESP (Electrical Submerged Pump) production wells, and two water injection wells. All the wells can be serviced from the Cliff Head Alpha Production Platform, which has slots for nine operating or water injection wells in total. The Cliff Head Alpha platform is connected to the shore side facilities by two 14km 250mm pipelines, a pipeline for injection chemicals, a power cable , and a fibre optics cable. Oil produced is piped to the Arrowsmith Separation Plant, with the separated water returned by another pipeline for reinjection. The crude oil is trucked 350Km to BP's Kwinana Refinery south of Perth.

Figure 7



Source: TEG 2019 annual report

Figure 8 Cliff Head operating assets

Source: ROC presentation 10 April 2008

OFFSHORE ASSETS

Cliff Head resources and reserves

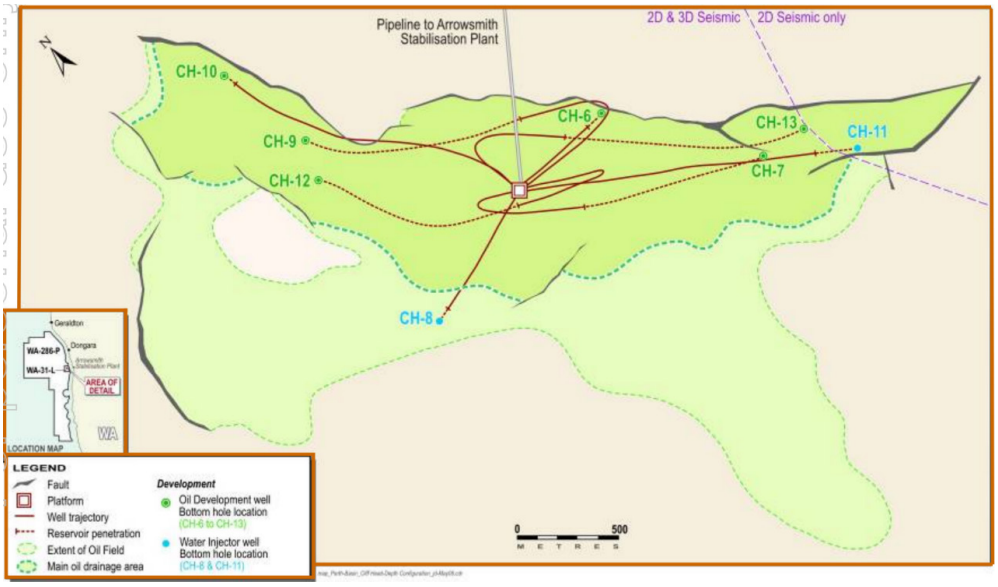
Table 10 Resources

(MMstb Oil)	100% Field Basis			TEG 78.75% Basis		
Gross Contingent Resources	**C1**	**C2**	**C3**	**C1**	**C2**	**C3**
CH11 Block	0.00	0.06	0.69	0.00	0.05	0.54
CH13 Attic						
SE Nose	0.50	1.01	2.07	0.39	0.80	1.63
West High	0.00	0.95	2.27		0.75	1.79
West Flank	0.00	0.79	1.14		0.62	0.90
East Horst K Sand		0.36			0.28	
Far North		0.41			0.32	
Total (Gross)	0.50	3.52	6.17		2.82	
Gross Prospective Resources	**Low**	**Best**	**High**	**Low**	**Best**	**High**
Mentelle Updip	1.98	5.15	9.18	1.56	4.06	7.23
South Cliff Head		3.00			2.36	
Catts	0.35	0.77	1.42	0.28	0.61	1.12
Southern Extension		0.54			0.43	
Total (Gross)	2.33	9.46	10.60	1.83	7.45	8.35

Source: TEG Resource statement 23 April 2020. Note that Prospective Resources are estimayed quantities pf petroleum that may be recovered by the applicatins of future development to as yet undiscovered accumulations. These estimates have both the risk of discovery and of development. Further exploration (ie drilling) and evaluation will be required to determine the existance of economic hydrocarbons.

- 2P Reserves at 30 June 2019 were 1.71 MMbbl. Those Reserves were based on the previous year less depletion. Oil production in our economic model is 1.8MMbbl, from the September 2019 quarter.

Figure 9 Tracks and termination locations for the production and water return wells



Source: ROC presentation 10 April 2008

- With respect to the table below, well CH9 was a producing well that was converted to water injection in December 2012, to support CH8 and CH11. CH 11 has been taken off water injection with little impact on total oil production, and is being evaluated as an oil producer from a higher reservoir.

Table 11 Key data for the wells in the Cliff Head system

Well	Structure	Completed	TD m	Oil	Gas	Status
Cliff Head 13H		13-Jul-06	2739	L5 Producer		Operating
Cliff Head 12H		30-Apr-06	2698	L5 Producer		Operating
Cliff Head 11WI		26-Jan-06	2304			Service
Cliff Head 10		9-May-06	2150	L5 Producer		Operating
Cliff Head 9H		21-May-06	2684	L5 Producer		Operating
Cliff Head 8WI		4-Feb-06	1619			Service
Cliff Head 7H		28-Mar-06	2548	L5 Producer		Operating
Cliff Head 6	Horst Block	9-Mar-05	1530	L4 Excellent		Susp O
Cliff Head 5		23-Feb-05	1516	L0 Nil		P&A
Cliff Head 4	Faulted Anticline	10-Mar-03	1598	L4 Excellent		P&A OS
Cliff Head 3B CH1	Horst Block	19-Jan-03	1375	L3 Good		P&A O
Cliff Head 3 CH1	Horst Block	12-Jan-03	1408	L4 Excellent	G2 Fair	P&A O
Cliff Head 2		3-Jan-02	2020	L3 Good	G2 Fair	P&A OS
Cliff Head 1		29-Dec-01	1499	L4 Excellent	G2 Fair	P&A OS

Source: https://wapims.dmp.wa.gov.au/WAPIMS/Search/Wells

ONSHORE ASSETS – ARROWSMITH SEPARATION PLANT

- Processing at the treatment facility will comprise degassing, dewatering and stabilisation of the crude oil. The facility will be designed to have a gross liquid (oil and formation water) capacity of approximately 6,360 m3 per day (40,000 barrels per day). Plant design includes storage facilities for approximately 6,360 m3 (40,000 barrels) of crude oil.
- The volumes of gas associated with the oil are so low that they are not by themselves a practicable source of fuel for the production facilities. These minimal volumes of recovered gas will be supplemented with reticulated gas delivered to the site to provide fuel for the production.

- Currently, the operation is producing crude oil at a rate of around 1000 bopd, so the bulk of the fluid processed is water. If production from a new well was added, ie CH11, West Cliff, SE Nose or Mentelle, it would have a lower water cut initially and would boost production by displacing water. The overall system, would still be processing the same fluid volume, and the A$M pa costs would be largely unchanged.

