EDISON

KEFI Minerals

DFS update

Small refinements and robust numbers

Metals & mining

On 24 May, KEFI announced an update to its 2015 definitive feasibility study (DFS) in order to account for all of the initiatives undertaken by the company in the intervening two years. Without exception, the operational parameters of the mining operation (throughput, grade, recovery, etc) were identical to our prior expectations. Cash operating costs are now expected to be just 3.5% higher (equivalent to an annualised inflation rate of 1.7%), while capex costs, although towards the top of the range of our prior expectations, are materially lower than those presented in the original 2015 DFS (albeit the latter were calculated on an owner-manager, rather than a contract miner, basis). Note that all forecasts and valuations are here presented on a post-17:1 share consolidation basis (which became effective on 2 March), unless otherwise specified.

Year end	Revenue (£m)	PBT* (£m)	EPS* (p)	DPS (p)	P/E (x)	Yield (%)
12/14	0.0	(2.6)	(6.2)	0.0	N/A	N/A
12/15	0.0	(2.0)	(3.0)	0.0	N/A	N/A
12/16e	0.0	(2.0)	(7.1)	0.0	N/A	N/A
12/17e	0.0	(5.1)	(1.6)	0.0	N/A	N/A

Note: *PBT and EPS are normalised, excluding amortisation of acquired intangibles and exceptional items.

AISC down from US$780/oz to US$777/oz

According to the 2017 DFS update, the NPV_8 at the start of construction is now US$97m (29p per KEFI share) at a US$1,250/oz gold price and the NPV_8 at the start of production is US$272m, cf US$256m in the original 2015 DFS. In contrast to cash operating costs, all-in sustaining costs are also expected to be lower than the original 2015 DFS, suggesting a decline in offsite and/or sustaining capital costs.

Valuation: 72% above current share price

Following the 2017 DFS update, we estimate that KEFI will require £15.85m in equity funding to develop Tulu Kapi within reasonable gearing constraints (see our 21 November note) cf £15.05m previously. Fully diluted on this basis at an assumed share price of 5.6p (26 May), we estimate that investors in KEFI's shares may expect EPS in the order of 7.54p/share and average maximum potential dividends (cash flow after investments and funding) of 4.33p/share for six years, from FY24 to FY29. These potential dividends have a net present value of 9.64p/share, rising to 19.97p in 2025, when discounted at a rate of 10% per annum. However, this valuation increases by 15.6%, to 11.14p, in the event that KEFI is successfully able to run its plant at 10% above nameplate capacity from year 2 (FY21), which has the effect of bringing production forward in the life of the mine and thereby reducing the build-up of ore stockpiles. It rises further, to 26p, in the event that KEFI is able to successfully leverage its cash flow from Tulu Kapi into other development assets in the region (which would put it on a 4.4x P/E multiple in FY24e). In the meantime, the company is trading on a resource multiple (market cap/attributable resources) of just US$11.69/oz compared to an estimated global average cost of discovery of US$10.16/oz notwithstanding cash inflows of c £10.7m over the course of the past 11 months with another £1.4m to come (cf a cash burn rate of c £4.0m pa).

31 May 2017

Price	**5.40p**
Market cap	**£18m**
	US$1.2938/£
Net cash (£m) at 30 June 2016 (pre July £3.8m placing)	0.1
Shares in issue	332.7m
Free float	89.5%
Code	KEFI
Primary exchange	AIM
Secondary exchange	N/A

Share price performance

%	1m	3m	12m
Abs	4.6	(18.0)	(41.1)
Rel (local)	0.2	(20.4)	(52.2)
52-week high/low		10.9p	4.1p

Business description

KEFI Minerals is an exploration and development company focused on gold and copper deposits in the highly prospective Arabian-Nubian Shield, principally the 95%-owned Tulu Kapi project in Ethiopia and, to a lesser extent, the 40%-owned Jibal Qutman project in Saudi Arabia.

