

European Lithium Limited

Australia / Mining

Frankfurt Stock Exchange/Australian SX

Bloomberg: PF8 GR

ISIN: AU000000EUR7

Initiating Coverage

RATING**PRICE TARGET**

Return Potential

Risk Rating

ADD**€ 0.19**

23.4%

High

WELL PLACED TO SUPPLY EUROPEAN BATTERY MEGAFACORIES

The European lithium-ion battery industry is expanding fast to meet demand from the electric vehicle sector. European battery megafactories announced so far (more are expected to follow) are expected to generate lithium carbonate demand of 20k tonnes in 2021 and over 60k tonnes in 2025. European Lithium is well placed to become a supplier to these megafactories. The current JORC (2012) resource of measured 2.86m tonnes grading 1.28% Li₂O and indicated 3.44m tonnes grading 1.08% Li₂O supports annual average output of 7.1k tonnes Li₂CO₃ over a projected 13 year mine life at the Wolfsberg project. Based on a discounted cash flow model and assuming an average Li₂CO₃ price of USD15,500/tonne, we arrive at a valuation of €0.19 per share. Our recommendation is Add. There will be scope to raise our price target, if, as we expect, European Lithium raises its JORC resource to over 10m tonnes by the end of this year.

Brisk timeline to production European Lithium (EUR) has scheduled the completion of baseline/environmental impact studies as well as permitting and the start of mine construction for Q1 2019. Management is targeting first production in 2020. Capital costs (still to be financed) are AUD54m for mine construction and AUD175m for the lithium carbonate conversion plant.

Potential for substantial increase in resource estimate/output capacity EUR's ongoing exploration programme includes further deep-hole drilling of Zone 1 and drilling of Zone 2 which is similar in extent and geology to Zone 1. The aim is to increase the measured and indicated resource to over 10m tonnes so that annual average output can be raised well above the 7.1k tonne LCE mark and the mine life extended beyond 13 years.

Experienced management Key management members CEO Steve Kesler, non-Executive Chairman Tony Sage and General Manager Dietrich Wanke each have over 30 years of experience in their respective areas of mining.

FINANCIAL HISTORY & PROJECTIONS

	2015/16A	2016/17A	2017/18E	2018/19E	2019/20E	2020/21E
Revenue (AUD m)	20.19	0.79	0.66	0.01	0.01	83.62
Y-o-y growth	n.a.	-96.1%	-16.0%	-98.2%	25.0%	n.m
EBIT (AUD m)	19.11	-8.00	-1.27	-5.56	-14.28	60.57
EBIT margin	94.7%	-1011.4%	-191.0%	n.m.	n.m.	72.4%
Net income (AUDm)	19.11	-8.01	-1.13	-7.81	-23.90	45.58
EPS (diluted) (AUD)	7.64	-2.02	-0.22	-1.22	-3.69	5.36
DPS (AUD)	0.00	0.00	0.00	0.00	0.00	0.00
FCF (AUD m)	-0.38	-6.51	-5.13	-103.81	-185.73	-16.17
Net gearing	-6.3%	-4.5%	-12.4%	368.5%	-9443.2%	599.7%
Liquid assets (AUD m)	0.34	0.55	3.35	11.12	32.94	16.78

RISKS

If the ongoing penetration of the automotive market by electric vehicles slows or comes to a halt, the lithium price is likely to fall.

COMPANY PROFILE

European Lithium is a mining exploration and development company focusing on its wholly owned Wolfsberg Lithium Project in Austria. The company targets the commencement of production of lithium carbonate/hydroxide for battery factories in 2020.

MARKET DATA

As of 3/6/2018

Closing Price	€ 0.15
Shares outstanding	544.70m
Market Capitalisation	€ 83.88m
52-week Range	€ 0.03 / 0.24
Avg. Volume (12 Months)	1,142,588

Multiples	2016/17A	2017/18E	2018/19E
P/E	n.a.	n.a.	n.a.
EV/Sales	160.2	190.7	n.m.
EV/EBIT	n.a.	n.a.	n.a.
Div. Yield	0.0%	0.0%	0.0%

STOCK OVERVIEW



COMPANY DATA

As of 31 Dec 2017

Liquid Assets	AUD 6.77m
Current Assets	AUD 7.44m
Intangible Assets	AUD 23.60m
Total Assets	AUD 31.29m
Current Liabilities	AUD 0.41m
Shareholders' Equity	AUD 3.09m

SHAREHOLDERS

Cape Lambert Resources	12.2%
Exchange Minerals Ltd.	10.1%
European Lithium	4.6%
Cedarland Consulting	2.9%
Free float and other	70.3%