PRODUCTION HISTORY

- The production history since acquisition has been lower than expected at the time of Triangle's purchase (see figure below). We believe that this was largely due to the priorities of the original owners and operator being elsewhere, and a backlog of maintenance.
- Triangle became operator in July 2018, and we believe has taken very positive steps to secure the operation and expand production. Production in CY 2020 started at over 1000bopd.
- The producing wells today are horizontal wells CH7, CH10, CH12, and CH13, and vertical well CH6. All the producing wells have downhole electrical submerged pumps (ESPs) CH6 and CH10 were replaced in December 2010, CH12 in October 2018, and CH13 in December 2019. CH13 was 60 months since the previous replacement, and CH12 was 90 months.
- We do not know the individual well production history nor capacity, but from the commentary in the quarterlies, we believe that CH13 has a sustainable capacity of 150 bopd, CH12 at around 230 bopd, with the other three oil production wells capable of 550 bopd or 183 bopd each.
- Initial production from wells that come back on line after ESP replacement initially produce at higher rates than trend. In the December 2019 quarter production from the production wells CH7, CH9, CH10 and CH12 averaged 779 bopd. The addition of CH13 with its new ESP lifted production to 1028 bopd (releases 16, 19 December 2019), so the new CH13 well added 249 bopd, compared to 150 bopd prior to the shut. 150 bopd remains the expected medium term steady state production rate for CH13 (December 2019 Quarterly Activities Report p5)
- In the table below, the expected production at the time of purchase started at 1350 bopd and declining at 9.6% pa, and we believe this is an estimate of the reservoir decline rate.
- The actual production rate has been impacted by major outages, some of which have been recorded in the company production reports. These outages are a function of the age of the plant, and probably cost reductions that reduced maintenance spending.
- The major point is that the actual production profile is a combination of reservoir decline and a decline in plant up time. Triangle as operator is addressing the reservoir decline by investigation possible new targets, and the uptime issue by increased maintenance.

Table 12 Actual annual production and estimated production adjusted for the impact of major outages.

YE December	2013	2014	2015	2016	2017	2018	2019
Forecast in Purchase presentation bopd				1350	1200	1100	1050
Actual production bopd	2550	1950	1550	1188	1097	709	795
Actual/Forecast				88%	91%	64%	76%
Identified Losses bopd over year							
Water injection Pipeline leak shuts field					54		
Oil Leak in CH6 shuts field							51
CH12 replace electric submerged pump						83	
CH13 replace electric submerged pump							114
Shut down as precaution against oil leakage						43	
Adjusted Actual Production					**1151**	**835**	**960**

Source: Forecasts TEG Cliff Head Purchase presentation 20 June 2016, actual per AWE and TEG quarterlies assuming the forecasts are calendar years.

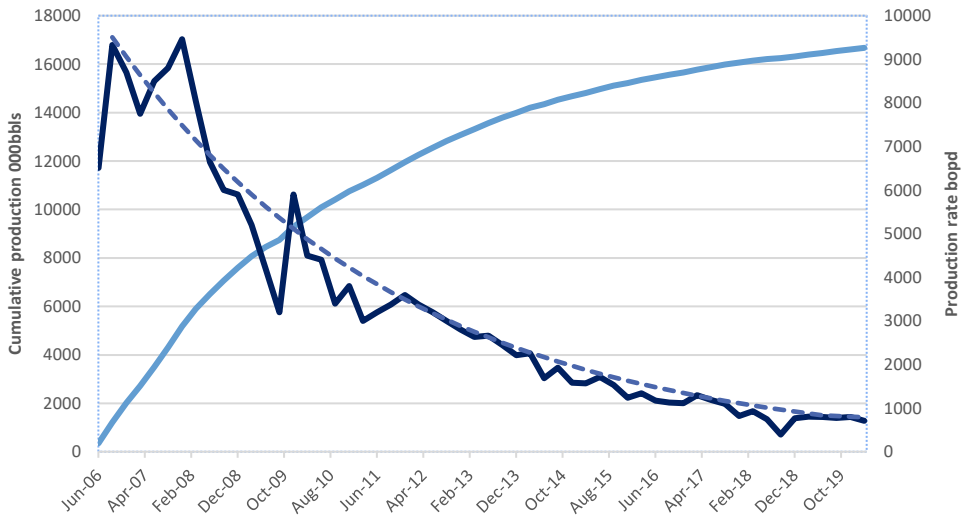
Table 13 Details of major outages

	Shut	Restart	Days Lost	Capacity bopd	Loss bopd
Water injection Pipeline leak shuts field	29-Nov-17	17-Dec-17	18	1100	54
Oil Leak in CH6 shuts field	24-Jul-18	13-Aug-18	20	930	51
Shut down as precaution against oil leakage	27-Jul-18	13-Aug-18	17	930	43
CH12 replace electric submerged pump	31-May-18	10-Oct-18	132	230	83
CH13 replace electric submerged pump	13-Mar-19	16-Dec-19	278	150	114

Source: TEG quarterlies, capacity shut in during these events is an IIR estimate based on the production in the quarter before the shutdown event for the field shuts, and company commentary for individual wells. The final column shows the loss as bopd averaged over a full year.

- The intervention and replacement of older pumps with larger pumps has historically lifted the field's productive capacity, as in 2017. The bunched replacement of CH12 and CH13, along with other unplanned maintenance driven downtime issues, have negatively impacted the fields production.
- With 5-8 years life from the pumps, the field should operate without major outages from downhole pump maintenance for the next 5 years or so.

Figure 10 Historical production since startup



Source: AWE, ROC and TEG quarterly production reports, with dotted trend line estimated by IIR

- Since start of production, trend production across the field appears to have declined by 22% pa (dotted line in Fig 10). The expected reservoir decline at the time of purchase was likely to have been 9.6%, so some of our 22% rate is declining availability, and some is reservoir.
- Our base case production forecast assumes a 7% pa decline for the production from the main Horst area, on the basis that the renewal program results in improved availability, and low cost accessing of higher oil bearing horizons in existing wells. These wells include East Horst K which could be drained by existing development, and West Flank which could be drained by the CH12 well.
- Any new wells to West High, SE Nose, or Mentelle are assumed to decline at 22%, and they form the basis of the Risked Exploration Valuation in Tables 6 and 7.

