1st June 2020

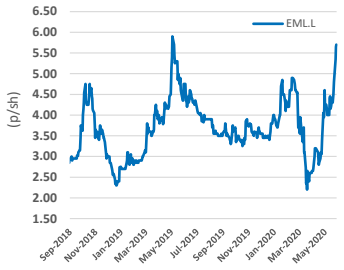
Sector: Mining

Commodities:

Potash (MOP/SOP) in Morocco

Market data

Ticker	EML
Price (p/sh)	5.7p
12m High (p/sh)	6.0p
12m Low (p/sh)	2.1p
Shares (m)	686.1m
Mkt Cap (£m)	39.1m
Markets	LSE



Source: IRESS

Description

Emmerson plc is a resource development company focused on the development of the feasibility stage Khemisset potash project in Morocco.
www.emmersonplc.com

Board & key management

Non-Exec Chairman	Mark Connelly
Exec Director/CEO	Hayden Locke
Exec Director	Robert Wrixon
NED	Ed McDermott

Analyst

phil.swinfen@shardcapital.com
020 7186 9008
Phil Swinfen

Emmerson plc

Feasibility MOPs the floor with other contenders

EML has delivered the feasibility study ("FS") for Khemisset on time, an impressive achievement given that Covid-19 could have thrown a spanner in the works. As expected, the key metrics remain robust, building on the plan set out in the Nov-18 Scoping Study with a much higher level of detail and engineering. Despite several considerable changes to the scope and numerous moving parts, EML has avoided the blow-out in capex and opex typically seen in other projects as they move to the final iteration of a study. Khemisset retains lower-quartile capital intensity and AISC to the target market in Brazil, factors that drive margins capable of sustaining cyclical down turns and unlocking funding options.

- **Feasibility Metrics. Production:** 6Mtpa ROM, peak MOP 810ktpa, steady-state 735ktpa. Metallurgical recovery has increased to 85.2% from 83.6%. **LOM:** 19 years. **Salt included:** 1Mtpa de-icing salt sales at $60/t. **Pre-production capex:** Potash only $387m & inc salt plant $410.9m. **Opex:** Cash cost to mine gate $111/t MOP, AISC FOB Port of Casablanca $158/t, ASIC delivered to Brazil $168/t. **Financials:** Post-tax NPV8 (nominal) US$1.4bn and IRR of 38.5% assuming flat real MOP price of $412/t. Annual steady-state EBITDA $307m (61.5% EBITDA margin), post-tax cash flow $235m (cash margin 47.1%), Payback period of 2.6 years.

- **Capex changes.** Potash only capex ($387m) is down $19m or 4.7% vs. $406m in the scoping study ("SS"). Total capex of $411m is a nudge below the SS but this now includes $23.8m in additional capex for a salt plant to produce 1Mtpa of saleable de-icing salt from the project's waste product. Around $50m has been shaved from mining capex by removing the mining fleet (now contract mining) although this has largely been offset by an increase in brine disposal (requirement for a deep injection well) and Indirects (including mobilisation and contractor margins etc.) On a like-for-like basis, capex would have increased but a lower capital contingency (16% vs 30%) has been employed to reflect higher confidence in capital costing and detailed engineering/procurement etc.

- **Opex changes.** Impressively, total AISC opex delivered to Brazil has increased by only 3.3% to $168/t from $162/t. The addition of considerably more rock bolting into mining opex, the change to contract mining, and slightly higher trucking cost to the Port of Casablanca have been tempered by lower processing costs (energy related) and lower freight rates. This means Khemisset's opex remains lower quartile even excluding salt by-product credits worth c.$30/t MOP.

- **Shard's view.** For further analysis of key variance between the SS and FS, refer to the inside of this note. Overall, we view this as an exceptional result for EML. Containing the capital and operating cost base under the higher level of scrutiny demanded by a feasibility study is no mean feat. The move from SS to FS has seen some major revisions to certain elements of the plan and is typically the phase when cost blow-outs can occur. We take considerable comfort in the fact that the overall cost base is of a similar order of magnitude after completing detailed engineering, geotechnical, mining and processing workstreams. Thus, Khemisset has been considerably de-risked but without a concomitant increase in costs. The FS outputs demonstrate a high margin project and although that's based on a LT MOP price of $412/t (current MOP is in a cyclical low of $230/t), dig into the sensitivity and it becomes clear that the project could weather significantly lower prices than most other development projects. Furthermore, the combination of low capital intensity and high margins leads us to believe that Khemisset is fundable at a range of prices well below the incentive price required to bring on sizeable new production from potash mega projects.

- **Valuation update.** We have incorporated the new FS metrics into our DCF model of Khemisset. Our current estimate of intrinsic fair value has increased to 17.7p/sh from 14.5p/sh despite pushing back our estimate of 1st production by one year to mid-2024. We risk our NPV at 0.4x (up from 0.3x) to reflect the more advanced stage but retain a 10% discount rate and flat $360/t MOP price. This implies that EML is trading at an undemanding 0.32x discount to our risked sum of the parts valuation and note that it excludes any value

Khemisset's inherent advantage is made crystal clear again by the feasibility results and we see little to rival it in the potash space. OCP will certainly take a close look at the results over a cup of tea. EML will now increase focus on permitting and financing discussions. Whilst it is not clear what the financing structure will look like as yet, we continue to believe that Khemisset has more funding flexibility and options than most other projects at this stage.

