SPEC BUY

Current Price	$0.025
Valuation	$0.090
Target Price	$0.050

Ticker:		AKM
Sector:		Carbon Steel Materials
Shares on Issue (m):		3,326.5
Market Cap ($m):		83.2
Net Cash ($m):		12.0
Enterprise Value ($m):		71.2
52 wk High/Low:	$0.03	$0.01
12m Av Daily Vol (m):		13.04

Ovoot Coal Reserve

	Tonnes	Wash Ash	CSN
Total	255.0	9%	8
OEDP	36.8	10.5%	8
OEDP Expansion	53.8	10.5%	8

Ovoot Coal Resource

	Tonnes	Wash Ash	CSN
Total	281.0	NA	8

Development Stage Pre-Feasibility Study

Key Metrics

Capex	US$m	275.0
Steady State EBITDA	US$m	179.9
First Production		2021

Board

David Paull	MD and Chairman
Gan-Ochir Zunduisuren	Executive Director
Boldbaatar Bat-Amgalan	Executive Director
Neil Lithgow	Non-Executive Director
Hannah Badenach	Non-Executive Director
Alex Passmore	Non-Executive Director
Achit-Erdene Darambazar	Non-Executive Director

Share Price Graph

Please refer to important disclosures at end of the report (from page 10)

Thursday, 7 March 2019

Aspire Mining Ltd

Trucking model redefines Ovoot

Analysts |Matthew Keane | James Wilson

Quick Read

Aspire Mining (AKM) has released a Pre-Feasibility Study (PFS) outlining a revised trucking and rail transport model for the Ovoot high quality coking coal project in Mongolia. This strategy, titled the "Ovoot Early Development Project" (OEDP), will significantly reduce development capital and expedite first production by up to three years by replacing a rail link from the mine to Erdenet with a special purpose haul road. AKM plans to deliver 4Mtpa of washed coal to Chinese border with first production in mid-2021. Total development costs are estimated at US$275m with a ~US$50/t EBITDA margin, generating a LOM average US$172m EBITDA pa. SPEC BUY recommendation with a $0.05 target price.

Event & Impact | Ovoot PFS - Positive

Ovoot Early Development Project: AKM has defined a trucking and rail model to deliver washed "fat" coal from its Ovoot Project to the Chinese border. The Company plans to exploit a small, low strip portion of the overall JORC Reserve, which will be washed on site. Coal will then be trucked via a 560km special purpose haul road to the major centre of Erdenet where it will be loaded onto rail and transported to the Chinese border. Coal will then be transported over the border to Jining where it will be sold to customers and traders. This strategy saves considerable time and initial capital by offsetting/deferring the construction of a rail link to site. In the future, rail-to-site will likely be constructed to exploit the greater Ovoot Reserve. The Base Case OEDP will mine just 36.8Mt of the total 255Mt Reserve over 9.2 years, whilst the Extended Trucking Option reflects a more realistic scenario of mining 53.8Mt over a 12.5-year period at a slightly higher strip ratio.

Modest capex, strong margins: Pre-production capex is estimated at US$275m incorporating US$110m for mine and wash plant establishment and US$165m for the special purpose haul road. Total delivered cash costs of US$100/t to the Chinese border generate strong margins against a forecast price of US$150/t. AKM estimates LOM average EBITDA of US$172m pa, a pre-tax NPV_{10} of US$586m and a 43.7% IRR. The Expanded Trucking Option achieves a US$758m NPV_{10} and a 44.5% IRR.

Scarcity of undeveloped quality coking coal projects: Ovoot is one of the few undeveloped quality coking coal projects globally. When in production, it will be one of only two significant suppliers of washed coking coal from Mongolia. The demand for quality coking coal projects was highlighted by Hancock Corporation's recent ~A$600m all-cash offer for Riversdale Resources (total acquisition value of ~A$900m incl. an existing 19.9% stake). Riversdale owns the Grassy Mountain Project in Alberta, Canada which has a 195Mt coking coal resource and is targeting production of 4.5mtpa by 2021.