Next events

FY16 results	June 2017

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Edison profile page

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2017 DFS update

On 24 May, KEFI announced an update to its 2015 definitive feasibility study (DFS) in order to account for all of the initiatives undertaken by the company in the intervening two years. The update was completed by Lycopodium and, without exception, the operational parameters of the mining operation (throughput, grade, recovery, etc) were identical to our prior expectations, as set out in our note of 21 November 2016, Still aiming high. Cash operating costs are now expected to be 3.5% higher at US$684/oz (cf US$661/oz previously), while capex costs, although towards the top of the range of our prior expectations, are materially lower than those presented in the original 2015 DFS (albeit the latter were calculated on an owner-manager rather than a contract miner basis):

Exhibit 1: Tulu Kapi initial capex estimate revision, July 2015 to present (US$000s)

Item (US$000s, unless otherwise indicated)	2017 DFS update*	Second revision*	Initial contract mining estimates**	Original 2015 DFS***
Mining	17.4	17.4	10.6	39.7
Processing	82.8	76.3	72.3	79.9
Infrastructure	17.1	16.6	17.8	21.7
Tailings	20.7	13.5	8.2	7.1
Owners Cost, working capital etc	19.9	16.2	24.5	14.6
Community relocation etc	17.8	13.6	7.8	20.8
Sub-total	175.7	153.4	141.2	183.9
Contract deferrals	(15.7)	(15.2)	0.0	0.0
Total	160.0	138.2	141.2	183.9
Assumed throughput rate (Mtpa)	1.5-1.7	1.5-1.7	1.2	1.2
Capital intensity (US$ per annual tonne)	100.00	86.98	117.67	153.25

Source: KEFI Minerals, Edison Investment Research. Note: *Estimated including contingencies. **As used in our August 2015 initiation note. ***Presented on an owner-manager basis.

Otherwise, the Tulu Kapi development plan remains based on a conventional open-pit mining operation and carbon-in-leach (CIL) processing plant. As per KEFI's draft mine services contract with Ausdrill, a bulk mining approach will be applied to 79% of the ore and 95% of all material mined and a selective mining approach to 21% of the ore and 5% of all material mined. To this end, KEFI has completed detailed mine engineering and planning for the bulk mining (95%) and also for the selective mining (5%), which is now built into the contractually detailed schedules and costings. This was an area on which KEFI has focused intently, in order to reliably measure average grade and also manage grade variability during operations. This process began with significantly expanded resources, based on extra drilling and trenching results, and then more tightly defined reserves within the wireframing of the entire ore system, which had never previously been performed. Note that the Tulu Kapi deposit contains three ore types with the fresh ore becoming harder with increasing depth:

Exhibit 2: Tulu Kapi ore type as a percentage of the total

Ore type	Percent of total (%)
Oxide ore	6
Fresh ore	66
Fresh hard ore	28
Total	100

Source: KEFI Minerals

The 2017 DFS update development schedule anticipates gold production commencing in late 2019, although the exact timing depends upon the date on which construction starts, which itself depends on the date on which community resettlement occurs. For the purposes of the 2017 DFS update, this is presumed to occur in early 2018, although KEFI and the community are both reported to be preparing for it to occur in late 2017 so that construction may commence earlier.

From an operational perspective, the main refinements to the original 2015 DFS that have been incorporated in the 2017 DFS update are:

- The processing plant comminution circuit has been modified from a primary SAG mill and secondary ball mill to a larger SAG mill-only circuit.
- The grind size for the processing plant has been increased from P80=75µm (ie 80% of material being less than or equal to 75µm) to P80=150µm.

These refinements act to restrain cost increases as well as to simplify the operation of the plant. Otherwise, the gold is free milling and all the processes included in the CIL plant design are standard and common to many mining operations, such that metallurgical recoveries of gold are expected to remain at 93%.

Funding mix

KEFI's approach to funding has remained consistent. During 2014 and 2015, KEFI revised its inherited DFS as a precursor to opening the project construction and mining to international tender, with the specific intent of reducing upfront capex by introducing contract mining. This reduced the funding estimate to c US$150m in the first instance (NB subsequent refinements to the funding requirement have all remained within 15% of this figure). Within this context, KEFI has always sought to minimise equity dilution at the parent company level by a) introducing project-level equity (eg the government of Ethiopia has confirmed that it is subscribing equity of US$20m at the project level) and b) the use of project debt (eg the Development Bank of Ethiopia has indicated its willingness to finance half of the project loan, most recently estimated at US$86m). Only then will the balance of funding needs be met at parent company level, typically in mezzanine (eg streaming) or equity form.