Feasibility – key outcomes

Figure 1 - Feasibility Study - parameters and assumptions

Parameter		Feasibility Study Jun-20
Initial operating life	Years	19
Annual ROM extraction rate	Mtpa	6
Average life of mine grade to mill	K2O	8.60%
Average metallurgical recovery (LOM)	%	85.2
Average annual steady state production rate	tonnes	735,000
Average annual salt production rate	Mt	1
Flat Real MOP Price CFR Brazil	US$/t	412
Capital costs		
Capital Cost (potash only)	US$m	342
Capital contingency	US$m	46 (16%)
Total capital cost (potash only)	US$m	387
Salt plant capex (inc contingency)	US$m	23.8
Total capital cost (potash & salt)	US$m	410.9
Operating costs		
Port		Casablanca
Total Cash Cost FOB	US$/t	125.3
All-in-Sustaining Cash FOB Port of Mohammedia	US$/t	158
Financials		
Average steady state EBITDA	US$m	307
Average steady state EBTDA margin	%	61.5%
Average Steady State Annual Post-Tax Cash Flow	US$m	235
Average steady state cash margin (post-tax)	%	47.1%
DCF metrics		
Discount rate	-	8% nominal
Post Tax NPV (nominal)	US$m	1,400
Post Tax IRR (nominal)	%	38.5%
Post-tax Payback Period	years	2.6
Key Financial Assumptions in study		
MOP Prices over Life of Mine	US$/t	412
Nominal Discount Rate	%	8%
Costs/revenues escalation p.a over LOM	%	3%
Corporate Tax Holiday	years	5
Corporate Tax Rate on Exported Product	%	20%
2yrs pre-production, ramp-up 50% in year 1		

Source: Emmerson plc, November 2020 Feasibility Study

Figure 2 - Summary of pre-production capital costs

Capital Cost Item	US$m
Mining	89.6
Processing Plant	146.6
Surface Infrastructure	17.9
Tailings storage	30.5
Total	284.6
EPCM	32.8
Indirects	47.9
Contingency (16%)	45.5
Total Pre-Production Capital Cost	**410.9**
Capital Intensity (US$/tonne product)	507
Potash only capital intensity (US$/tonne product)	478

Source: Emmerson plc, June 2020 Feasibility Study

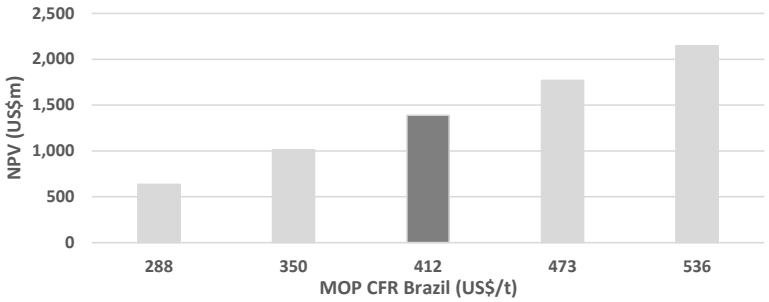
Figure 3 - Summary of operating costs (1st full year of production)

Operating Cost Item	US$/t ROM	US$/t MOP
Mining	7.8	60.2
Processing	5.5	42.7
Other Site Operating Costs	0.7	5.6
Administration	0.4	2.8
Total Cash Cost to Mine Gate	**14.4**	**111.2**
Trucking to Port of Casablanca	2.0	14.1
Sustaining Capital	4.2	32.7
All-in-Sustaining Cash Cost (FOB Mohammedia)	**20.6**	**158.0**
Freight to Brazil	1.4	10.0
All-in-Sustaining Cash Cost to Brazil	**22.0**	**168.0**

Source: Emmerson plc, June 2020 Feasibility Study

Figure 4 - Feasibility - NPV Sensitivity to Potash Price and Discount Rate

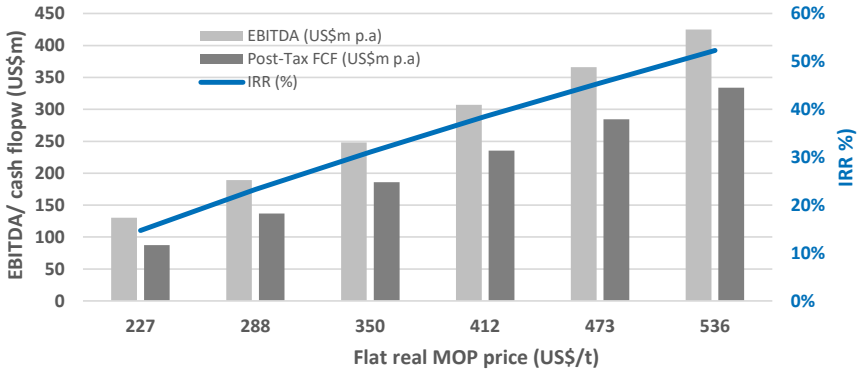
Discount rate	MOP Price (US$/t) -30%	-15%		+15%	+30%
	288	350	412	473	536
4%	1,151	1,720	2,288	2,857	3,426
6%	856	1,316	1,777	2,237	2,698
8%	635	1,013	**1,391**	1,769	2,147
10%	468	782	1,097	1,411	1,725



Source: Emmerson plc, June 2020 Feasibility Study

Figure 5 - Feasibility - Financial Sensitivity to Potash Price and Discount Rate

	Flat real MOP Price (US$/t) -45%	-30%	-15%		+15%	+30%
	227	288	350	412	473	536
EBITDA (US$m p.a)	130	189	248	307	366	425
Post-Tax FCF (US$m p.a)	88	137	186	235	285	334
IRR (%)	14.7%	23.3%	31.1%	38.5%	45.5%	52.3%



Source: Emmerson plc, June 2020 Feasibility Study

Feasibility (Jun-20) key points vs. Scoping study (Nov-18)

Figure 6 - FS – key assumptions and variance against scoping study.