CONTENTS	PAGE
European Lithium Limited – Executive Summary.....	1
Investment Case.....	3
SWOT Analysis.....	4
Valuation.....	6
The Lithium Market.....	8
The Wolfsberg Lithium Project.....	12
<i>Geology of Wolfsberg Deposit</i>	13
Zone 1 Down Dip Deep Hole Drill Programme.....	17
Zone 2 Exploration Programme.....	20
Mining Concept.....	23
Management.....	25
Board.....	26
Shareholders & Stock Information.....	27
Income Statement.....	28
Balance Sheet.....	29
Cash Flow Statement.....	30



INVESTMENT CASE

Strong demand for lithium in coming years We expect annual demand for the various compounds of lithium to grow from an estimated 235k tonnes of lithium carbonate equivalent (LCE) in 2017 to 693k tonnes by 2026 i.e. at a CAGR of 12.8% with electric vehicle (EV) markets (cars, buses and bicycles) accounting for 77% of incremental demand. Growth in battery demand for EVs is being driven by falling unit costs, subsidies and purchase quotas, as well as increasingly strict regulation of diesel and internal combustion engines.

Lithium-ion battery costs have fallen from USD900/kWh to around USD150/kWh since the beginning of the current decade while internal combustion engine costs are rising as regulatory compliance becomes increasingly onerous. It is realistic to expect that costs for EVs and internal combustion engine-powered cars will converge during the first half of the next decade. In China the government has introduced penalties for manufacturers exceeding internal combustion-engine based car production thresholds. The European Commission proposes to reduce vehicles' CO₂ emissions by 30% by 2030 and both France and the UK will prohibit the sales of internal combustion engine cars from 2040. At the same time recent months have seen a slew of fleet electrification plans from carmakers. VW plans to launch 30 EV models by 2025. BMW plans to offer 25 electrified models including 12 full EVs by 2025 and GM has undertaken to launch 20 new full EVs by 2023.

We expect the lithium carbonate price to remain firm While we expect annual LCE demand to reach 693k tonnes by 2026, major producers have announced output expansion plans which in sum will take nameplate capacity to around 600k tonnes by the middle of this decade. However, if this figure is to be reached, there is little room for error in either financing or execution. The lithium carbonate price has risen by 130% from USD6,700/tonne in mid-2015 to USD15,500 tonne currently. The outlook for the supply demand balance suggests that prices are likely to remain firm.

Ready takers for European Lithium's product among European battery megafactories European battery manufacturers are among the most likely customers for EUR's future output. Annual LCE demand from European battery megafactories so far announced is expected to reach 20,000 tonnes in 2021 and exceed 60,000 tonnes in 2025. There are currently no European producers of battery grade LCE and only two mines (EUR's Wolfsberg project and European Metals' Cinovec project) have realistic prospects of starting production in 2020. The European battery industry should be readily able to accommodate the output of these two companies.

Scope for higher price target on increased resource estimate expected by end 2018 Our valuation of €0.19 per share is based solely on EUR's current JORC (2012) resource estimate of 2.86m measured tonnes grading 1.28% Li₂O and 3.44m indicated tonnes grading 1.08% Li₂O located in Zone 1 of the deposit. Zone 1 corresponds to the northern limb of the anticline at the Wolfsberg project. The southern flank of the anticline (known as Zone 2) is also a prospective area as is indicated by the occurrence of mineralised pegmatites and exactly the same lithology as Zone 1. EUR is currently drilling Zone 2 and is also planning further Zone 1 exploration. In Zone 1 the intention is to explore further the down-dip inferred part of the resource and the high grade veins discovered last year close to surface in a previously unexplored area. We expect the definitive feasibility study (DFS) due by the end of 2018 to incorporate an upgrade in inferred resources to measured or indicated and an increase in the overall measured and indicated resource volume to over 10m tonnes. We will raise our price target in line with upgrades/increases in the resource estimate.