Negotiations with the Development Bank of Ethiopia are at an advanced stage and now await the appointment of a preferred co-lender. The government's recent policy directive requiring a maximum 50% debt gearing (ie debt/[debt+equity]) policy for new projects is considered consistent with KEFI's plans because clarification received from the regulator (the National Bank of Ethiopia) indicates that historical exploration spend on the project of c US$60m is considered to contribute towards equity for these purposes. In addition, the normal 50% rule does not apply to KEFI's Tulu Kapi project, which has prior approval to expand the debt portion of its funding requirement to 70% of the total. Within this context, our assessment of KEFI's likely future funding mix (relative to our previous estimate) is as follows:

Exhibit 3: Estimated financing of Tulu Kapi funding requirement (US$ and £)

Item	Current		Previous	
	US dollars (US$m)	Pounds sterling (£m)	US dollars (US$m)	Pounds sterling (£m)
Ethiopian government participation at project level	20	15.5	20	16.3
Senior secured debt	86	66.5	86	69.9
Cost overrun debt	13	10.0	13	10.6
Mezzanine (eg streaming) and parent company level equity	41	31.7	37	30.1
Total	160	123.7	156	126.8

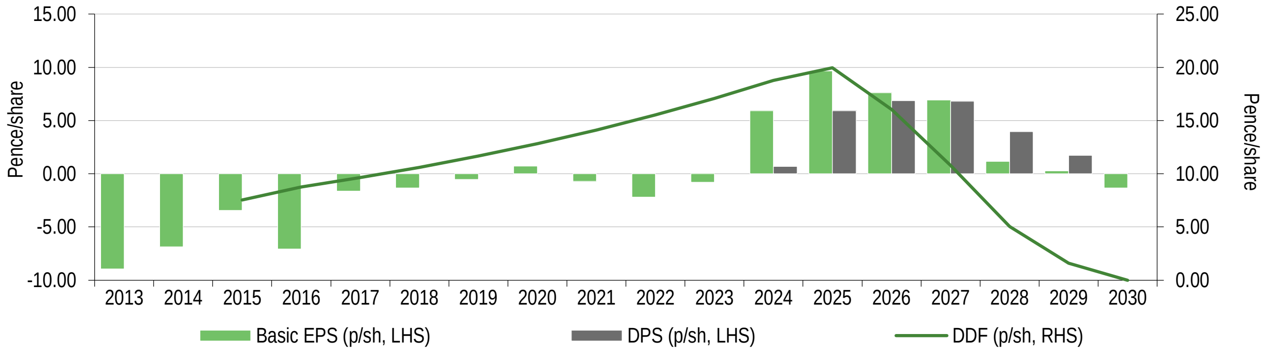
Source: Edison Investment Research. Note: US$1.2938/£ (previously US$1.2306/£); totals may not add up owing to rounding.

Assuming a 50:50 split between mezzanine funding and parent company level equity, an equity raise of £15.85m (cf 15.05m previously) by KEFI at an assumed share price of 5.6p per share (26 May) would imply the issue of an additional 289.0m shares in FY17 and FY18 (including those issued under the Lanstead agreement – see our note Securing Lanstead: Tulu Kapi financing underway, published on 13 February 2017), of which 184.8m are yet to be issued. Note that we have built into our valuation model the extra dilution resulting from this additional equity.

Valuation

KEFI's production plans focus on the rapid build-up of surplus cash within the operation along with the build-up of large ore stockpiles in order to provide flexibility to cope with unanticipated start-up risks, the development of the underground mine and also the de-leveraging of the balance sheet as soon as the operation has settled down. On the basis of the above assumptions and converted at the appropriate foreign exchange rate of US$1.2938/£ (vs US$1.2306/£ previously), we calculate that KEFI is capable of generating average cash flows from operations of c £41.8m pa for the eight years from 2020 to 2027 (inclusive). After dilution, debt repayments and capex, these cash flows translate into average (maximum potential) dividends of 4.33p/share for the six years from 2024 to 2029 inclusive, which have a net present value of 9.64p/share (discounted back to FY17 at a rate of 10% per year), rising steadily to 19.97p in 2025 (see Exhibit 4, below).

Exhibit 4: Edison estimate of life of mine KEFI fully diluted EPS and maximum potential DPS (pence/share)