Parameter		Scoping Study Nov-18	Feasibility Study Jun-20	Variance	
Initial operating life	Years	*20*	*19*	-5.0%	Lower extraction ratio, smaller rooms/panels
Annual ROM extraction rate	Mtpa	*6*	*6*	0.0%	
Average life of mine grade to mill	K2O	9.35%	8.60%	-8.0%	Updated MRE
Average metallurgical recovery (LOM)	%	83.6	85.2	1.9%	Improved recovery based on detailed met testwork
Average annual steady state production rate	tonnes	800,000	735,000	-8.1%	largely due to lower grade
Average annual salt production rate	Mt	1	1	0.0%	
Flat Real MOP Price CFR Brazil	US$/t	360	412	14.4%	
Capital costs					
Capital Cost (potash only)	US$m	316	342	8.2%	No mining fleet, offset by brine disposal and indirects
Capital contingency	US$m	90 (30%)	46 (16%)	-49.4%	Contingency reduced to 16% from 30%
Total capital cost (potash only)	US$m	406	387	-4.7%	"Potash only" capex down $19m
Salt plant capex (inc contingency)	US$m	-	23.8	-	
Total capital cost (potash & salt)	US$m	-	410.9	-	
Operating costs					
Port		Mohammedia	Casablanca	-	AISC to Brazil $168/t up only 3.3% despite higher rock bolting, contract mining & longer trucking to port of Casablanca. Adjust for salt by-product credits and this reduces to c. $138/t (Shard estimate)
Total Cash Cost FOB	US$/t	115.4	125.3	8.6%	
All-in-Sustaining cash cost FOB Port	US$/t	147.6	158	7.0%	
All-in-Sustaining Cash cost to Brazil	US$/t	162.6	168	3.3%	
Financials					
Average steady state EBITDA	US$m	236	307	30.1%	predominantly impact of higher MOP pricing
Average steady state EBTDA margin	%	63.5%	61.5%	-3.1%	
Average Steady State Annual Post-Tax Cash Flow	US$m	184	235	27.7%	
Average steady state cash margin (post-tax)	%	50.0%	47.1%	-5.8%	
DCF metrics					
Discount rate		10% nominal	8% nominal	-	Discount rate lowered to 8%
Post Tax NPV (nominal)	US$m	795	1,391	-	
Post Tax IRR (nominal)	%	29.8%	38.5%	-	
Post-tax Payback Period	years	3.25	2.6	-	Payback reduced to 2.6 years
Key Financial Assumptions in study					
MOP Prices over Life of Mine	US$/t	360	412	14.4%	LOM price assumption increased to $412/t
Nominal Discount Rate		10%	8%	-	
Costs/revenues escalation p.a over LOM		2%	3%	-	
Corporate Tax Holiday	years	5	5	-	
Corporate Tax Rate on Exported Product		17.50%	20%	14.3%	Corp tax rate increase
2yrs pre-production, ramp-up 50% in year 1	-	same	same	-	

Source: Emmerson plc, Shard Capital

Current mine plan uses only 43% of the total resource, lots of potential to extend LOM

Salt plant (1Mtpa) capex $23.8m. Salt plant cash cost: $8.6/t AISC FOB Casablanca: $22.7/t AISC landed East Coast US $32.7/t. Based on the average received price for bulk quantity de-icing salt of $60/t this implies a margin of $27.3/t.

- **Production.** Mine life has decreased by 1 year to 20 years, predominantly due to the higher focus of the FS on the Indicated Resource category of the latest MRE update (Oct 2019). This is in combination with a marginally lower extraction ratio, updated on the back of detailed geotechnical work which indicated a requirement for smaller rooms and panels. A 6m room width is now assumed in FS. Production is similar in scale to the SS, average steady-state production of 735ktpa K_{60} MOP vs 800ktpa in the SS. However, peak production in the FS is now 810ktpa. The slight reduction in MOP production is a result of a decrease in grade, 8.6% K_2O vs 9.35% K_2O in the SS as per the latest MRE.
- **Salt.** The FS crystallises the plan to leverage the project's primary waste product of which >95% is salt (pure NaCl). We view this as particularly important as Khemisset at full production will kick out 4.5Mtpa of salt. The FS now includes $23.8m in additional capital for a salt plant designed to produce 1Mtpa de-icing spec salt for the sale to the US east coast de-icing salt market. Opex for the salt project is low, as it is produced as a by-product; the mining cost is absorbed by the potash cost centre and the main opex items are processing, compacting and handling in order to produce a saleable product. The salt logistics solution is as potash, i.e. truck to Port of Casablanca and freight out to the target market, in this case the US.

Potash only capex down 4.7% or $19m.

- **Salt by-product credits.** We calculate that adjusting the potash opex to include de-icing salt on a by-product basis (using a base $55/t salt price) produces a net benefit of approximately $30/t MOP, theoretically reducing Khemisset's potash AISC FOB Brazil from $168/t to c.$138/t**,** firmly lower quartile.
- **Met recoveries.** Metallurgical recovery has improved to 85.2% from 83.6% in the SS on the back of detailed met test work. Essentially, recoveries are higher using the "average ore case" where the interplay between processing the 3 ore types sylvite, carnallite, and rinneite reduces KCL losses when compared to processing segregated ore feed.
- **"Potash only" capex.** Total pre-production capital including contingency for potash only (excluding the salt plant) is $387m, which represents a 4.7% decrease ($19m) on the SS. Although the base pre-contingency capex for potash is $342m, an 8% increase on the SS, the FS employs a lower contingency of 16% vs 30% in the SS. This reflects the much higher level of detail, design and confidence in capital cost estimation as would expected moving from SS to FS. Potash only capital intensity is $527/t based on 735ktpa.
- **Total capex.** Total pre-production capex including contingency for potash and salt combined is $410.9m. Thus, capital intensity of $559/t using steady-state production remains very low despite the extra $23.8m salt plant capex. On a like-for-like basis the potash capex would have increased due to several factors but overall the net result is a capex tag with a similar order of magnitude ($400m) which is a considerable achievement in our view considering it includes additional salt capex.

  Nevertheless, there were some major shifts and adjustments. Mining capex is down overall due to c.$50m of mining fleet capex being removed with the change to contract mining, but this has been offset by higher brine disposal opex and higher "indirects".

  The tailings storage portion of capex is new, a large proportion of which is due to the need to dispose of decomposition brine leaving the plant. Previously it was envisaged that the decomposition brine would be pumped to a brine evaporation pond in order to crystallise carnallite for harvesting. However, due to unsuitable evaporation conditions and the presence of Mg and Fe in the disposal brine, it is now deemed as not suitable for further evaporation. As such, the best solution is now disposal in a deep injection well which necessitates additional capex.