Table 14 Production history

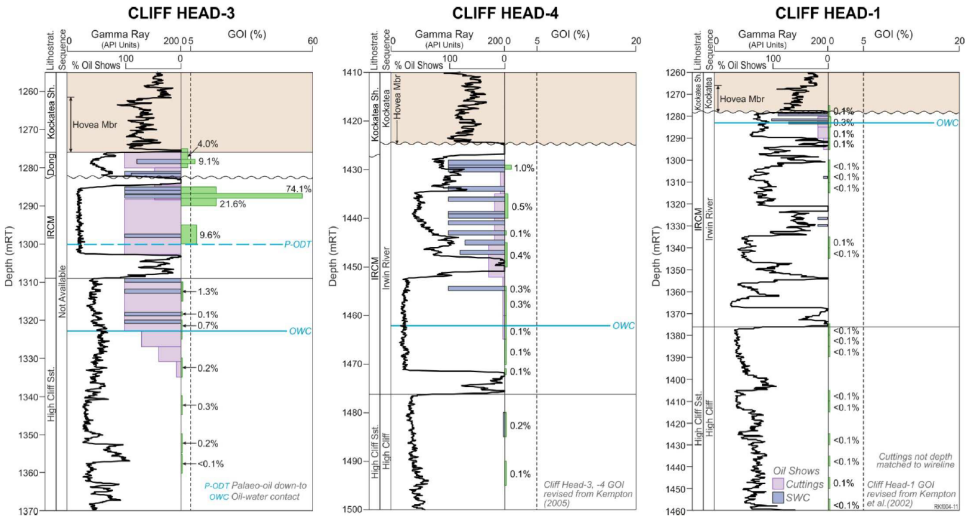
	000bbl /qtr	Cumulative 000bbl	bopd	Comment
Jun-06	360	360	6508	Started Production May 2006
Sep-06	858	1218	9325	
Dec-06	800	2018	8697	electrical problems
Mar-07	698	2716	7751	Rectify pumps
Jun-07	781	3497	8500	
Sep-07	810	4306	8800	Pumping problems
Dec-07	870	5177	9460	
Mar-08	731	5908	8035	
Jun-08	604	6512	6641	
Sep-08	552	7064	6000	replacing two pumps
Dec-08	536	7600	5900	
Mar-09	468	8068	5200	
Jun-09	379	8447	4200	CH6 CH10 maintenance downtime
Sep-09	296	8743	3200	Problems with CH6 CH10
Dec-09	536	9278	5900	CH6 early mar 10 qtr CH10 by Dec new pumps
Mar-10	409	9687	4500	
Jun-10	402	10089	4400	
Sep-10	313	10402	3400	10day shutdown in August
Dec-10	350	10751	3800	CH12 higher capacity ESP
Mar-11	270	11021	3000	
Jun-11	291	11312	3200	
Sep-11	311	11623	3378	
Dec-11	331	11954	3593	
Mar-12	308	12262	3378	
Jun-12	289	12550	3200	
Sep-12	277	12827	3000	
Dec-12	256	13082	2800	CH9 converted to water injector completed Dec qtr
Mar-13	237	13319	2631	
Jun-13	242	13561	2662	
Sep-13	225	13786	2447	Critical function tests and pig operations
Dec-13	204	13990	2217	Critical function tests and pig operations
Mar-14	203	14193	2257	CH13 ESP failed in quarter
Jun-14	153	14346	1684	CH13 back on line mid June
Sep-14	177	14523	1928	
Dec-14	146	14669	1587	
Mar-15	141	14810	1567	
Jun-15	156	14966	1714	
Sep-15	141	15107	1533	
Dec-15	114	15221	1241	8 day facility shutdown for critical test
Mar-16	122	15343	1345	cost reduction program
Jun-16	107	15450	1174	
Sep-16	104	15554	1128	
Dec-16	102	15656	1111	
Mar-17	117	15774	1301	
Jun-17	108	15882	1187	
Sep-17	100	15981	1097	
Dec-17	75	16057	819	
Mar-18	84	16140	929	
Jun-18	68	16208	747	CH12 stopped 31 May 2018
Sep-18	37	16245	397	
Dec-18	70	16315	766	CH12 back on line 10 October 2018
Mar-19	72	16388	802	CH13 shut 13 March
Jun-19	73	16460	798	
Sep-19	72	16532	778	
Dec-19	74	16605	801	CH13 back on 16 Dec 2019
Mar-20	64	16670	707	CHA down 24 Feb to 10 Mar, electrical

Source: AWE, ROC and TEG quarterly activities statements

GEOLOGY

- The Cliff Head structure is a large faulted anticline at top Permian reservoir, sealed by the overlying Triassic Kockatea Shale. The closure is located on a narrow NW-SE oriented horst bounded by a conjugate pair of sub-parallel faults (Jones and Hall, 2002, Main Horst in Figure 7). The structure is part of a larger NNE-SSW trending rotated block created in the early Permian and is bound to the west by the Geraldton Fault, which has acted as a significant hinge zone across which the Mesozoic section thickens westward into the Abrolhos Sub-basin.
- Post-Permian tectonic episodes have resulted in complex faulting, reactivating both the NNESSW and NW-SE oriented fault sets developed in the Early Permian and creating additional faulting, particularly in a NW-SE direction. Over the Cliff Head structure the reactivated Permian faults and newly formed Middle Jurassic to Early Cretaceous faults formed soft linkage that might interact within the Kockatea top seal. The post-Permian reactivation has resulted in compartmentalization of the western Beagle Ridge into a series of discrete structures of which Cliff Head is one (Jones and Hall, 2002).
- The oil reservoirs are in the Permian Dongara Sandstone, Irwin River Coal Measures and High Cliff Sandstone, with a field-wide oil-water contact at 1260 mTVDSS (True Vertical Depth from mean sea level).
- The oil is waxy and viscous in nature with an API of 31-33°. It has high pour point and very low gas-to-oil ratio. At room temperature, the crude oil is virtually a solid.
- The high viscosity has not been an issue over the life of the project to date. The formation water returned from the Arrowsmith Separation Plant for reinjection is heated to assist oil recovery.
- Some of the existing wells are capable of producing from different oil bearing horizons. Triangle is evaluating this potential.

Figure 11 Logs for early wells



Source: Geomechanical Modelling of Trap Integrity in the Northern Offshore Perth Basin, CSIRO, March 2012 p54

CLIFF HEAD RENEWAL PROJECT

- Triangle announced the Renewal Project on becoming the operator in 2017. The initial plan laid out below has been partly completed. The overall plan remains the basis of the ongoing improvement plan.

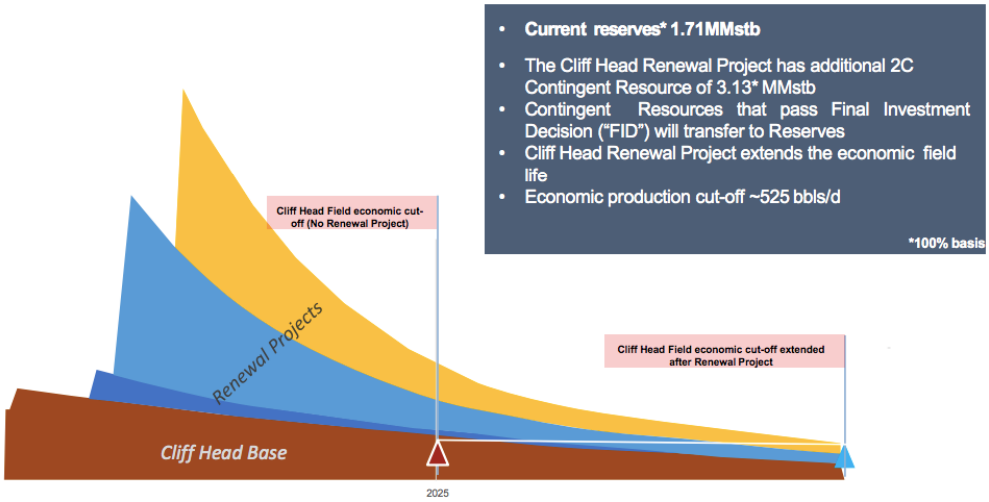
Figure 12 Renewal Program

Activity	Expected Timing	Objective
Arrowsmith - repairs and maintenance	Ongoing	**Value Driver - Strategic OPEX / Extend Infrastructure Life** – Remove potential vulnerabilities in production and re-establish baseline maintenance requirements – Support expected enhanced future production rates – Prepare facilities for 3rd party crude
Subsurface Reservoir Model	July 2018	**Value Driver - Add Reserves and Extend Field Life** – Quantify potential enhanced oil-in-place estimate – Identification of additional infill targets for upside oil production
Renew Reservoir Management Plan	July 2018	**Value Driver - Add Reserves** – Optimise production from existing field infrastructure through workovers, recompletion, and new wells
Revised Reserves statement	August 2018	**Value Driver - Add Reserves / Add Value** – Provide corporate and operational opportunities – Increased certainty of reservoir capacity and informed production planning
Workovers - field infrastructure redevelopment plan	Late 2018	**Value Driver - Add Reserves / Risk Mitigation** – Determine best approach for solving well integrity challenges / reviving any shut-in wells – Conclude "Concept Select" studies for workover program; confirm volume add / barrel impact – Generate production plan for redeveloped field to exploit identified reserves
Production Optimisation	Ongoing	**Value Driver - Add near term production** – Add near term production
Operations Restructuring	June 2018	**Value Driver – Reduce OPEX** – Move to a de-manned operating philosophy – Complete feasibility studies and risk assessments; NOPSEMA Safety Case approval / DMIRS approval gained in February 2018
Asset Integrity	Ongoing	**Value Driver – Risk Mitigation / Reduce OPEX** – Move to a de-manned facility and a proactive campaign maintenance approach

Source: TEG 2018 March quarterly activities statement

- On 6 March 2018, Triangle announced that the Cliff Head JV would invest A$5.5M in the renewal program, which Triangle believes will allow the JV to produce 2.5M bbls of oil from existing wells, and hopes to add additional producing wells to increase production.
- There are several workover, infill, and satellite drilling opportunities that could be drilled from the Cliff Head platform were identified in the first half of calendar 2019, and contingent resources for those targets was reported on 23 April 2020, and detailed in Table 10.
- These targets have been subject to appraisal, including reprocessing of the 3D seismic, with reprocessing completed in December 2019, and the analysis completed in early 2020.