Recommendation

Argonaut derives a post-tax NPV_{12} of US$371m for Ovoot and a NAV of A$0.09/sh. Our valuation is discounted 50% to account for financing and development risk to achieve a $0.05 target price. Speculative Buy recommendation.

Valuation

Argonaut values Ovoot on the Extended Trucking Option with a 12.5-year mine life…

Argonaut's model assumptions for Ovoot are largely in line with the PFS inputs applying the OEDP Extended Case. We have assumed a 12-month ramp-up with first production in H2 2021 and a total mine inventory of 53.8Mt. We derive a US$371m (A$516m) post-tax NPV_{12} and a 36% IRR for Ovoot. We assign $0.80/t for unmined Reserves, adding an additional A$161m value to the project. We also attribute A$5m for AKM's 90% interest in the Nuurstei Coking Coal Project (160km east of Ovoot), based on $0.40 per Resource tonne. Argonaut has assumed 60:40 debt to equity financing for development capital with equity raised at $0.03/sh resulting in maximum shares on issue of ~6,993m.

…and derives a $0.09/sh valuation, which we risk weight 50% to achieve a $0.05 target price

Table 1. Argonaut's valuation summary

NAV Valuation		
Sum of Parts	AUD M	AUD / Share
Ovoot Trucking Model	515.9	0.074
Unmined Reserves	160.9	0.023
Nuurstei Project	4.6	0.001
Corporate NPV	(33.1)	(0.005)
Cash	12.0	0.002
Debt	-	
Sub Total	660	0.09
Risk Weighting	-50%	
Risked Valuation	330	0.05

Source: Argonaut

Our model inputs are largely in line AKM's PFS

Table 2. PFS key assumptions and metrics vs Argonaut model outputs

Metric	Measure	Ovoot Early Development Project (OEDP)	Extended Trucking Opton	Argonaut Est.
Physicals				
Strip ratio	waste/ore	4.6	4.7	4.6
ROM Coal	Mt	36.8	53.8	53.8
Wash Yield (10% Moisture)	%	88	86	88
Coal Sold (-2% loss)	Mt	31.6	45.2	45.9
Life-of-Mine	Yrs	9.2	12.5	12.5
Costs/Price				
Mine Cost	US$/t	31	33	33
Total Delivered Cost	US$/t	100	102	102
Mine Establishment	US$m	110	110	110
Haul Road Development	US$m	165	165	165
Deleivered Coal Price	US$/t	150	150	150
FX AUD/USD	#	NA	NA	0.72
FX USD/MNT	#	2600	2600	2632
Financials				
Pre-Tax NPV_{10}[1]	US$m	586	758	649
Pre-Tax IRR	%	43.7	44.5	44
Payback	Months	24	24	24

Source: AKM, edited by Argonaut

1. Note that Argonaut's valuation is based on a NPV_{12} post tax not the number quoted in this table

Overview

Ovoot is located in northeast Mongolia…

AKM's 100% owned Ovoot Project is located in north-western Mongolia. It covers one mining license and two contiguous exploration licences covering 130km². The Company discovered the project in 2010 and has since invested US$50m and defined a considerable Resource (281Mt) and the third largest coking coal Reserve in country (after Government owned Tavan Tolgoi) supported by over 35km of drilling. A number of development options have been investigated over this time, predominantly centred on the development of rail to deliver saleable production to China, Russia and global markets. Ovoot coal is classified as high quality "Fat" coal, typified by high caking/swell properties (CSN) and high fluidity values (good plastic properties).

…and AKM is proposing a trucking and rail transport route to sell coal into the Chinese steel mill market

Figure 1. Ovoot location map showing major Chinese border trading points

Source: AKM

Ovoot Early Development Project (OEDP)