  EPCM costs have doubled to cover the project scope and a new category of "indirects" adds $48m in capex. Indirects includes a variety of sub-work contracts, mobilisation costs, freight for incoming equipment, ongoing permitting costs, contractor margins and other capitalised opex. In the SS, these items were distributed throughout different categories.

  Contingency has a significant impact with the 30% used in the SS decreased to 16% which results in a reduction of $45m. This reflects the higher level of detail of a feasibility study and increased confidence in several areas, particularly where budgeted quotes have been received.

Figure 7 - FS/SS capex comparison.

Capital Cost Item (US$m)	Scoping	Feasibility
Mining	123.0	89.6
Processing Plant	138.0	146.6
Surface Infrastructure	40.2	17.9
Tailings storage	-	30.5
Total	301.2	284.6
EPCM	14.3	32.8
Indirects	-	47.9
Contingency	90.4	45.5
Total Pre-Production Capital Cost	**405.9**	**410.9**
Capital Intensity (US$/tonne product)	520.4	507.4
"Potash only" capital intensity (US$/tonne product)	520.4	478.0

Source: Emmerson plc, June 2020 Feasibility Study

Unit opex increase due to more ground support (rock bolting) and contract mining has been offset by lower processing costs – due to lower energy consumption and favourable pricing

- **Opex.** Total AISC delivered to port is $158/t MOP and AISC delivered to Brazil is $168/t. This compares to $147.6/t and $162/t for the SS and thus a marginal increase of the FS. Such a minor increase in cost structure moving from a scoping study (30-50% accuracy) to feasibility is impressive and not often achieved by any project regardless of commodity or jurisdiction.

  The ups. The opex now reflects contract mining which has been selected for production and development so although the capex burden (mining fleet) has been removed, the corollary is slightly higher opex. However, the increase in unit mining opex (up 42% from $5.5/t ROM to $7.8/t ROM) is mainly due to significantly higher rock bolting costs due to updated Geotech work on the required level of ground support. The salt and in particular the overlying basalt was found to have inferior geotechnical properties and not as good as originally thought. This indicated the need for considerably more rock bolting. The opex estimate also includes higher trucking costs due to the selection of the Port of Casablanca (but eliminates port capex).

  The downs. Given the above, we would of expected total opex to increase. However, EML has managed to mitigate much of the increase through lower processing costs with a 24% reduction per ROM tonne. This is primarily due to higher recoveries and lower energy consumption in the process design in conjunction with lower gas and electricity rates. Opex has also been aided by lower prevailing freight rates. Total AISC delivered to Brazil ends up only 3% higher per tonne of MOP than the SS which we view as a solid achievement.

Figure 8 - FS/SS opex comparison.

	Scoping		Feasibility	
Operating Cost Item	US$/t ROM	US$/t MOP	US$/t ROM	US$/t MOP
Mining	5.5	42.1	7.8	60.2
Processing	7.2	55.1	5.5	42.7
Other Site Operating Costs	0.7	5.0	0.7	5.6
Administration	0.4	3.2	0.4	2.8
Total Cash Cost to Mine Gate	13.8	105.4	14.4	**111.2**
Trucking to port	1.3	10.0	2.0	14.1
Sustaining Capital	4.2	32.2	4.2	32.7
All-in-Sustaining Cash Cost (FOB Port)	19.3	147.6	20.6	**158.0**
Freight to Brazil	2.5	15.0	1.4	10.0
All-in-Sustaining Cash Cost to Brazil	**21.8**	**162.6**	**22.0**	**168.0**

Source: Emmerson plc, June 2020 Feasibility Study, Shard Capital

Capital payback is now a mere 2.6 years

- **Financials.** The financial outputs of the FS continue to demonstrate that Khemisset is an extremely robust project. The numbers speak for themselves, NPV[8] is now $1.4bn, post-tax IRR is 38.5%. The SS NPV[10] was $795m although note that the FS uses an 8% discount rate and a higher MOP price ($360/t vs $412/t) so not directly comparable at face value. Nevertheless, the financials are solid, ever so slightly lower EBITDA (61.5%) and FCF (47.1%) margins but significantly higher absolute values EBITDA $307m (up 30%), FCF $235m (up 28%). We note that the corporate tax rate has increased to 20% from 17.5%.

- **MOP price assumption.** The FS uses a higher MOP potash price of $412/t real flat versus $360/t in the SS. This is due a change in methodology from using the spot price in the Brazilian market at the time of the SS, to now using Industry Expert Argus FMB Price Forecasts over Life of Mine. We view this as sensible given volatility in the prevailing short-term market and the long life of the project. With MOP at $230/t our view is that price risk is now weighted to the upside – the potash thesis has not changed and perhaps it's now even stronger. Less arable land per capita, growing population, need to increase yields etc. Thus we see more drivers to return to an upcycle than drivers to remain at the cyclical bottom.

  Irrespective of the price assumption used for the base NPV, the results demonstrate that Khemisset is exceptionally robust over a wide range of MOP prices (see figure 4). The upside leverage in an elevated price environment is compelling, but arguably the project's apparent ability to generate cash at substantially lower prices (and service debt) reduces financing risk and is likely to increase the range of available funding mechanisms.