SWOT ANALYSIS

STRENGTHS

- **Likely one of first two European suppliers to local battery megafactories**
European Lithium's Wolfsberg project is likely to find ready takers for its output when it goes into production. The European battery megafactory pipeline currently comprises four units with announced final capacity of 79GWh (23% of the current world total). We expect the pipeline to grow further in the near term but annual LCE demand from plants already announced is expected to reach 20,000 tonnes in 2021 and exceed 60,000 tonnes in 2025. There are currently six major lithium projects in Europe. We think only three of these are realistic candidates to supply the battery industry within five years. These are Wolfsberg, Austria (EUR); Cinovec, Czech Republic (European Metals); Jadar, Serbia (Rio Tinto). Both EUR and European Metals expect to complete definitive feasibility studies this year and could, financing permitting, begin production as early as 2020. Rio Tinto have set a date of 2023 for the start of production at Jadar. Annual LCE output at EUR and European Metals is expected to be 7,100 and 21,000 tonnes respectively. The European battery industry should therefore be readily able to accommodate both companies.
- **EUR has demonstrated production of battery grade $\text{Li}_2\text{CO}_3/\text{LiOH}$** EUR has demonstrated the production of a 6.2% Li_2O spodumene concentrate after two cleaning stages. Batch tests had an overall lithium recovery of 78.6% but in continuous operation, recycling of cleaner tails is expected to boost overall lithium recovery to 85%. Both the spodumene concentrate grade and recovery figure are considered good and sufficient for lithium carbonate/lithium hydroxide production. EUR then demonstrated production of battery grade lithium carbonate (>99.9%) with 86.8% lithium recovery and battery grade lithium hydroxide (>56.5%) with 82.6% lithium recovery from the spodumene concentrate.
- **Historic exploration and infrastructure reduces current project costs** Past operators completed 17,000m of exploration drilling and 1,400m of decline, drives and crosscuts at Wolfsberg. Management estimates that this work has reduced EUR's past and future expenditure on the project by AUD100m.
- **Experienced management team** CEO Steve Kesler has more than 35 years' experience with both major and junior mining companies and in all phases of the mining industry from exploration through to managing operations in multiple commodities including uranium, copper, nickel, zinc, coal/lignite, gold/silver and iron ore. Non-executive Chairman Tony Sage has more than 30 years' experience in corporate advisory services, fund management and capital raising predominantly within the resource sector. Meanwhile, Dietrich Wanke, the General Manager at the Wolfsberg project, has more than 30 years' experience in management at operational level for underground and open cut mines in several countries and commodities including gold/silver, nickel, diamonds, coal and iron.



WEAKNESSES

- **Wolfsberg project located at middle of cost curve** The Wolfsberg project is located at the middle of the lithium production cost curve and would therefore be more vulnerable to production stops in the event of a commodity price downturn than competing projects lower down the cost curve.

OPPORTUNITIES

- **New applications drive accelerating lithium demand growth** Rapidly increasing lithium demand is a tremendous opportunity for EUR. Annual global demand for lithium carbonate grew at a CAGR of 7.2% from 48,000 tonnes to 205,000 tonnes between 1995 and 2016 driven mainly by new applications in mobile phones and digital cameras. We expect annual lithium consumption to grow from an estimated 235,000 tonnes in 2016 to 693,000 tonnes by 2026 i.e. at a CAGR of 12.8% with the electric vehicle (EV) and electric storage markets respectively accounting for 77% and 10% of the 458,000 tonnes of incremental demand.
- **Potential for substantial increase in resource estimate/output capacity** The preliminary feasibility study (PFS) due for publication later this month will be based on the 2.86m measured tonnes grading 1.28% Li₂O and the 3.44m indicated tonnes grading 1.08% Li₂O in EUR's current JORC (2012) resource estimate which relates solely to the northern limb of the mineralised anticline at Wolfsberg (Zone 1 of the deposit). The southern flank of the anticline (known as Zone 2) is also a prospective area as is indicated by the occurrence of mineralised pegmatite boulders and features and exactly the same lithology as Zone 1. EUR is currently drilling Zone 2 and is planning further Zone 1 exploration of the down-dip inferred part of the resource (4.68m tonnes grading 0.78% Li₂O) and the high grade veins discovered last year close to surface in a previously unexplored area. We expect the DFS due by the end of Q3 2018 to incorporate a significant upgrade/increase on the PFS resource estimate. This will facilitate a higher annual average production rate/longer mine life than the 7,100 tonnes Li₂CO₃/13 years we expect to feature in the PFS.

THREATS

- **EUR is dependent on raising capital through the markets** EUR began calendar 2018 with cash of AUD6.7m. The preliminary feasibility study (PFS) due later this month and the ongoing Zone 2 drilling programme are fully financed. But EUR will require additional funding of ca. AUD19m to undertake the definitive feasibility study (DFS) which is due to start immediately after completion of the PFS. The post-DFS roadmap to production includes capital expenditure of AUD54m for mine construction and AUD175m for the lithium carbonate conversion plant. There is no assurance that EUR will be able to raise this money.
- **EVs fail to establish themselves** There is a risk that if EVs fail to achieve significant market share, lithium prices will fall and production at Wolfsberg will not be viable.
- **Emergence of substitutes for lithium** Given its status as the metal with the highest electrochemical potential, it is hard to imagine future electric automotive power trains dispensing with lithium. However the emergence of substitutes cannot be ruled out.