Figure 13 Stylised view of the potential impact on production of the Renewal Project

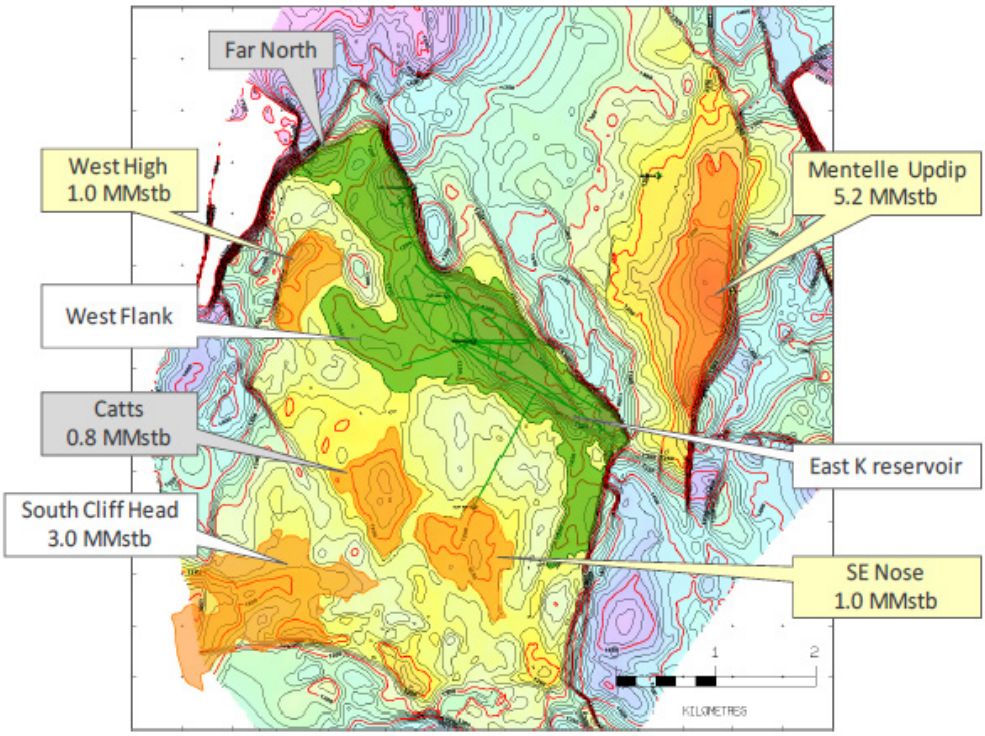


Source: TEG resource release 30 August 2019 - in the context of the above figure, the lighter blue and yellow steps up equate to two out of the three step-out wells entering production

Drilling new stepout wells

- These targets include West High, SE Nose, and Mentelle. The Contingent (2C) Resource at West High in 0.95 MMbbl and at SE Nose is 1.01 MMbbl. The best Prospective Resource is at Mentelle at 5.15 MMbbl, which is an upgrade from the previous 3.3MMbbl.
- The recent modelling is indicating that West High appears to be more robust that SE Nose at present.
- The drilling cost of these wells is likely to be in the order of A$15M/well, so beyond the reach of Triangle in the current market and at its current share price. The company would probably look for a joint venture partner to farm in.

Figure 14 Cliff Head Program – Top reservoir structure and drilling opportunities



Source: TEG Resource announcement 20 April 2020

MT HORNER

HISTORY

- The Mount Horner Field, which was shut-in during 2011 due to high water cut and aged infrastructure, has produced approximately more than 1.7 mmbls of oil, outperforming initial volumetric estimates when the field was first discovered and developed.
- On 31 October 2018, Triangle Energy entered into a Farmout Agreement with Key Petroleum Limited (ASX:KEY) to acquire a 50% participating interest in Production Licence L7.
- On 17 September 2019, Key Petroleum gave Triangle notice that it was terminating the Farmout Agreement with Triangle from 23 September 2019.
- On 2 October 2019, Triangle announced that the Farmout agreement had been completed with all approvals received and on completion of the Farmout spend, Triangle will earn a 50% stake and the right to assume operatorship.

OWNERSHIP

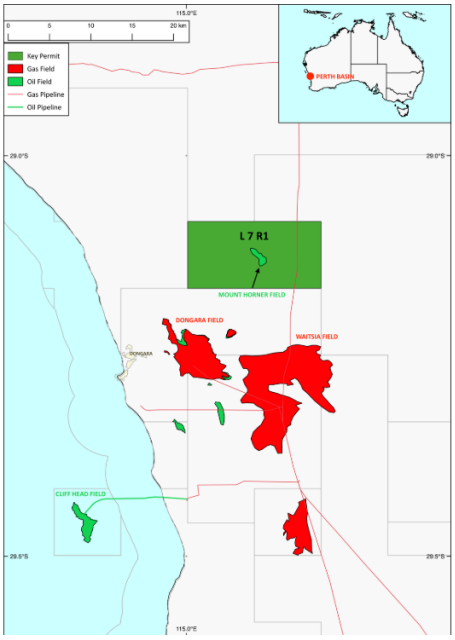
- Triangle Energy has a Farmout Agreement with Key Petroleum (ASX:KEY), Triangle will earn a 50% equity interest in L7 by completing the Farm in Programme and by carrying Key's proportional costs associated with the development and execution of the Farm in Programme.

- Triangle is responsible for 100% of the cost of the Farm in Programme up to a limit of US$3m. Cost of developing and completing the Farm in Programme in excess of US$3m will be shared in accordance with the participating interests of Key and Triangle.
- The work plan includes a minimum of 50Km2 3D seismic initially, with potentially two wells to follow. The L7 Farmout Agreement includes a workover program to investigate the potential for bypassed pay in two of the existing development wells, subject to due diligence.
- Key will be operator throughout the farm in program.
- Once Triangle has reached 50% interest in the tenement, it will recover the Payback Amount through the entitlement of 87.5% of any production in the first two years of commercial production. After the two years, Triangle shall be entitled to 75% of production in L7 until the Payback Amount has been recovered.
- Key Petroleum is solely responsible for all activities and costs associated with the decommissioning of the existing Mt Homer wells including removal of the surface facilities and rehabilitation of the facility site. Triangle and Key will share any decommissioning costs which would arise from new wells and new infrastructure to be added to the L7 permit.

GEOLOGY

- The Mt Horner licence overlies the Allanooka Terrace in the North Perth Basin and is adjacent to the prolific Dandaragan Trough, and south of Geraldton, located about five hours drive north of Perth, and around 30Km north of Triangle's Arrowsmith separation facility.
- The Mt Horner licence includes the Bookara Shelf, which Key Petroleum believed had potential to be a new oil province, with similarities to the Western Flank of the Cooper Eromanga Basin Western Flank, a major Australian onshore oil producing region which has largely driven the growth of Senex, Beach and Santos.
- The Bookara Shelf is ideally situated to capture oil migrating from the gas charged basin centre, similar to the Cooper Basin's Western Flank. The Mount Horner Oil Field (L7) has produced oil from Jurassic reservoirs, the same age as the Cooper Basin.