Khemisset still stacks up

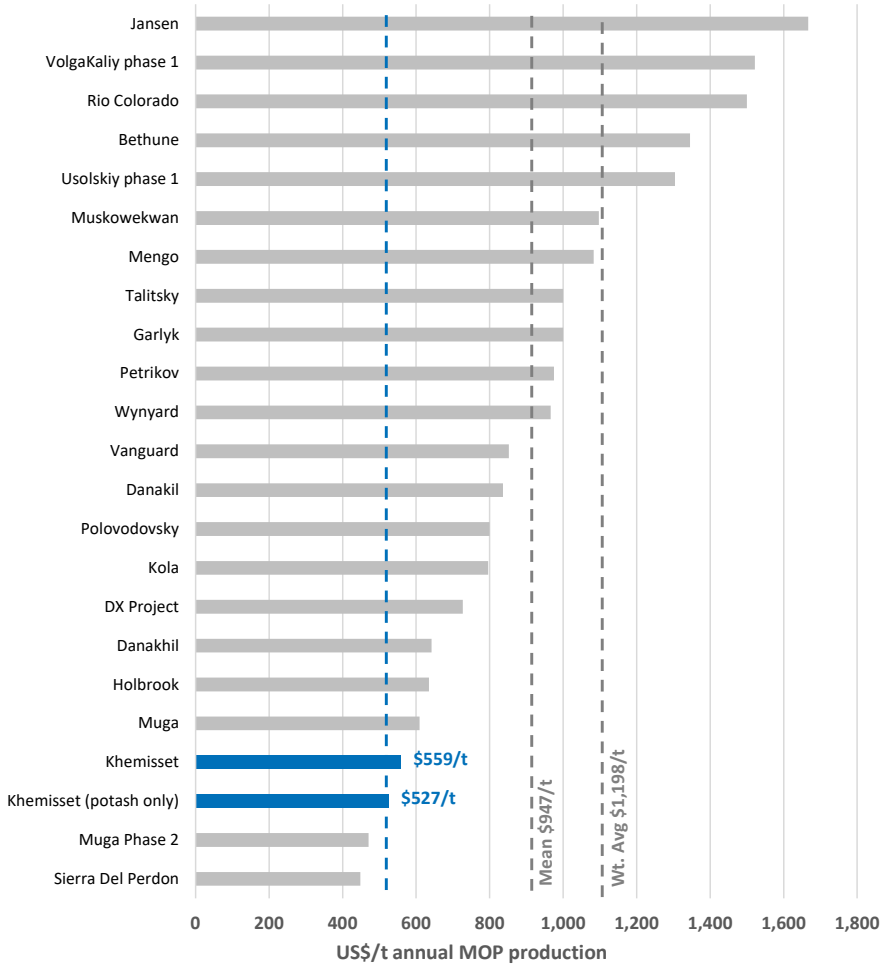
Capital intensity

We calculate Khemisset's capital intensity is $559/t of annual MOP capacity including the salt plant, or $527/t on a potash only basis, up slightly from $520/t in the SS. EML's feasibility states $478/t but note that we calculate capital intensity differently using a denominator of average LOM steady-state production and not peak production. Nevertheless, Khemisset remains some 44% lower than the peer mean ($947/t) and 56% lower than the production-weighted average ($1,198/t) for our selected global peers' group.

There is no shortage of potash development projects in the global pipeline but the initial capital requirement represents a significant barrier to entry. High capital requirements stem from the necessary infrastructure required to support large new potash projects in both Africa and Canada. Add to this the fact that most potash mineralisation is deep (often >1km) and capital intensive deep-shaft underground mining or solution mining is required, which introduces a significant upfront capital cost and ongoing development cost. Capex budgets can often run to $1bn to $3bn for a typical deep mine in Canada. We note that Khemisset remains competitive even when pegged against expansions of existing operations.

We calculate Khemisset's capital intensity is $527/t of annual average MOP production on a potash only basis. This is around half the peer average

Figure 9 - Capital intensity (US$/t annual production)



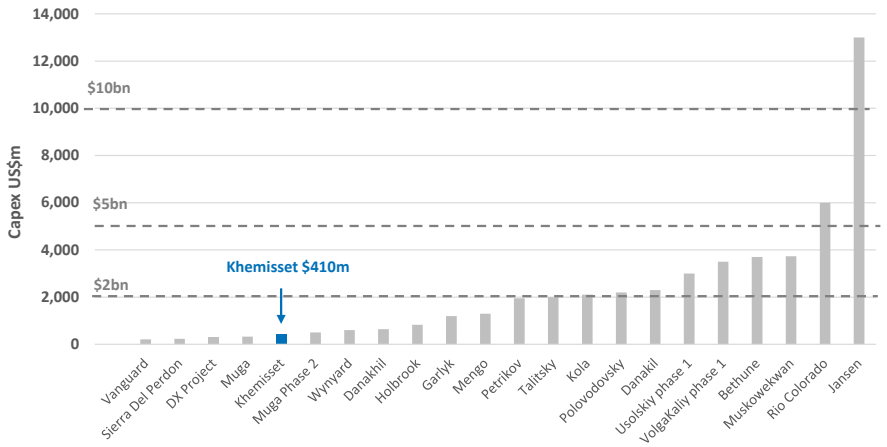
Source: Company reports, Shard Capital estimates

Pre-production capital cost

Morocco's excellent infrastructure in combination with shallower mineralisation (cheaper decline access), no overlying aquifers, and proximity to port means that the $410m feasibility capex estimate appears more fundable than a typical Russian or Canadian project, even including the additional de-icing salt capex. Khemisset's "absolute" capex remains bottom quartile.

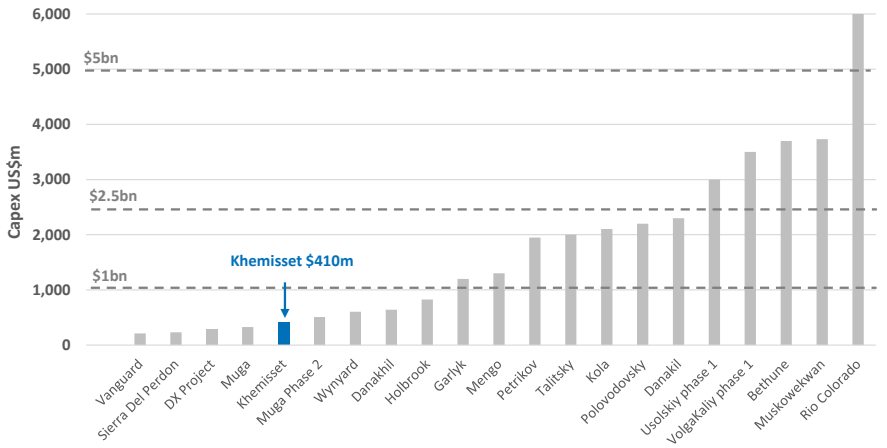
Khemisset's low capex remains highly competitive and is a key differentiator versus peers. Furthermore, Khemisset's economics appear to work at MOP price levels well below that required to incentivise new production from mega projects.