VALUATION

Figure 1: Valuation Model

	18/19E	19/20E	20/21E	21/22E	22/23E	23/24E	24/25E	25/26E	26/27E	27/28E	28/29E	29/30E	30/31E	31/32E	32/33E
Total mined (k tonnes)			649.3	657.2	627.7	666.4	659.0	663.4	653.7	642.3	554.4	500.1	492.2	481.3	439.9
Mill feed after sorting (k tonnes)			422.2	427.4	408.1	433.3	428.5	431.4	425.1	417.6	360.5	325.2	320.0	312.9	286.1
Mill feed grade (%)			0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Contained Li ₂ O (tonnes)			4,138	4,188	4,000	4,246	4,200	4,227	4,166	4,093	3,533	3,187	3,136	3,067	2,804
Recovery rate (%)			76.4	76.4	76.4	76.4	76.4	76.4	76.4	76.4	76.4	76.4	76.4	76.4	76.4
Recovered Li ₂ O (tonnes)			3,162	3,201	3,057	3,245	3,209	3,231	3,183	3,128	2,700	2,436	2,397	2,344	2,142
Recovered Li₂CO₃ (tonnes)			7,820	7,915	7,559	8,025	7,937	7,989	7,873	7,735	6,677	6,023	5,927	5,796	5,298
Li ₂ CO ₃ price (USD/tonne)			15,500	15,500	15,500	15,500	15,500	15,500	15,500	15,500	15,500	15,500	15,500	15,500	15,500
Li ₂ CO ₃ revenue (USDm)			121.2	122.7	117.2	124.4	123.0	123.8	122.0	119.9	103.5	93.4	91.9	89.8	82.1
By-products (USDm)			9.3	9.3	9.3	9.3	9.3	9.3	9.3	9.3	9.3	9.3	9.3	9.3	9.3
Total revenue (USDm)			130.6	132.0	126.5	133.7	132.4	133.2	131.4	129.2	112.8	102.7	101.2	99.2	91.5
Direct mining and sorting cost (USD4,179/t Li ₂ CO ₃)			32.7	33.1	31.6	33.5	33.2	33.4	32.9	32.3	27.9	25.2	24.8	24.2	22.1
Processing and G&A cost (USD2,085/t Li ₂ CO ₃)			16.3	16.5	15.8	16.7	16.5	16.7	16.4	16.1	13.9	12.6	12.4	12.1	11.0
EBITDA (USDm)			81.6	82.5	79.2	83.5	82.7	83.1	82.1	80.8	71.0	65.0	64.1	62.9	58.3
Depreciation (USDm)			15.1	15.3	14.6	15.5	15.3	15.4	15.2	14.9	12.9	11.6	11.4	11.2	10.2
EBIT (USDm)			66.5	67.2	64.6	68.0	67.3	67.7	66.9	65.8	58.1	53.3	52.6	51.7	48.0
25% tax (USDm)			16.6	16.8	16.1	17.0	16.8	16.9	16.7	16.5	14.5	13.3	13.2	12.9	12.0
NOPAT USDm)			65.0	65.7	63.0	66.5	65.8	66.2	65.3	64.3	56.5	51.6	50.9	50.0	46.3
Capital cost mine (USDm)	26.9	26.9													
Capital cost processing plant (USDm)	87.5	87.5													
Net cashflow (USDm)	-114.4	-114.4	65.0	65.7	63.0	66.5	65.8	66.2	65.3	64.3	56.5	51.6	50.9	50.0	46.3
NPV net cashflows (discount rate: 10%)	-100.9	-91.7	47.4	43.5	38.0	36.4	32.8	30.0	26.9	24.1	19.2	16.0	14.3	12.8	10.7
Sum NPVs (USDm)	159.3														
Sum NPVs (AUDm)	204.1														
End December 2017 net cash position (AUDm)	6.7														
Proceeds of option exercise (AUDm)	22.7														
Pre-production equity capital raise (AUDm)	19.2														
Total equity valuation	252.7														
End December 2017 shares outstanding (m)	544.7														
No. shares issued against option exercise (m)	214.1														
No. shares issued through equity capital raise (m)	89.0														
Proforma share count (m)	847.8														
Value per share (AUD)	0.298														
Value per share (€)	0.187														

Source: SRK Consulting, European Lithium, First Berlin Equity Research estimates

Figure 1 above shows our valuation model for EUR. Our valuation of €0.19 per share is based solely on EUR's current JORC (2012) resource estimate. This shows 2.86m measured tonnes grading 1.28% Li₂O and 3.44m indicated tonnes grading 1.08% Li₂O. This resource estimate supports a 13 year mine life and annual average lithium carbonate output of 7,121 tonnes. It will also be the basis of a PFS due to be published by the end of this month. As we pointed out in the Investment Case, we will raise our price target in line with upgrades/increases in the resource estimate. We expect an upgraded/increased resource estimate to feature in the DFS due by the end of this year.