The Company can bring forward production by ~3 years…

The OEDP provides an opportunity for AKM to expedite first production of Ovoot. Rather than develop rail to the mine, this project involves the construction of a purpose built 560km haulage route to a rail head at the major centre of Erdenet. Coal would then be railed to border town of Erlian before being trucked to Jining in China for distribution to traders and customers. The Base Case OEDP would exploit a low strip starter pit in the south-west corner of the Ovoot Resource with an initial mine life of 9.2 years. The "Base Case" mine life is artificially short (just 15% of Reserves) to reflect a scenario in which the OEDP repays its capital with an attractive return, but then sequences into a full 10mtpa development supported by rail. Argonaut considers the "Extended Trucking Case" which involves 53.8Mt or 12.5 years mine life by mining further to the north-east into slightly higher strip coal as a more realistic case with future rail development considered an upside opportunity to be considered in future. The 12.5 year OEDP mine life still only represents mining 22% of the existing JORC Reserves and we expect upcoming feasibility studies will likely examine a 20 year + mine plan using existing Reserves. We estimate that the early trucking option could bring forward first production by ~3 years to mid-2021 and offset/defer >US$1.3b in rail development capital.

…by developing a purpose-built road rather than rail to the mine gate

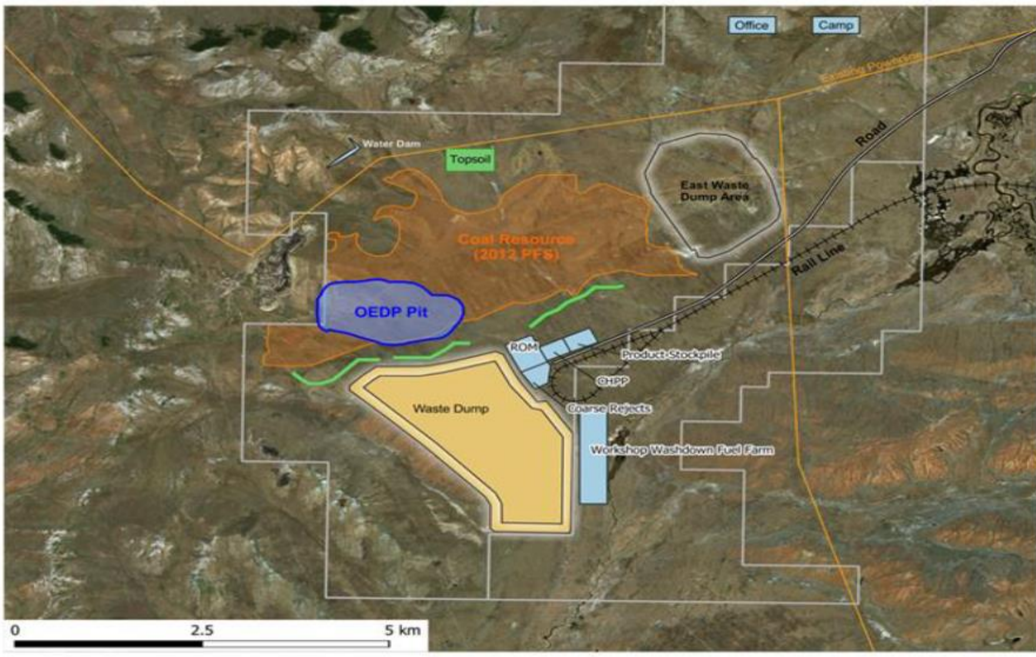
Coal will be trucked 560km to Erdenet then loaded onto rail…

Figure 2. Proposed transport route to market for Ovoot coal

Source: AKM

…before being trucked over the Chinese border for sale

Figure 3. Project layout for the Ovoot Project showing the OEDP pit and the greater resource footprint



Source: AKM

Mining for the OEDP will commence in the southeast corner of the defined Resource

Resources and Reserves

Initial mining will take place in the low strip (4.6:1) southwest portion of the Ovoot deposit with a Reserve of 36.8Mt ROM coal and 32.2Mt clean coal. AKM has also defined an extended starter pit with 53.8Mt Reserves and a 12.5-year mine life. Both of these estimates sit within the 2013 total Ovoot Reserve of 255Mt. The Mineral Resource for Ovoot currently stands at 281Mt.