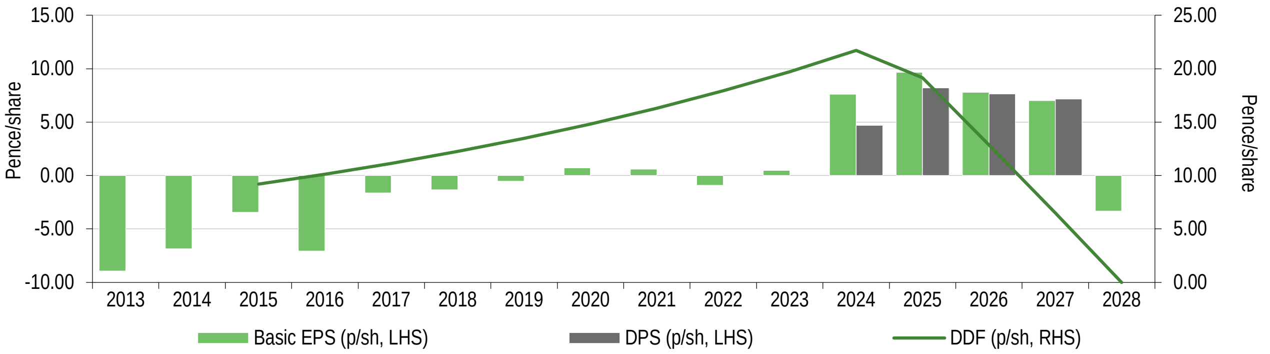
Source: Edison Investment Research. Note: DDF = discounted dividend flow.

Note that this analysis is based on projected dividend flows only and ignores the exploration and development of the pipeline of targets in the KEFI portfolio (which is outlined on page 1 of this report).

Above and beyond the 2017 DFS update

While the 2017 DFS update now provides the base case for managing its funding commitments, KEFI is in fact setting higher targets – in this case running the plant at 10% above nameplate capacity from the second year of operations – for business planning purposes. The effect of this initiative will be to bring production forward in the life of the mine and to thereby reduce the build-up of ore stockpiles. Assuming that this is successfully achieved, KEFI estimates that it will increase the NPV_8 of the project at the start of construction from US$97m (29p/share currently) to US$120m (36p/share) and the NPV_8 at the start of production from US$272m to US$298m. Similarly, Edison calculates that it will increase average (maximum potential) dividends from 4.33p/share for the five years from 2024 to 2029 (inclusive) to 6.93p for the four years from FY24 to FY27 (inclusive), which have a net present value of 11.14p/share (discounted back to FY17 at a rate of 10% per year), rising steadily to 21.70p in 2024 (see Exhibit 5, below).

Exhibit 5: Fully diluted EPS and maximum potential DPS estimate with plant 10% above nameplate from FY21



Source: Edison Investment Research. Note: DDF = discounted dividend flow.

Financials

KEFI had £0.149m on its balance sheet as at 30 June 2016. In July, it then raised an additional £3.8m (gross) in equity via the issue of 761.9m shares at a price of 0.5p per share (before a 17:1 share consolidation), such that we estimate that it had net cash of £1.4m on its balance sheet as at 31 December 2016. Notably, Odey Asset Management subscribed above its pro-rata shareholding at that time. It is also reported to have offered to underwrite the placing, although this offer was reported to have been rendered unnecessary by the level of demand from other investors. Ausdrill (a contractor and existing shareholder) subscribed to maintain its shareholding at 7.31%. Later, in February 2017, KEFI raised an additional £5.62m (gross) via the issue of 1.7bn shares at a price of 0.33p (pre-consolidation), including £4.62m from Lanstead. In common with its working practices, the Lanstead agreement involves the issuance of a fixed number of shares and is governed according to a ‘sharing agreement’ and structured relative to a benchmark price, which has been set at 0.44p/share (pre-consolidation), such that KEFI may receive more than £4.62m if the share price exceeds this level and vice versa if it does not. To this end, £0.693m was contributed immediately by Lanstead, with the balance being paid in equal instalments of £0.218m per month (subject to upward or downward adjustments) for 18 months from shareholder authorisation of the deal. As a result, Lanstead is now KEFI’s largest single shareholder, with approximately 25% of its issued capital, ahead of Odey with a c 19% interest.

Further, on 27 April 2017, KEFI announced that it had received ETB30m (c US$1.3m at ETB23.00/US$, or c £1m) of the ETB73m VAT refund owed to it by the Ethiopian Revenues & Customs Authority, and that it had come to an agreement to receive the remainder of the funds over the course of the subsequent two months. The VAT refund was agreed following KEFI’s repayment of an inherited “Reverse VAT Liability” within an agreed three-year schedule ending in December 2016.

In the meantime, KEFI’s cash burn rate reduced to £2.0m in H116, including capex. This compares to a historical cash burn rate of £3.6m in H115, £6.6m in FY15 and £6.3m in FY14.