Figure 10 - Pre-production capital cost (US$m)



Source: Company reports, Shard Capital estimates

Figure 11 - Pre-production capital cost (US$m) – excluding Jansen

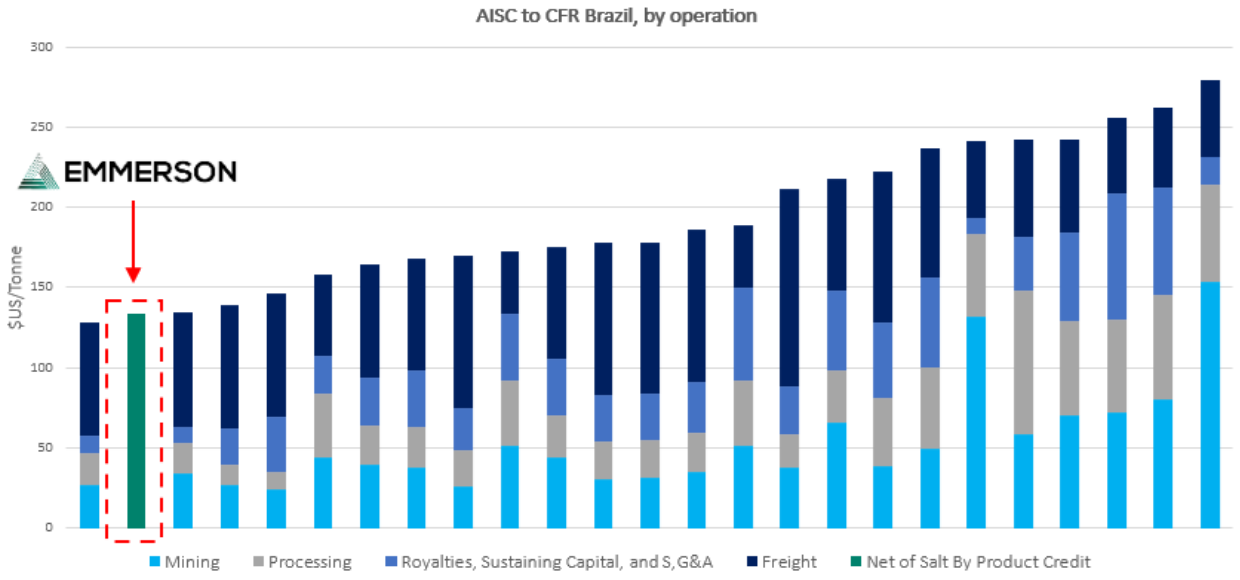


Source: Company reports, Shard Capital estimates

Delivered cost to Brazil remains virtually unbeatable

Khemisset's total cash cost to the mine gate is forecast at US$111/t MOP, with AISC to Port FOB Casablanca of $158/t and AISC to Brazil of $168/t. Whilst mine-gate costs are higher than low-cost major producers in Canada and Russia, Khemisset's location along with Morocco's infrastructure logistical advantage translates to a very low all-in AISC on a delivered basis to Brazil. EML's chart below nets off salt by-product credits but even excluding this, the AISC including freight to Brazil is extremely competitive.

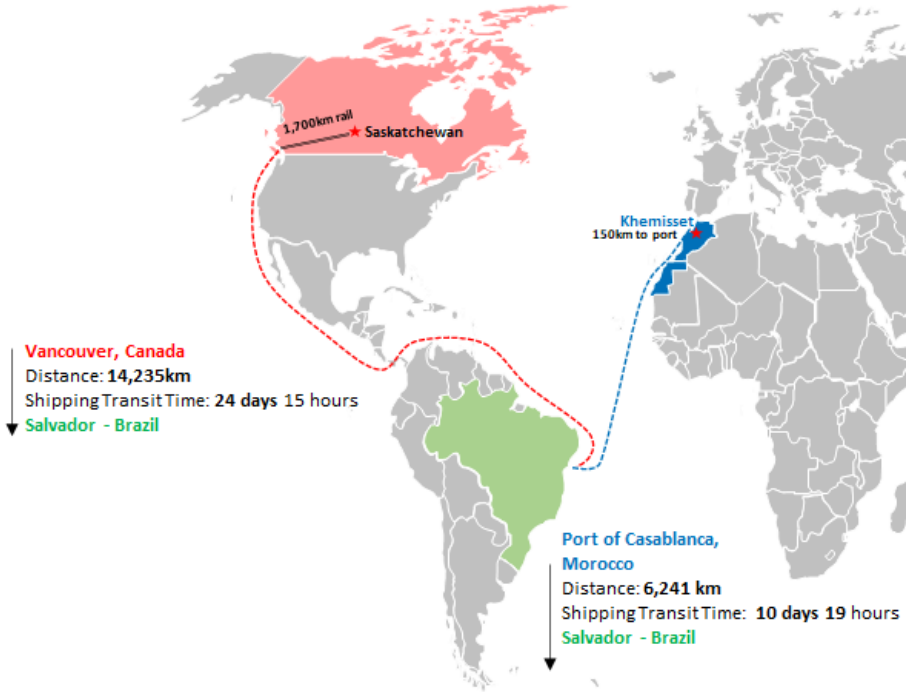
Figure 12 - Industry All-in-Sustaining Delivered Cost Curve to CFR Brazil



Source: Emmerson plc, June 2020 Feasibility

Indicative shipping transit time from Morocco to key ports in Brazil - Morocco has a 15-day advantage even before considering in-country rail logistics

Figure 13 - Comparison of shipping transit times – Vancouver hub vs Morocco



Source: Shard Capital estimates, searates.com

Valuation update

We have pushed back 1st production to mid-2024 which tempers the uplift in the sum of parts calculation

We have updated our DCF model to reflect the updated feasibility study ("FS") metrics and other updated assumptions. Our sum of the parts ("SotP") analysis suggests a current intrinsic fair value of approximately 17.7p/sh for Emmerson plc, fully-diluted, an increase over our previous estimate of 14.5p/sh. Our SotP valuation is driven by a DCF model of Khemisset, based on the Feasibility Study, company reports and guidance, observations from our site visits to Morocco and some of our own modelling assumptions. Our base-case NPV[10] for Khemisset is US$417m (£339m) with an IRR of 25.5%. Our risked NAV at 0.4x is £131m or 17.7p/sh, fully diluted.