Figure 15 Mt Horner L7 Location



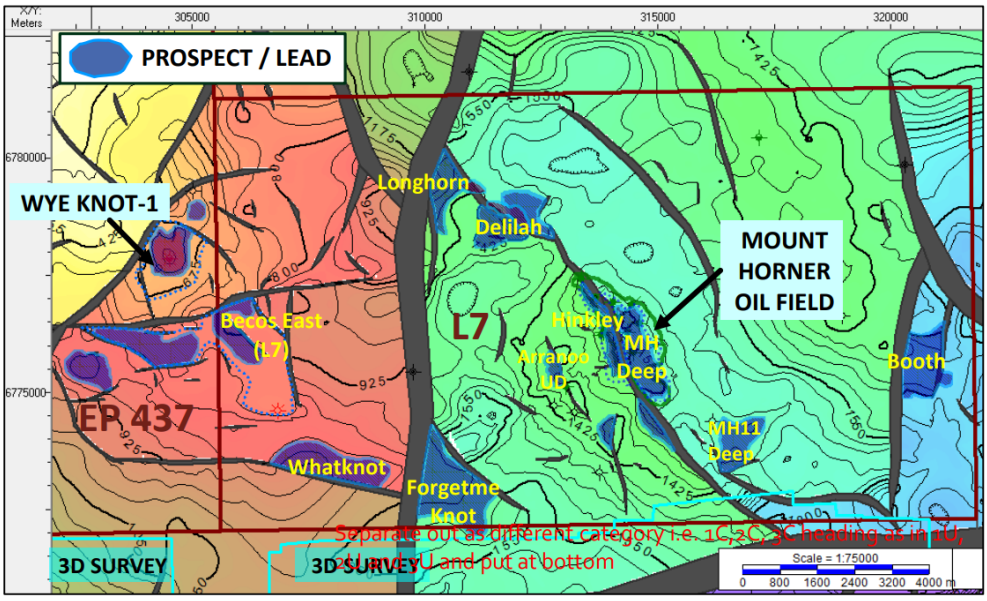
Source: http://www.keypetroleum.com.au/project/l7

Figure 16 Prospective oil estimate for Mt Horner L7

L7			Prospective Oil		
			mm bbls	mm bbls	mm bbls
Prospect Name	**Block**	**Levels**	**1C**	**2C**	**3C**
Mt Horner Infill Sum x3	L7	F Sand	0.10	0.30	0.50
Prospect Name	**Block**	**Levels**	**1U**	**2U**	**3U**
Mt Horner Deep	L7	Triassic	0.31	1.11	2.12
Mount Horner South	L7	F Sand	0.06	0.16	0.29
Delilah	L7	F Sand	0.10	0.28	0.51
Lowside (HW) closure	L7	Triassic	0.12	0.50	1.07
Delilah NW	L7	F Sand	0.05	0.14	0.25
Delilah FW	L7	Triassic	0.12	0.58	1.25
Mt Horner 11 updip	L7	F Sand	0.04	0.14	0.27
Mt Horner 11 Deep	L7	Triassic	0.34	0.97	1.71
Mt Horner Far Sth	L7	F Sand	0.07	0.22	0.40
Hinkley	L7	Triassic	0.08	0.38	0.79
Hinkley South	L7	Triassic	0.05	0.22	0.50
Arranoo Updip	L7	Triassic	0.06	0.26	0.55
ForgetmeKnot	L7	Triassic	0.43	1.89	3.96
Long Horn	L7	Triassic	0.13	0.54	1.14
WhatKnot	L7	Triassic	0.26	1.21	2.58
Becos (L7)	L7	Triassic	0.10	0.60	1.30
Booth	L7	F Sand	0.34	0.82	1.47
	L7	Triassic	0.34	1.13	2.24
Prospective Sub Totals	L7	F Sand	0.66	1.75	3.19
Prospective Sub Totals	L7	Triassic	2.35	9.40	19.20
Prospective Sum Total		**Combined**	**3.01**	**11.15**	**22.39**

Source: Key Petroleum release 18 Nov. 2018

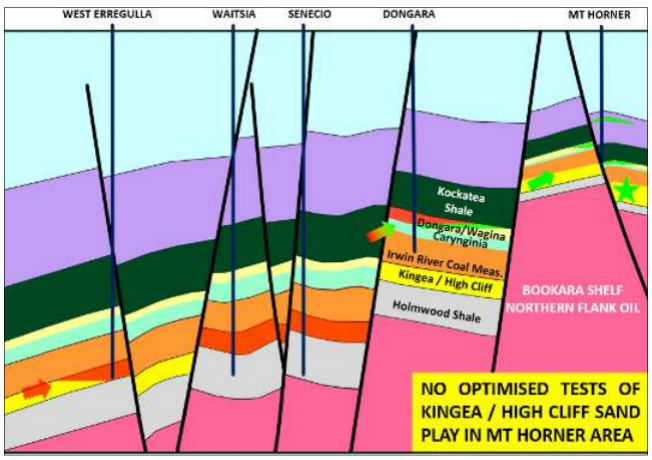
Figure 17 Mt Horner prospects as at 28 November 2018



Source: Key Petroleum presentation 28 November 2018

- The Mt Horner Field, which was shut-in during 2011 due to high water cut and aged infrastructure, had produced approximately 1.7 mmbls of oil, outperforming initial volumetric estimates when the field was first discovered and developed
- The Becos structure/lead in EP437 is down dip of the Wye-gas discovery, a similar downthrown fault play as identified in areas in L7, is now mapped to be much larger and spills into L7 based on current 2D seismic
- Much of the Mt Horner oil was produced from the Jurassic level. The Permian and Triassic prospectivity in the norther part of the basin appears to have been overlooked.
- Oil was recovered at Mt Horner-3 and 5A on the downthrown side of the Mt Horner Fault from Permian objectives
- The Permian prospectivity has been the focus of gas exploration south at the Dongara and Waitsia Fields by AWE
- Importantly the Dongara and Hovea Fields are interpreted to be dual charge systems where the majority of initially charged oil has been expelled into structures in the northern part of the basin on trend from the Dandaragan Trough which encompasses Key's EP437 and L7 interests.
- Excellent infill/step wells will be drilled by optimising the mapping of the best sand distribution from the existing wells and targeting the highest structural location using existing seismic or shooting a new 3D seismic survey over the field.

Figure 18 Mt Horner up dip from known producing strata



Source: Key Petroleum AGM presentation 15 November 2019

XANADU

HISTORY

- Triangle announced a farm in to the Xanadu TP/15 property on 23 September 2016, where it earned a 30% working interest by contributing 40% of the well costs. The well was drilled from onshore out to sea, and cost around A$7M.
- The Xanadu-1 well was spudded on 4 September 2017, with total depth reached on Sunday 17 September 2017 of 2035 mMDRT. Xanadu-1 well intersected hydrocarbon bearing reservoirs demonstrated by elevated gas readings, oil shows, fluorescence and cut-fluorescence whilst drilling.
- TEG increased its equity stake from 30% to 45% on 25 October 2018, with the purchase of 15% from Whitebark Energy Limited (ASX:WBE). The purchase price was A$2m cash and A$1M in TEG shares (ie 11.191M shares). There is a contingent payment of $1m on the first sale of oil in excess of 1,000 barrels produced from within TP/15 provided such sale occurs within 7 years of the effective date (24 October 2018).