In April 2017 lithium carbonate was trading in Europe at USD10,500 tonne. As we explain elsewhere in this report, we think it realistic that the current price of USD15,500 will at least be maintained and so we have assumed this number throughout our model.

The other main assumptions underlying our model are as follows:

- capital cost of mine construction: USD53.8m
- capital cost of process plant: USD175m.
- tax charge of 25%.
- annual USD9.3m in sales of by-products (feldspar, quartz, mica, sodium sulphate).
- industry standard discount rate of 10%.



EUR currently has 214.1m options outstanding. These are exercisable at various prices as shown in figure 2 below. Exercise would generate proceeds of AUD22.7m. EUR had net cash of AUD6.7m at end December 2017. We assume that the definitive feasibility, baseline and environmental impact studies, permitting and other operating costs will consume ca. AUD19m ahead of the start of production. We have modelled the issue of 89m shares raising net proceeds of AUD19.2m to cover this sum. Our valuation of the Wolfsberg project is AUD204m. On a proforma fully diluted basis and based on a EURAUD exchange rate of 1.59, this becomes €0.19 per share. Our recommendation is Add.

Figure 2: Options outstanding at 31 December 2017

Date of expiry	Status	Exercise price	No. options
27/02/2020	Unlisted	AUD 0.125	3,000,000
30/06/2020	Unlisted	AUD 0.10	200,000,000
31/03/2020	Unlisted	AUD 0.05	2,394,444
31/05/2019	Unlisted	AUD 0.25	8,705,556
			<u>214,100,000</u>

Source: *European Lithium*



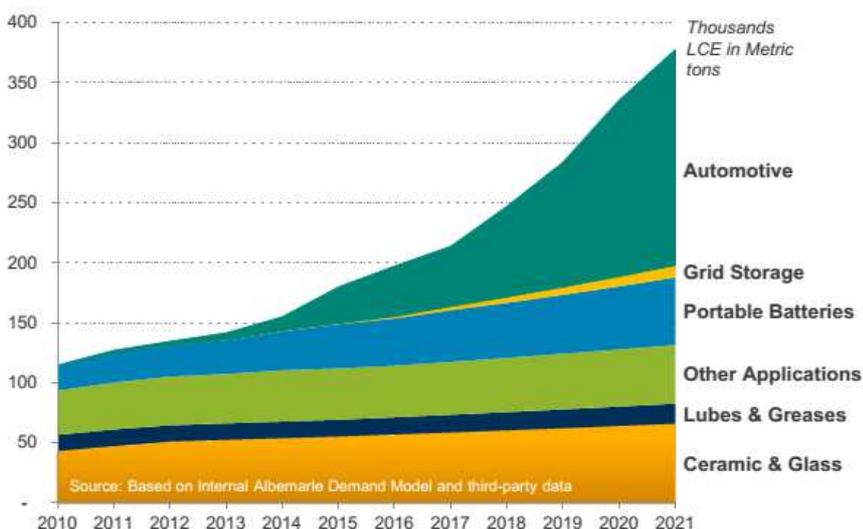
THE LITHIUM MARKET

Li₂CO₃ most widely used form of Li; 2015 Li₂CO₃ equivalent demand:189,000 tonnes

Lithium is a soft silvery metal belonging to the group one elements in the periodic table known as the alkali metals. Like the other alkali metals, lithium is highly reactive. For this reason it never occurs freely in nature but appears in compounds. The main applications for lithium are also primarily based on various compounds of the metal such as lithium carbonate (Li₂CO₃), lithium hydroxide (LiOH) and lithium oxide (Li₂O). Li₂CO₃ is the most widely used of these compounds and the overall size of the lithium market is often expressed in terms of lithium carbonate equivalent (LCE). In 2015, world LCE demand was 189,000 tonnes of which Li₂CO₃ accounted for around 50%, LiOH for 20% and technical grade Li₂O concentrate for 15%. Other compounds such as lithium chloride (LiCl) and butyllithium (C₄H₉Li) made up the balance. Li₂CO₃ at a purity of 98.5%-99% is used in industrial products while battery applications require a purity of over 99.5%. LiOH is typically used in lithium nickel manganese cobalt oxide (NMC) and lithium nickel cobalt aluminium oxide (NCA) batteries. Technical grade lithium oxide concentrate is supplied at a grade of at least 6.5% Li₂O and is used in the glass and ceramics industries.