Table 3. ROM and Washed Coal Ore Reserves and washed coal specifications

The OEDP starter pit will consume just 15-23% of the overall Ovoot Reserve…

Category	Coal Reserve (adb) ROM Mt	Coal Reserve Total Moisture 2.0% arb ROM Mt	ROM Coal adb Ash Content %	ROM Coal adb CSN%
Probable Ore Reserve Ore Open Pit OEDP	36.8	37.6	17.2	7.9
Probable Ore Reserve Open Pit OEDP Plus OEDP Extension	53.8	54.9	18.0	8.5

Category	Marketable Coal Reserve Total Moisture 10% arb Mt	Product Specification adb Ash Content %	Product Specification adb CSN%
Probable Product Reserve Ore Open Pit OEDP	32.2	10.5	8.5
Probable Product Reserve Open Pit OEDP Plus OEDP Extension	46.2	10.5	8.5

Moisture	Ash (adb)	Volatiles (adb)	Sulphur %	G Index	Y Index	Ro Max
9%	10.5%	25%	1.2%	95	26	1.2

Source: AKM, ADB = Air Dried Basis

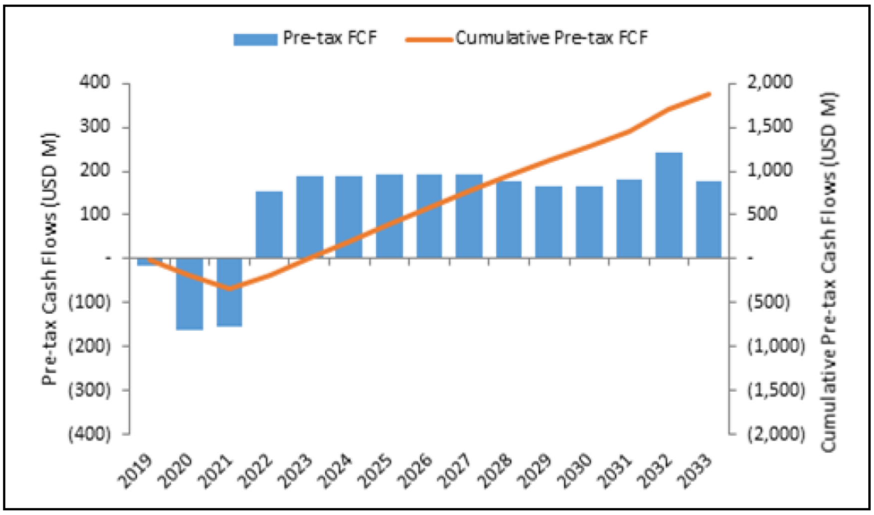
Strong Financials

Ovoot could achieve a 50% margin…

Ovoot's total delivered cash cost of US$100/t, including production, transport, marketing and royalties, provides a strong margin against the estimated delivered price of US$150/t. Importantly, the OEDP positions Ovoot at the low end of the 2nd quartile of the global seaborne coking coal cost curve. Pre-production capex is US$275m incorporating US$110m for mine and wash plant establishment and US$165m for the special purpose haul road. This compares favourably to the 2012 PFS revision with capex of US$1.3b (including contingencies). AKM estimates LOM average annual EBITDA of US$172m on the Base Case (Argonaut est. US$170.7m) with a 24-month payback on capital.