Note that our current SotP valuation does not include the potential for a sulphate of potash (SOP) add-on project. Our accretive NPV[10] estimate for SOP: $250m, EML's PEA NPV[10] estimate: $411m and IRR 52.1%

Our SotP follows a risk-weighted approach and due to increased confidence on the back of the feasibility study, we have increased our NAV multiple to 0.4x from 0.3x. This reflects the stage of development whilst remaining relatively punitive to account for remaining financing, timeline, and development risk and the fact that our SotP is on a pre-funding basis. Although EML has a number of financing options, including a significant portion of debt (sizing $230m based on $235/t MOP as per 10/6/2019 RNS) and options for involvement of strategic partners, we believe it is too early to incorporate gross assumptions in our model, not least due to the unknown quantum of equity funding and dilution. Note that our NAV multiple is already applied to a conservative base-case, and as such we see significant scope for value accretion.

Our base NPV would be $829m using an 8% discount rate, no capex escalation and using Argus' $412/t flat LT price. Our SotP would then be 35p/sh at the same 0.4x NAV multiple.

Figure 14 - SotP valuation – Shard Capital estimates

Sum of the parts NAV				
Unrisked NPV	**Disc Rate**	**NPV (US$m)**	**NPV (£m)**	**p/sh**
Khemisset	10%	417	339	45.8
Exploration	-			0.0
Subtotal		417	339	0.5
Risked NAV	**NAV multiple**	**NPV (US$m)**	**NPV (£m)**	
Khemisset	0.40x	167	136	18.3
Exploration	-		0	0.0
Sub-total			136	18.3
Cash on B/S			1.2	0.2
Cash in from options/warrants			1.6	0.2
Debt			0.0	0.0
Forward Corporate G&A / Other			(7.2)	(1.0)
NAV VALUATION			**£131m**	**17.7p**
Shares on issue (basic)			686.1m	
Shares on issue (diluted)			740.0m	
P/NAV			0.33x	
Implied Return to NAV			201%	
Shares (diluted)			**740.0m**	

Source: Shard Capital estimates

Revisions. We have incorporated updated parameters from the feasibility study. We have also pushed back first production in our DCF from mid-2023 to mid-2024, assuming 2020-2021 for permitting/financing and a two-year construction period. We have reduced our capex escalation from 20% to 10% to reflect our higher confidence in the capital estimates. As such our DCF assumes $452m capex.

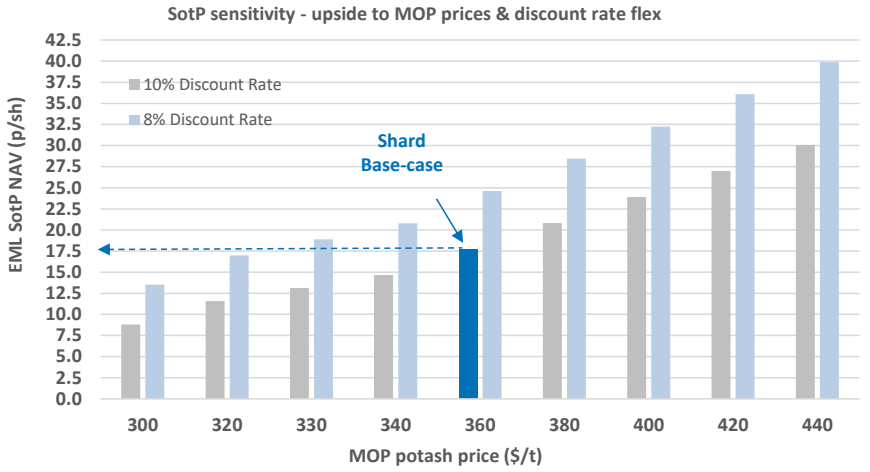
We retain a 10% discount rate and a conservative flat LT MOP price of $360/t, versus the feasibility which uses 8% and $412/t MOP. Whilst we see the rationale for a reversion to higher MOP prices long-term, we maintain our conservative basis. We incorporate the salt plant into our model but assume 750ktpa sales at $50/t vs feasibility at 1Mtpa ($60/t).

In addition, the divergence between our base NPV and the feasibility numbers is due to the fact we discount net cash flows from current day and not the start of construction and we do not escalate revenues or operating costs (FS 3% p.a).

Sensitivity

- **SotP sensitivity.** Our current valuation standpoint is conservative, but we illustrate the potential upside to our SotP valuation by flexing discount rate and MOP input price.

Figure 15 - SotP valuation – sensitivity to MOP price and discount rate

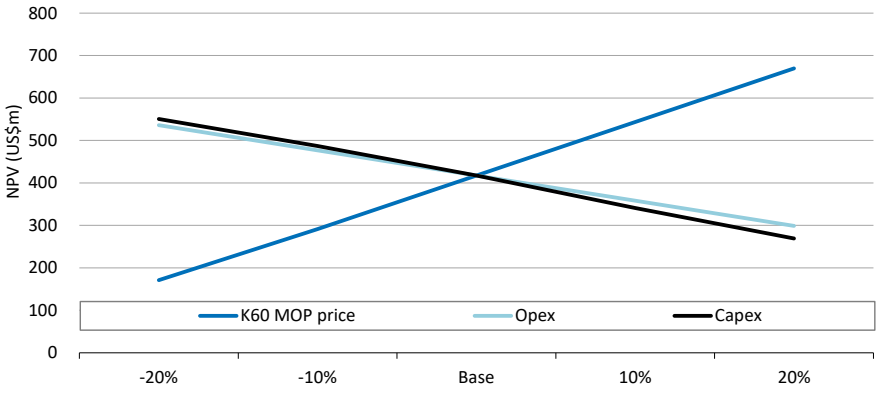


Source: Shard Capital estimates

- **NPV Sensitivity.** Analysis on our base-case DCF modelling indicates that Khemisset is highly leveraged to the prevailing potash price, as would be expected. Our NPV[10] increases by 30%, or $126m for a 10% uplift in our LT potash price assumption.