Demand for EV batteries driving increase in LCE demand growth World annual LCE consumption increased from less than a hundred tonnes in the early twentieth century to 40,000 tonnes by the mid-1990s. The main applications for LCE in the mid-1990s were in the air conditioning, aluminium, battery, ceramics, glass, lubricants, pharmaceuticals, plastics and synthetic rubber industries. Annual consumption jumped to 68,000 tonnes by 2000 spurred by new applications in monochromatic computer monitors, mobile phones and digital cameras. Demand for portable batteries from the latter two applications continued to push demand in the early years of the 21st century and consumption reached 150,000 tonnes by 2012. Demand was flat in 2013 and by historical standards grew by only a relatively modest 4% to 156,000 tonnes in 2014. The coming on stream of new capacity during this period caused lithium prices to soften and put the further development of many projects on hold. However, demand jumped by 28,000 tonnes (+18%) in 2015 to 184,000 tonnes with electric vehicles accounting for 15,000 tonnes or over half of incremental demand. We expect electric vehicles (EVs) to be the main driver of lithium demand in coming years (see figure 3 below).

Figure 3: Main drivers of lithium demand to 2021



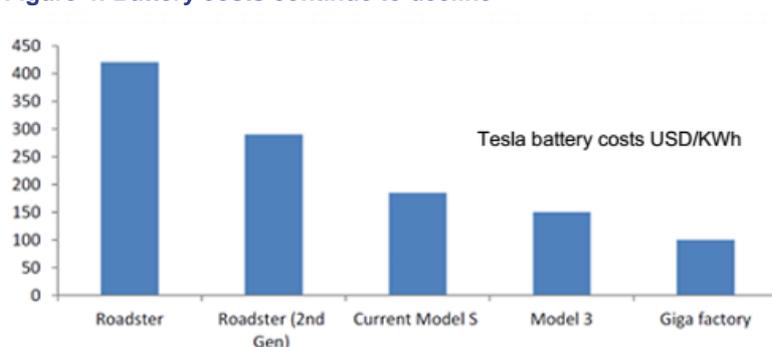
Source: Albemarle Inc.



Falling costs, stricter regulation of conventional cars, subsidies drive EV battery demand Growth in battery demand for EVs is being driven by falling unit costs, subsidies and purchase quotas, as well as increasingly strict regulation of diesel and internal combustion engines.

Lithium-ion battery costs have fallen from USD900/kWh to around USD150/kWh since the beginning of the current decade prompting a sharp rise in demand for batteries. Electric vehicles have led this development. We expect the lithium-ion battery industry will realise further economies of scale through the addition of new large scale manufacturing capacity (see figure 4).

Figure 4: Battery costs continue to decline



Source: Pilbara Minerals Ltd.

Incentives, quotas and penalties to promote EVs China overtook the USA as the world's largest EV market in 2015. The Chinese authorities are stimulating EV demand through a raft of policies, incentives, quotas and penalties. A nationwide charging infrastructure is being built to support a target of 5 million NEVs (new electric vehicles) by 2020. The Government has also initiated a credit system encouraging car manufacturers to target NEV production percentages of 8%, 10% and 12% over the next 3 years and has introduced penalties for manufacturers exceeding certain internal combustion-engine based car production thresholds. Measures introduced by governments in other countries to promote the adoption of EVs and car manufacturers' plans to electrify their fleets are summarised in figure 5 below:

Figure 5: Carmaker announcements/Government measures to promote EV adoption/

Automaker Targets	Government Policies
VW plans to launch 30 new EV models by 2025 which should account for 25% of total sales in 2025	European Commission proposes to reduce vehicles 'CO ₂ emissions by 30% by 2030/ No more sales of internal combustion engines (ICE) from 2040 (France/UK) or 2025 (Netherlands)
Honda intends to release dedicated EVs in China in 2018	
All new Volvo models will have full or partial electric engines by 2019	
BMW plans to offer 25 electrified models, with 12 full EVs by 2025	China introducing a significant cap and trade mechanism that forces local car manufacturers to meet quotas of EVs
Jaguar have stated that their new models from 2020 will be electric	India: EV penetration target of 40% in 2032
GM plans to introduce 2 new EVs in the next 18 months, and then at least 20 new "all electric vehicles" by 2023	Norway: ban on sales of gas and diesel cars by 2025
Tesla launched Model 3 in July 2017. The company is targeting production of 5k units/week by end Q2	US: US\$7,500 federal subsidy + ZEV regulation
Nissan introduced Leaf full model change in Sep 2017 aimed at millennial market	
Renault: Electrified fleet to include 8 pure electric vehicles and 12 electrified models	Japan: US\$100 subsidy per kWh battery

Source: Car manufacturers, EU, national governments



EV's likely to become cheaper than internal combustion engine cars in early 2020s

While electric power train costs are falling, internal combustion engine-based power train costs are likely to rise as the costs of compliance with more demanding fuel economy regulations become increasingly onerous. Indeed, it is realistic to expect that costs for EVs and internal combustion engine-powered cars will converge during the first half of the next decade. Once this happens, EVs are likely to supplant internal combustion engine-powered cars in the mainstream.