…assuming delivered costs of US$100/t and a realised price of US$150/t

Figure 4. AKM estimated annual project pre-tax cashflows for Ovoot



Source: AKM

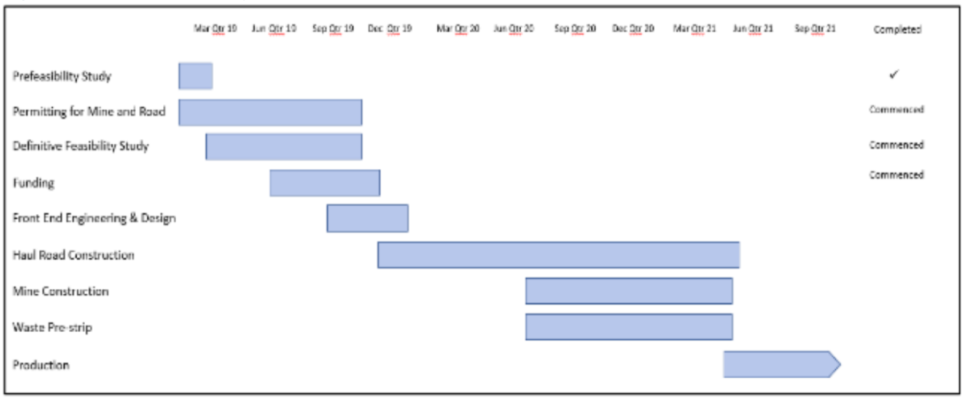
Development Timeline

A DFS is due for completion in Q3 2019…

AKM will now commence on a number of parallel workstreams to expedite the completion of a Definitive Feasibility Study (DFS), due for release in Q3 2019. The Company plans to commence construction on the haul road (the critical path item) in Q4 2019 with first coal production touted for Q2 2021 after a 15-month construction period. AKM is aiming to secure funding in conjunction with the DFS in Q3 2019.

…and first production is slated for mid-2021

Figure 5. Ovoot development timeline



Source: AKM

Financing Options and Offtake

AKM has received expressions in-principle for project financing from its two major shareholders

The Company's two major shareholders, Mr Tserenpuntsag (27.7%, a Mongolian entrepreneur) and Noble Group (20.0%), have expressed in-principle interest in taking leading roles in the required project financing. Noble have expressed an interest in assisting both debt and equity financing and may supply working capital facilities. The Company will also look at EPC financing options for the road and wash plant and may seek offtake linked financing. Options may also exist for a BOO contract on the haul road, whereby a commercial (third party) tolling arrangement could be established. At this time, Noble has a marketing and logistics agreement with Aspire. Noble's marketing allocation cannot be less than 65% of the saleable coking coal produced (over 5Mt) from the Ovoot Project and has a marketing allocation for the first 5Mt tonnes of the saleable coking coal produced of not less than 50%.

A Quality Coking Coal Project

Ovoot is amongst a limited number of quality undeveloped coking coal projects globally

Ovoot is one of the few undeveloped quality coking coal projects globally. When in production, it will be one of only two significant suppliers of washed coking coal from Mongolia (noting that most coking coal produced in Mongolia is transported into China unwashed). The demand for quality coking coal projects was highlighted by Hancock Corporation's recent ~A$600m all-cash offer to acquire the remaining shares which it did not already own in Riversdale Resources (total acquisition value of ~A$900m). Ovoot has a larger Reserve (255Mt) than Riversdale's Grassy Mountain Project in Alberta (195Mt). It boasts higher fluidity and better coking coal yields (albeit in a higher sovereign risk jurisdiction and without access to installed transport infrastructure). Argonaut understands Riversdale is targeting steady state open pit production of 4.5Mtpa (vs the OEDP's 4.0Mtpa open pit production) and has a stated development capex to first coal of C$634m (vs the OEDP's US$275m). On balance, we see Aspire's OEDP as being highly comparable to Riversdale's Grassy Mountain Project.

Opportunities

In time, we see Ovoot being expanded to +10Mtpa once rail is established to the site

Future expansion and connection to Trans-China/Russia Rail

The sizable Ovoot Resource lends itself to future expansions up to 10-14Mt ROM coal (as per previous studies). This would require the construction of rail to the mine, which could be partially funded through OEDP free cash generation and/or through collaboration with various other parties interested in establishing a trans-China/Russia Rail. In 2012, AKM established Northern Railways (AKM 80% diluting to 34%, Noble 20%), a dedicated subsidiary to tender for the 549km Ovoot to Erdenet railway concession. A Stage 1 Feasibility was completed with a Letter of Intent completed for a party to fund 75% of the total EPC contract. This rail route is recognised as part of the Chinese "One Belt, One Road" project. Total capex for the rail route is estimated at US$1,377m including contingencies.

Off-balance sheet road financing

AKM will also investigate off-balance sheet options for the development of the purpose built haul road. This could include third party construction and (part or whole) ownership whereby the road could be opened up to other commercial users who would be charged a toll. Any progress on separating the road into a dedicated infrastructure company with off balance sheet funding could significantly reduce Aspire's development costs and materially de-risk OEDP first production. Such a development represents a very significant value upside opportunity.