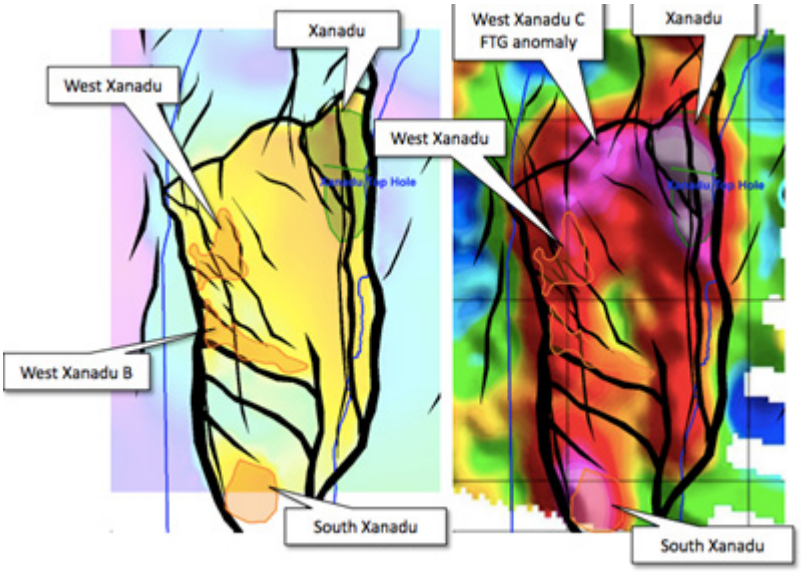
OWNERSHIP

- Triangle has a 45% interest
- 3C Group has a 30% interest
- Norwest Energy NL has a 25% interest

GEOLOGY

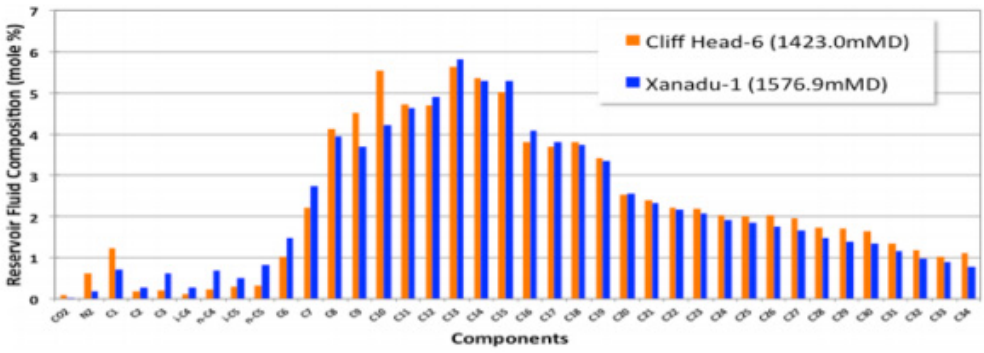
- Xanadu oil discovery extends to the petroleum system to the south of TP/15. The well was drilled from onshore into the target reservoir located offshore. The field is closer to Triangle's Arrowsmith separation plant than Cliff Head.
- The results of the 3D seismic and subsequent interpretation were reported in North West Energy's December 2019 quarterly. Updip from Xanadu 1 is regarded as marginal, but down dip is regarded as having more potential and evaluation is ongoing to determine if appraisal drilling is justified. There are also two structural leads to the south of Xanadu that have been identified.
- At present, Xanadu is now lower priority behind Cliff Head and Mt Horner. However, it retains considerable prospectivity, with South Xanadu, West Xanadu and West Xanadu B being evaluated by a 2D infill seismic program.

Figure 19 Xanadu structural maps and target locations



Source: TEG AGM presentation 11 November 2019

Figure 20 Chemical analysis of Xanadu oil vs Cliff Head



Source: TEG release September 2017 Quarterly Report 31 October 2017

RESOURCES AND RESERVES

- The TP/15 exploration permit contains the Xanadu oil discovery. The Xanadu-1 exploration well was drilled in September 2017 intersecting hydrocarbon-bearing reservoirs with the subsequent recovery of oil to the surface confirming the Xanadu oil discovery.
- Oil sample analysis has confirmed that the Cliff Head Oil Field (located 14km to the NW) is an analogue with a shared oil generation source to the west of Xanadu. New mapping conducted post-drilling suggests the Xanadu structural culmination is north of the Xanadu-1 location.

Figure 21 Xanadu unrisked prospective resources

Un-risked Prospective Resource: recoverable volumes oil (MMstb)*			
Reservoir	**Low estimate**	**Best estimate**	**High estimate**
Dongara Sandstone	3	12	22
Irwin River Coal Measures	13	88	159
High Cliff Sandstone	29	60	256
Total	**45**	**160**	**437**

**The estimated quantities of petroleum that may potentially be recovered by the application of a future development project(s) relate to undiscovered accumulations. These estimates have both an associated risk of discovery and a risk of development. Further exploration appraisal and evaluation is required to determine the existence of a significant quantity of potentially moveable hydrocarbons.*

Source: TEG release 26 September 2016

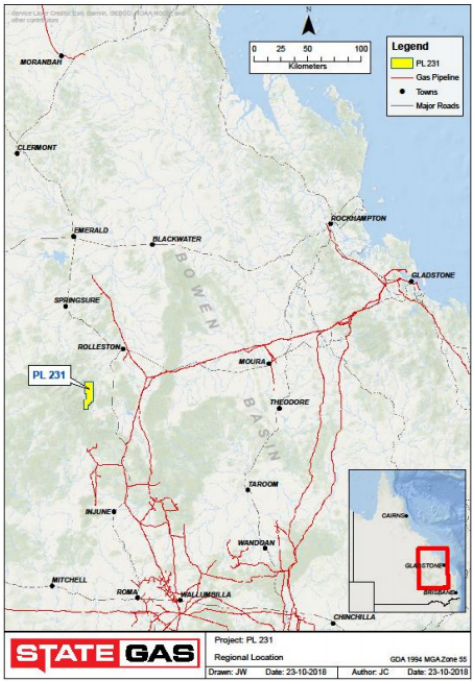
INVESTMENT IN STATE GAS LIMITED (ASX:GAS)

HISTORY

- A joint venture between Triangle and Dome Petroleum Resources plc were the winning tender bid for PL 231, in the Queensland Denison Trough coal seam gas fairway, with Triangle owning 60% of the JV. Historical gas flows had been from the Cattle Creek Formation at 400m depth. Significant gas shows had been detected from the Reid's Dome Beds at 1000m depth.
- On 8 September 2017, Triangle announced that the holding company of PL 231 would be listed with an IPO issuing 26.25M shares to raise $5.25M. Triangle retained 47.38M shares in the company (State Gas Limited ASX:GAS), which at the time was a 35.47% interest, but which has been diluted to 32.71% as at 30 January 2020.
- PL 231 is a Petroleum Lease with 30 years to 14 December 2035
- 181Km2 covering a classic north-south dome structure
- 50Km from the Queensland Gas Pipeline
- State Gas holds 100%
- Pipeline Services Licence held for route to market