Battery manufacturers' plans coming thick and fast Recent months have seen a slew of capacity addition announcements by battery manufacturers. Total global pipeline capacity is currently 338GWh comprised of 25 megafactories. Four of these megafactories - accounting for 23% of pipeline capacity - are slated for Europe (LG Chem in Poland; Northvolt in Sweden, Terra E Holding in Germany, SK Innovation in Hungary). These projects are a likely source of demand for future production from the Wolfsberg mine.

Forecast 6: Forecast LCE demand growth

	2017E	2018E	2019E	2020E	2021E	2022E	2023E	2024E	2025E	2026E	CAGR 17-26E
Electric vehicles	64.0	94.0	132.0	172.0	220.0	257.0	293.0	338.0	383.0	417.0	23.2%
% Δ	841.2%	46.9%	40.4%	30.3%	27.9%	16.8%	14.0%	15.4%	13.3%	8.9%	
Energy storage	1.2	2.0	4.0	9.0	13.0	18.0	24.0	31.0	37.0	40.0	47.6%
% Δ	100.0%	66.7%	100.0%	125.0%	44.4%	38.5%	33.3%	29.2%	19.4%	8.1%	
Batteries (established markets)	48.0	50.0	52.5	55.0	57.5	60.0	62.5	65.0	67.5	70.0	4.3%
% Δ	6.7%	4.2%	5.0%	4.8%	4.5%	4.3%	4.2%	4.0%	3.8%	3.7%	
Other	121.8	127.0	132.5	137.0	141.4	146.5	150.9	156.9	161.7	166.3	3.5%
% Δ	6.0%	4.3%	4.3%	3.4%	3.2%	3.6%	3.0%	4.0%	3.1%	2.8%	
Total	235.0	273.0	321.0	373.0	431.9	481.5	530.4	590.9	649.2	693.3	12.8%
% Δ	14.5%	16.2%	17.6%	16.2%	15.8%	11.5%	10.2%	11.4%	9.9%	6.8%	

Source: First Berlin Equity Research estimates

We see EVs accounting for 75% of incremental LCE demand during 2017-2026 We expect annual LCE demand to grow from an estimated 235k tonnes in 2017 to 693k tonnes by 2026 i.e. at a CAGR of 12.8% with EV markets (cars, buses and bicycles) accounting for 77% of incremental demand. By 2026 we expect these three applications to account for 60% of demand with today's established applications making up the balance of 40%. Major producers have announced output expansion plans which in sum will take nameplate capacity to around 600k tonnes. However, if this figure is to be reached, there is little room for error in either financing or execution. The lithium carbonate price has risen by 130% from USD6,700/tonne in mid-2015 to USD15,500/tonne currently. The outlook for the supply demand balance suggests that prices are likely to remain firm in the medium term.

Most of the world's lithium sourced from lithium brine and hard rock deposits The two major sources of lithium are brine deposits and hard rock deposits. Lithium was historically sourced predominantly from hard rock but in the early 1980's large scale production began from south American brine deposits.

Brine deposits accounted for 67% of 2015 lithium production and 75% of reserves

We estimate that brine deposits accounted for around 67% of world lithium production in 2015, with hard rock sources accounting for most of the balance. Brine deposits make up around 75% of world lithium reserves and are located in the salt flats of Chile, Argentina, China and Tibet. The most productive lithium brine deposits in the world are located in the so-called lithium triangle which extends over parts of Chile, Argentina and Bolivia.

Hard rock lithium deposits usually hosted in pegmatite/spodumene

Most hard rock lithium deposits are hosted in pegmatite which is a coarse-grained intrusive igneous rock formed from crystallized magma below the earth's crust. Lithium in pegmatite is usually found in the mineral spodumene. Australia, Austria, Alaska, Canada, the Czech Republic, Ireland, Finland and Serbia all have significant pegmatite/spodumene deposits. The world's largest producing pegmatite/spodumene-based lithium mine is Greenbushes in Australia, which in 2015 accounted for one third of world LCE output.