Blending Opportunities

AKM has also explored opportunities to blend coal with Tavan Tolgoi…

…which could offer operational synergies and drive significant cost savings

A number of tests have been conducted on the blending capabilities of Ovoot coal, including blending with non-coking coals from the Tavan Tolgoi Mine. Test work has shown that blending a relatively low proportion of Ovoot Coal (as low as 25% in the blend) resulted in a suitable product for the Chinese coking coal market. A 1:3 blend ratio can produce a saleable semi-hard coking coal product. In June 2016, AKM entered into a Memorandum of Understanding (MOU) with the owners Tavan Tolgoi, detailing cooperation on further technical and commercial assessments regarding the blending of Ovoot's Coal with various coals from the Tavan Tolgoi deposit. Blending with Tavan Tolgoi could generate significant volume, value and marketing synergies, increasing the overall margin for Ovoot.

Development of the Nuurstei Project

AKM has a 90% interest in the Nuurstei project 160km east of Ovoot. The project has a granted mining licence and is close to existing transport infrastructure. Work completed during 2014/2015 confirmed coal continuity over a 1.8km strike with multiple medium to thin coal seams. Previously, the Company considered a low cost, small scale (~1Mtpa Wash plant) production option from this asset leveraging on its close proximity to established rail at Erdenet.

Table 4. Nuurstei Coal Resource

Bench Name	Indicated (Mt)	Inferred (Mt)	Total
To Base of Weathering	0.41	0.5	0.91
BOW – 50 m	1.18	1.5	2.68
50 m – 100 m	1.72	2.3	4.02
100 m – 150 m	1.1	2.1	3.2
150 m – 200 m	0.34	1.7	2.04
Total	**4.75**	**8.1**	**12.85**

Source: AKM (edited by Argonaut)

AKM's smaller Nuurstei Project is located close to infrastructure, on route to Erdenet from Ovoot

Table 5. Nuurstei washed coal quality specifications (air dried)

Measure	Spec
Moisture %	0.5
Ash %	9.2
Volatile Matter %	26
Total Sulphur %	0.7
Phosphorus %	0.09
Free Swelling Index (FSI)	8.5
Caking Index ("G")	98
Gieseler Fluidity (ddm)	3755
Max Dilatation %	190
Sapozhnikov Index – X mm	16
Sapozhnikov Index – Y mm	29
Base/Acid ratio	0.14
Vitrinite %	90
RoMax	1.35

Source: AKM (edited by Argonaut)

Risks

Financing

We regard financing as a key risk to the project

Despite the reduced capital of OEDP compared to previous studies, the US$275m required is still substantially higher than the current market capitalisation of ~A$80m. This could lead to significant dilution from any portion of equity funding. While we believe the project economics should support a significant portion of debt financing, it is unlikely to attract main stream commercial bank interest. We believe AKM will need to explore more non-traditional financing options. The combination of a newly restructured and privatised Noble group, backed by a group of leading global funds, and Mr Tserenpuntsag are expected to provide significant financing support to Aspire.

Permitting

Ovoot has attained a mining permit, but still requires key approvals to commence development

While the project has a granted Mining Licence, a number of permits are still required prior to construction. Permitting of the Ovoot Project, in particular the haulage route will also require negotiating with a number of soums (local administrative centres). These groups can have significant influence on the Central Government. As stated in the recently completed Strategic Financing led by Mr Tserenpuntsag, a key transaction rationale was to *"deliver a stronger "Mongolian" involvement which will significantly enhance Aspire's ability to achieve timely government, permitting, approvals and community support for the OEDP."* Argonaut considers the strategic and financial support of Mr. Tserenpuntsag will materially de-risk the delivery of early production from Ovoot.