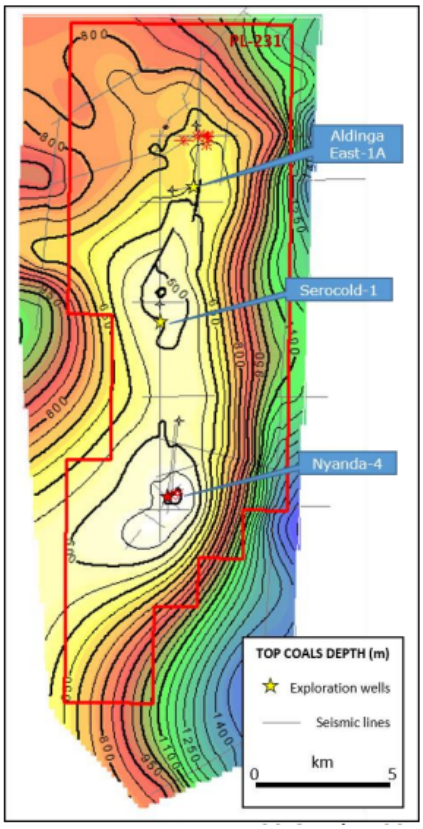
- Nyanda-4 production test well is the first test well of the Reid's Dome Beds in PL 231. At 6am 13 January 2020, the well was flowing 120mscf/d for a total volume to date of 2,000 mscf since tests started on 4 December 2019.
- Aldinga East 1A and Serocold 1 wells are planned to investigate the gas potential of the northern and central zones of the coal measures.

Figure 22 State Gas PL231 Location



Source: GAS presentation 22 October 2019

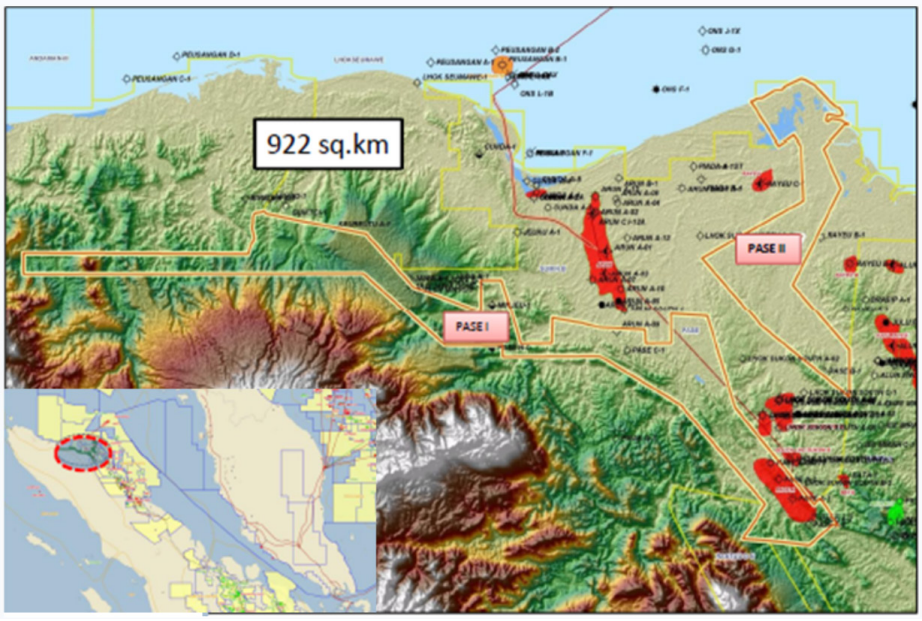
Figure 23 PL231 top of coal structure



Source: GAS presentation 22 October 2019

PASE II ROYALTY

Figure 24 Parse PSC Location. Northern Sumatra, Indonesia



Source: https://petromindo.com/news/article/triangle-yet-to-resume-drilling-of-b-p1-well-in-pase-block

TRIANGLE OWED US$1.02M, IN ARBITRATION FOR US$4.14M

- Triangle has sold its interest in Pase PSC in Indonesia, but is owed US$1.02M (A$1.66M) cash held in escrow in relation to that asset which will be released to Triangle once the Indonesian Ministry for Energy and Petroleum Resources confirms the change of ownership. The actual sale was in February 2016.
- On 6 March 2019, Triangle reported that former joint venture partner, the Acehnese government owned PDPA has made a request for arbitration for US$4.14M in respect of the Pase JV. On 9 December 2019, Triangle attended the arbitration in Jakarta, and is awaiting a decision.
- As part of the sale, Triangle has a royalty of 5% of Enso Asia Inc's profit share capped at US$2Mpa and US$25M in total.

PROSPECTS FOR ROYALTY GENERATING PRODUCTION FROM PASE PSC

- The Pase Block is an oil and gas field located in East Aceh that was once operated by Mobil Oil Inc. The Pase Block Production Sharing Contract (PSC) was first signed on 12 February 1981 for a period of 30 years.
- Additional gas production is needed because Triangle Pase Inc. has contracted with PT Pertamina Gas (Pertagas) to supply gas of around 10 MMscfd. However, gas production from the Pase A and B fields is currently only around 2 MMscfd.
- The operator was drilling Pase B-P1 in an attempt to lift production back to the contracted rate. Drilling started in May 2019, but TPI stopped drilling because the drill bit was getting caught repeatedly.

CAPITAL STRUCTURE

Table 15 Major shareholders

At 8 May 2020	Shares M	%
Tamarind Resource Pte Ltd & Associates	60.6	16.8%
Institutional	50.5	14.0%
Directors	17.0	4.7%
Whitebark Energy	14.4	4.0%
Other	194.8	54.0%
Shares on Issue	**360.8**	**100.0%**

Source: TEG presentation 8 May 2020

- There are currently 360,753,682 ordinary shares quoted.
- On 5 September 2019, the company placed 48M shares to raise A$3.6M.

Table 16 Options and performance rights

Expiry Date	Issued M	Exercise Price A$/sh
30-Sep-20	72.15	0.12
6-Nov-21	1.80	0.10
Performance shares and rights	29.48	
Total	103.44	

Source: TEG release 29 January 2020

BOARD AND MANAGEMENT

TIMOTHY MONCKTON – NON-EXECUTIVE CHAIRMAN

- Tim was appointed Non-Executive Chairman of Triangle Energy (Global) Ltd in March 2019. Tim previously held the position of Non-Executive Director from July 2018 until March 2019.
- Tim has been in the Stockbroking Industry for over 25 years starting his career as an analyst before moving into sales. Tim is currently an Equity Partner with Baillieu Holst and is the Relationship Manager for the resources sector.

- Tim spent eleven years with ABN AMRO/ Royal Bank of Scotland where he was Head of Domestic Sales for six years before being promoted to Managing Director Corporate Broking.
- Prior to moving his family to Australia Tim worked for the Albert Abela Corporation. He was employed as Head of Local Human Resources and sat as Chairman of the Albert Abela Group UK.
- Tim was educated at Harrow Public School in the UK and attended the Royal Agriculture College of Cirencester.

ROBERT TOWNER – MANAGING DIRECTOR AND CEO

- Rob has over 25 years' corporate advisory and executive experience in the energy and biotechnology sectors, specifically, in business and project development, financial markets, corporate governance, organisation structuring and working capital requirements.
- Rob was appointed managing director of Triangle Energy (Global) Ltd in February 2015, and managed the Company's transition from operating Indonesian based assets, to establishing a portfolio of Australian oil and gas projects.
- Since Rob's appointment the Company has become the majority owner (78.75%) and operator of the Cliff Head Oil Field and Arrowsmith Stabilisation Plant.