The K60 MOP price is the key driver, as expected. Relatively low sensitivity to capex.

Figure 16 - Sensitivity analysis to key inputs



Source: Shard Capital estimates

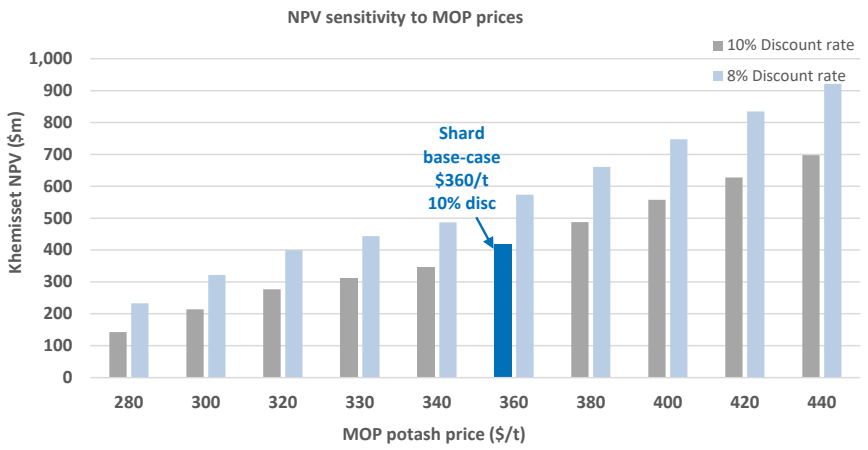
Figure 17 - Sensitivity analysis: MOP price vs discount rate – Shard estimates

Khemisset NPV (US$m) - current

Potash MOP price ($/t)	Discount rate 5%	8%	10%	12%
280	439	233	143	77
300	564	321	214	136
320	677	400	277	187
330	738	443	312	215
340	800	487	347	244
360	923	574	**417**	301
380	1,047	661	487	359
400	1,170	748	557	416
420	1,293	835	628	473
440	1,416	921	698	530

Khemisset NPV (US$m) - @ start of construction

Potash MOP price ($/t)	Discount rate 5%	8%	10%	12%
280	488	276	177	101
300	626	379	263	174
320	750	471	339	239
330	818	521	382	275
340	886	572	424	310
360	1,022	673	**509**	382
380	1,158	775	594	454
400	1,294	876	679	526
420	1,430	978	764	598
440	1,565	1,079	848	670

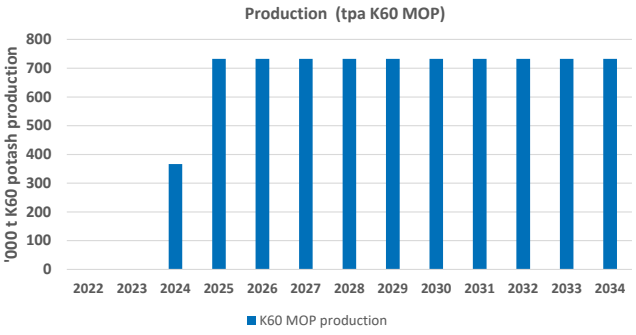


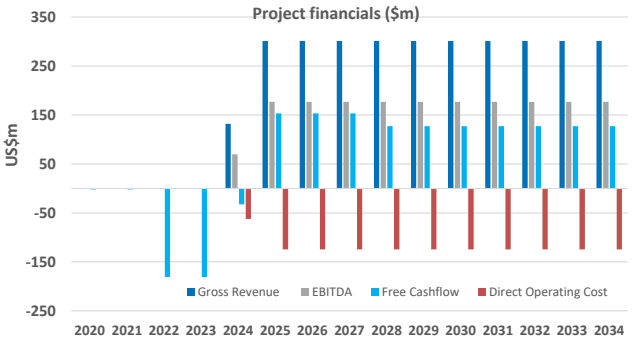
Source: Shard Capital estimates

Indicative project DCF outcomes

Figure 18 - Key project-level financials - Shard Capital estimates – base case, 1st 10 years of LOM

		2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
UG ROM Extraction	Mtpa	0	0	0	0	3,000	6,000	6,000	6,000	6,000	6,000	6,000	6,000	6,000	6,000	6,000
K60 MOP production	ktpa	0	0	0	0	366	733	733	733	733	733	733	733	733	733	733
MOP Price CFR Brazil	$/t	360	360	360	360	360	360	360	360	360	360	360	360	360	360	360
Gross Revenue	$m	0	0	0	0	132	301	301	301	301	301	301	301	301	301	301
Direct Operating Cost	$m	0	0	0	0	-62	-124	-124	-124	-124	-124	-124	-124	-124	-124	-124
EBITDA	$m	0	0	0	0	70	177	177	177	177	177	177	177	177	177	177
EBIT	$m	0	0	0	0	58	154	154	154	154	154	154	154	154	154	154
Free Cashflow	$m	-2	-2	-181	-181	-33	153	153	153	127	127	127	127	127	127	127
Expansion capex	$m	-2	-2	-181	-181	-90	0	0	0	0	0	0	0	0	0	0
Sustaining capex	$m	0	0	0	0	-12	-24	-24	-24	-24	-24	-24	-24	-24	-24	-24





Source: Shard Capital estimates

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Shard Capital Partners LLP
23rd Floor,
20 Fenchurch St,
London, EC3M 3BY

T +44 (0)207 186 9900
F +44 (0)207 186 9979
E info@shardcapital.com
W shardcapital.com