Legacy legal matters

On 2 May, KEFI announced that the Regional Supreme Court of Oromia had substantially reduced KEFI’s potential legacy liabilities (based on the impact of exploration field activities conducted between 1998 and 2006 – ie before KEFI became involved in the project) by 95% from ETB240m (c US$12m) to US$0.6m. Moreover, KEFI announced that it has appealed to the Federal Supreme

Court of Ethiopia to have the remaining US$0.6m discounted to zero on the grounds that it had already settled any obligations when the matter was originally closed by both the regulators and the occupiers of the land. The Federal Supreme Court has now officially admitted KEFI's appeal after due review and the case is expected to be heard within the next two years.

Exhibit 6: Financial summary

£000s	2013	2014	2015	2016e	2017e
Year end 31 December	IFRS	IFRS	IFRS	IFRS	IFRS
PROFIT & LOSS					
Revenue	0	0	0	0	0
Cost of Sales	(927)	(2,071)	(1,634)	(1,971)	(3,751)
Gross Profit	(927)	(2,071)	(1,634)	(1,971)	(3,751)
EBITDA	(927)	(2,071)	(1,634)	(1,971)	(3,751)
Operating Profit (before amort. and except.)	(927)	(2,189)	(1,724)	(2,021)	(3,801)
Intangible Amortisation	0	0	0	0	0
Exceptionals	(442)	(379)	(428)	0	0
Other	0	0	0	0	0
Operating Profit	(1,369)	(2,568)	(2,152)	(2,021)	(3,801)
Net Interest	4	(413)	(319)	8	(1,302)
Profit Before Tax (norm)	(923)	(2,602)	(2,043)	(2,013)	(5,103)
Profit Before Tax (FRS 3)	(1,365)	(2,981)	(2,471)	(2,013)	(5,103)
Tax	0	0	0	0	0
Profit After Tax (norm)	(923)	(2,602)	(2,043)	(2,013)	(5,103)
Profit After Tax (FRS 3)	(1,365)	(2,981)	(2,471)	(2,013)	(5,103)
Average Number of Shares Outstanding (m)	29.0	56.0	92.8	38.8	356.8
EPS - normalised (p)	(7.4)	(6.2)	(3.0)	(7.1)	(1.6)
EPS - normalised and fully diluted (p)	(7.4)	(6.2)	(3.0)	(5.6)	(1.5)
EPS - (IFRS) (p)	(4.7)	(5.1)	(2.7)	(5.2)	(1.4)
Dividend per share (p)	0.0	0.0	0.0	0.0	0.0
Gross Margin (%)	N/A	N/A	N/A	N/A	N/A
EBITDA Margin (%)	N/A	N/A	N/A	N/A	N/A
Operating Margin (before GW and except.) (%)	N/A	N/A	N/A	N/A	N/A
BALANCE SHEET					
Fixed Assets	7,152	9,299	11,926	13,541	12,756
Intangible Assets	6,900	9,139	11,845	12,944	12,209
Tangible Assets	252	160	81	87	37
Investments	0	0	0	510	510
Current Assets	4,014	1,061	1,012	1,822	25,753
Stocks	0	0	0	0	0
Debtors	655	335	358	358	179
Cash	3,279	640	562	1,372	25,482
Other	80	86	92	92	92
Current Liabilities	(3,363)	(3,202)	(1,995)	(2,000)	(2,300)
Creditors	(3,363)	(3,202)	(1,995)	(2,000)	(2,300)
Short term borrowings	0	0	0	0	0
Long Term Liabilities	0	0	0	0	0
Long term borrowings	0	0	0	0	0
Other long term liabilities	0	0	0	0	0
Net Assets	7,803	7,158	10,943	13,363	36,209
CASH FLOW					
Operating Cash Flow	(1,424)	(2,006)	(2,729)	(1,966)	(3,272)
Net Interest	4	(413)	(319)	8	(1,302)
Tax	0	0	0	0	0
Capex	(877)	(3,133)	(3,507)	(2,400)	0
Acquisitions/disposals	(1,083)	(750)	0	0	0
Financing	4,735	3,663	6,480	5,168	28,683
Dividends	0	0	0	0	0
Net Cash Flow	1,355	(2,639)	(75)	810	24,109
Opening net debt/(cash)	(1,924)	(3,279)	(640)	(562)	(1,372)
HP finance leases initiated	0	0	0	0	0
Other	0	0	(3)	0	0
Closing net debt/(cash)	(3,279)	(640)	(562)	(1,372)	(25,482)

Source: KEFI Minerals sources, Edison Investment Research

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