EDWARD FARRELL – NON-EXECUTIVE DIRECTOR

- Ted was appointed Non-Executive Director of Triangle Energy (Global) Ltd in March 2019. Ted previously held the position of Non-Executive Chairman from May 2014 until March 2019.
- He has a substantial background of experience from "Heavy Industrial" groups and from involvement with Contracting in Earthworks and concreting plants.
- His career includes more than 25 years owning, and managing a private client share broking and financial advisory practice.
- He currently provides corporate consultancy services, and international consultancy services with relation to the Financial Services Industry and Trade and Economic development projects between Asia and Australia.
- He is presently a director of a gold mining and exploration company and has involvement with the aged and disability industry through consulting projects.
- Ted was substantially involved with capital raisings, initial public offerings and company reconstructions over the past 25 years and brings to the Company extensive experience from the financial services, corporate financing and capital management sectors.
- He has held various directorships with private and public companies and is a Fellow of the Institute of Public Accountants, a member of the Australian Institute of Managers & Leaders and a Justice of the Peace NSW.

WAI-LID WONG – NON-EXECUTIVE DIRECTOR

- Wai-Lid has over 17 years oil and gas experience in process engineering, operations and asset management roles. He was appointed a Non-Executive Director of Triangle Energy (Global) Ltd in April 2018.
- Currently, Wai-Lid holds the position of Chief Operating Officer for Tamarind Resources. In this role, he is responsible for the delivery of all aspects of Tamarind's operated business, working closely with Tamarind's Regional leadership.
- Prior to this, Wai-Lid was the Asset Manager for two PSCs and headed all Asset Development and CAPEX Project activity for Talisman / Repsol in Malaysia. Wai-Lid has also spent a period of time within Schlumberger's strategic advisory arm (Asia and Australia) where he assisted a number of Regional E&P Players drive major strategic transformation and performance improvement programs.
- Wai-Lid has a PhD and Masters of Engineering (M.Eng.) in chemical engineering from Imperial College, London.

MALCOLM KING – NON-EXECUTIVE DIRECTOR

- Mr King has over 30 years' experience in the upstream oil and gas industry in both technical and commercial leadership roles.
- Most of this has been with Shell in assignments across Australia and Asia, leading exploration and commercial delivery teams, strategy, business development, acquisition and divestment and gas/LNG marketing and negotiations.

TROY BRICE - CHIEF OPERATIONS OFFICER

- Troy was appointed Chief Operations Officer of Triangle Energy (Global) Limited in February 2020.
- Troy grew up in country Western Australia and completed his schooling in Perth. After graduating from the Royal Military College, Australia, Troy had a successful career as an Army Officer in Airborne Operations, Logistics and Planning.
- Consecutive to this, Troy transitioned to a corporate career, entering the oil and gas industries. Troy has executive experience across operational, commercial and P&L positions.
- Troy has worked with multinational companies including offshore marine logistics support services group, Swire Oilfield Services, the Kellogg Joint Venture at the Gorgon LNG Project, and senior operational and commercial roles at Rio Tinto and Shell Coal.
- Additionally, Troy completed further studies at the University of New England, Duke University USA, Southern Cross University and INSEAD France.

MARVIN CHAN - CHIEF FINANCIAL OFFICER

- Marvin joined the Company in February 2019 as Finance Manager, having previously held the position of Financial Controller for Nido Petroleum Pty Ltd.
- Marvin was then appointed Chief Financial Officer in November 2019.
- Marvin has more than 19 years in financial leadership positions in the oil and gas and power generation industries within South East Asia and Australia.
- Marvin is a Fellow of the Certified Practising Accountants of Australia and a Certified Public Accountant and Lawyer in the Philippines.

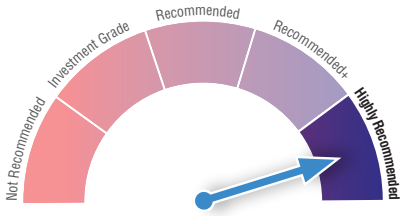
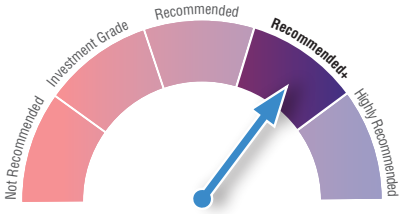
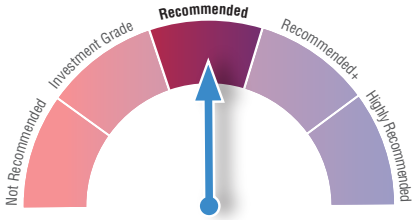
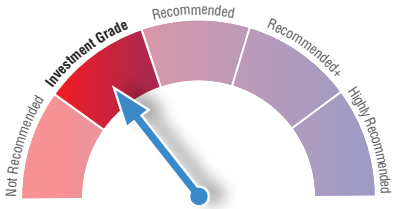
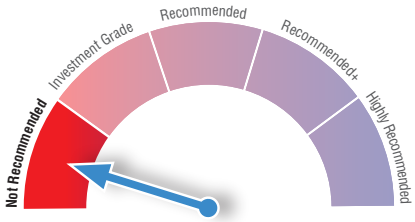
LUCY ROWE – COMPANY SECRETARY

- Lucy was appointed Company Secretary of Triangle Energy (Global) Limited in November 2017.
- Lucy is an experienced compliance professional, with 18 years' experience in the financial services, oil and gas, and IT industries.
- Lucy held the position of Company Secretary of New Guinea Energy Limited for 6 years, and has also been the Company Secretary of a number of other listed and unlisted public companies.
- Lucy gained her PS 146 securities adviser accreditation in 2002 and holds a Graduate Diploma in Legal Studies majoring in financial services law.

APPENDIX A – RATINGS PROCESS

Independent Investment Research Pty Ltd "IIR" rating system

IIR has developed a framework for rating investment product offerings in Australia. Our review process gives consideration to a broad number of qualitative and quantitative factors. Essentially, the evaluation process includes the following key factors: management and underlying portfolio construction; investment management, product structure, risk management, experience and performance; fees, risks and likely outcomes.

LMI Ratings	SCORE
Highly Recommended	**83 and above**
	This is the highest rating provided by IIR, indicating this is a best of breed product that has exceeded the requirements of our review process across a number of key evaluation parameters and achieved exceptionally high scores in a number of categories. The product provides a highly attractive risk/return trade-off. The Fund is likely effectively to apply industry best practice to manage endogenous risk factors, and, to the extent that it can, exogenous risk factors.
Recommended +	**79–83**
	This rating indicates that IIR believes this is a superior grade product that has exceeded the requirements of our review process across a number of key evaluation parameters and achieved high scores in a number of categories. In addition, the product rates highly on one or two attributes in our key criteria. It has an above-average risk/return trade-off and should be able consistently to generate above average risk-adjusted returns in line with stated investment objectives. The Fund should be in a position effectively to manage endogenous risk factors, and, to the extent that it can, exogenous risk factors. This should result in returns that reflect the expected level of risk.
Recommended	**70–79**
	This rating indicates that IIR believes this is an above-average grade product that has exceeded the minimum requirements of our review process across a number of key evaluation parameters. It has an above-average risk/return trade-off and should be able to consistently generate above-average risk adjusted returns in line with stated investment objectives.
Investment Grade	**60-70**
	This rating indicates that IIR believes this is an average grade product that has exceeded the minimum requirements of our review process across a number of key evaluation parameters. It has an average risk/ return trade-off and should be able to consistently generate average risk adjusted returns in line with stated investment objectives.
Not Recommended	**<60**
	This rating indicates that IIR believes that despite the product's merits and attributes, it has failed to meet the minimum aggregate requirements of our review process across a number of key evaluation parameters. While this is a product below the minimum rating to be considered Investment Grade, this does not mean the product is without merit. Funds in this category are considered to be susceptible to high risks that are not reflected by the projected return. Performance volatility, particularly on the down-side, is likely.

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