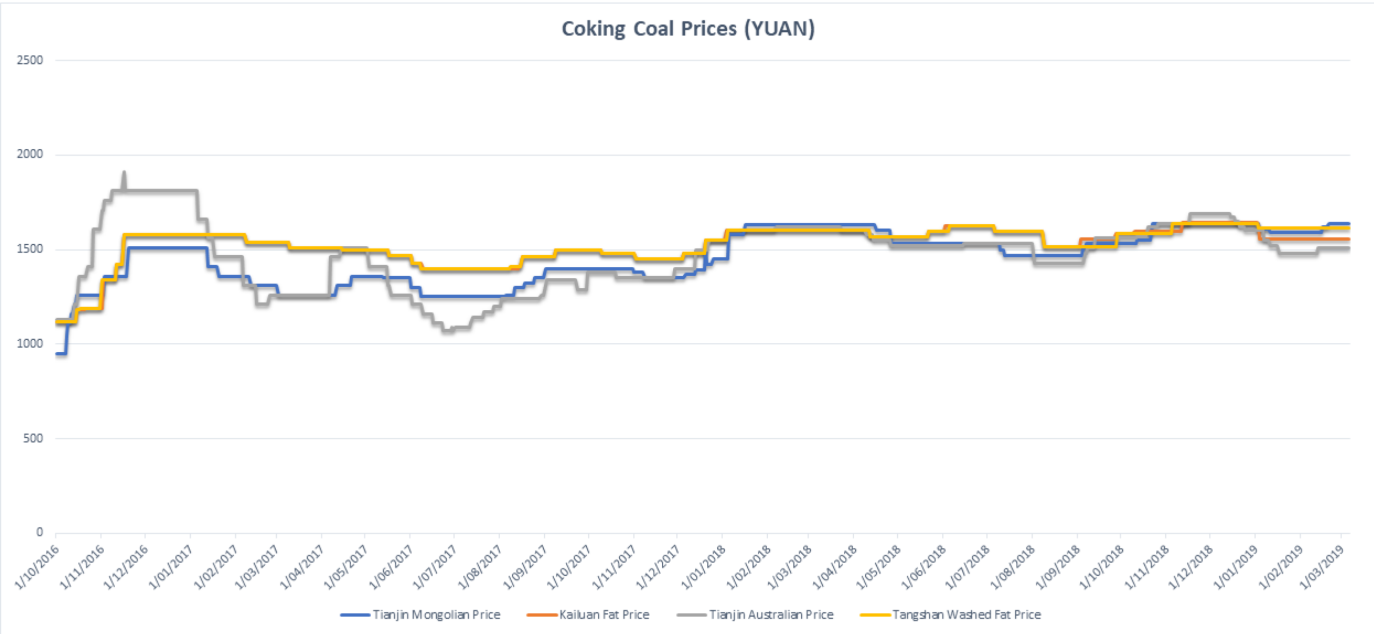
Country Risk

Mongolia is a mineral rich country with an active mining industry, however Government bureaucracy has proven challenging for previous developments such as RIO's Oyu Tolgoi copper/gold project. Ovoot is not deemed a "strategic project" in country given it is a newly discovered project that has not relied on significant historical Government financial support which avoids any potential Government ownership issues. Given AKM's long history of working in Mongolia, its deep understanding of doing business in-country and established network with local and Government stakeholders, we are confident of the Company's ability to permit and successfully operate the Ovoot project.

Commodity price risk

Ovoot is subject to the usual commodity price and FX volatility. Seaborne coking coal prices have been particularly turbulent over the past 10 years and suffered a significant downcycle between 2011 and 2016. Prices applied in the PFS were supplied via an independent market assessment by Fenwei Energy China. Fenwei estimated an average realised price of US$191-180\t with a net back price at Erlian between US$156-145/t. Argonaut retains a positive price outlook for coking coal given there is limited global supply and it remains an essential ingredient for making coke, which is added as a reductant in blast furnaces when combining iron ore with carbon to make steel.

Figure 6. Historic coking coal prices into China including VAT



Source: SX Coal.com

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Important Disclosure

Argonaut acts as Financial Adviser to AKM and will receive fees commensurate with this service.
Argonaut acted as Joint Lead Manager in the Strategic Financing package totalling $15M in December 2018 and received fees commensurate with this service.

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