Economics of brine and hard rock deposits Lithium brine operations are generally more capital intensive than their hard rock counterparts but have lower operating costs and greater economies of scale. Lithium brine deposits' lower operating costs stem from the fact that the lithium is in solution within the deposit. Pegmatite, on the other hand, is a very hard ore and crushing and grinding costs are correspondingly high. Another consideration is that it takes longer to increase capacity at brine operations due to technical issues. Lead times are further extended by the evaporation process which is weather-dependent.

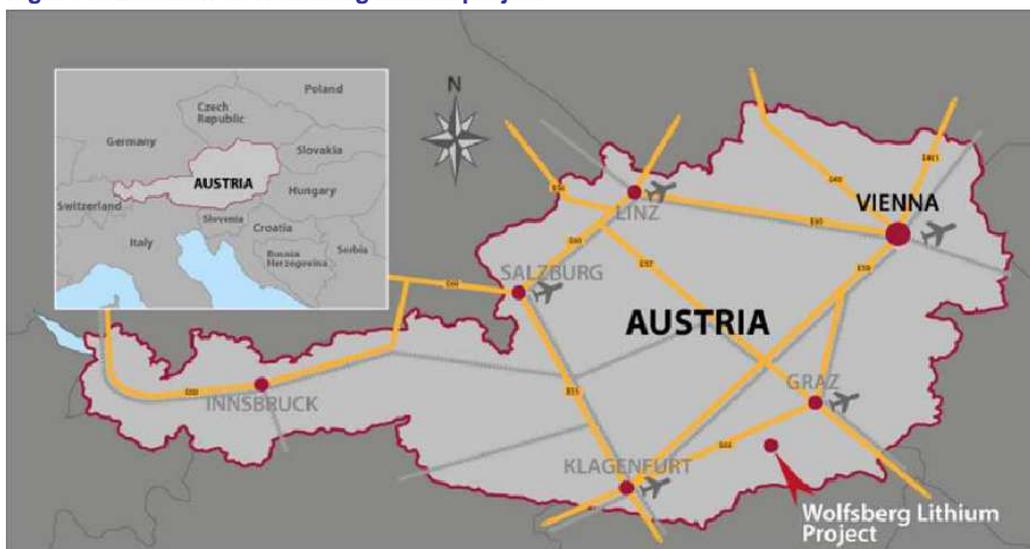
The lithium market is currently an oligopoly Four producers - Albermarle, SQM, FMC, and Tianqi - accounted for over 80% of global lithium supply in 2014. Albermarle is the market leader and the only major producer with significant exposure to both hard rock and brine deposits. Albermarle has a 49% stake in Greenbushes in Australia (Tianqi controls the other 51%) and along with SQM also mines the Salar de Atacama in Chile. FMC's main operation is extraction from the Salar de Hombre Muerto in Argentina.



THE WOLFSBERG LITHIUM PROJECT

European Lithium (EUR) is a mining exploration and development company focused on its wholly owned Wolfsberg Lithium Project in Austria. The Wolfsberg lithium deposit is located in the province of Carinthia in southern Austria, approximately 20 km east of the town of Wolfsberg and approximately 270 km to the southwest of Austria’s capital city Vienna.

Figure 7: Location of Wolfsberg lithium project



Source: European Lithium

The deposit was discovered in 1981 by Mineral-Explorationsgesellschaft m.b.H. (Minerex), an Austrian state mining company. Between 1981 and 1987 exploration work including 10,000m of trenching, 17,000m of drilling and 1,400m of underground development was carried out at the property.

Figure 8: Summary of Minerex exploration work

Exploration work	Parameters	
Exploration trenches (surface)	number/volume	35/9,940m ³
Core drilling (surface)	number/length	64/12,012m
Decline drift from surface	length	417.6m
Decline underground (between veins)	length	119.2m
Drift following vein (along strike)	length	853.7m
Core drilling (underground)	number/length	37/4,715m

Source: European Lithium

This exploration work culminated in the production of a resource declaration for Zone 1 of the deposit (the northern limb of the mineralised anticline) of 18m tonnes at 1.3% Li₂O based on Austrian reporting codes. Work on the deposit stopped in 1987 because the lithium price and demand did not justify proceeding.

In 2011 the Australian Stock Exchange-listed companies Exchange Minerals Limited and Global Strategic Minerals acquired the Wolfsberg project through their company, ECM. The Austrian mining consultancy company Mine-IT carried out resource modelling at the site and produced a resource estimate totalling 16.9m tonnes (see figure 12 overleaf) in compliance with Joint Ore Reserves Committee Code (JORC Code) (2004).

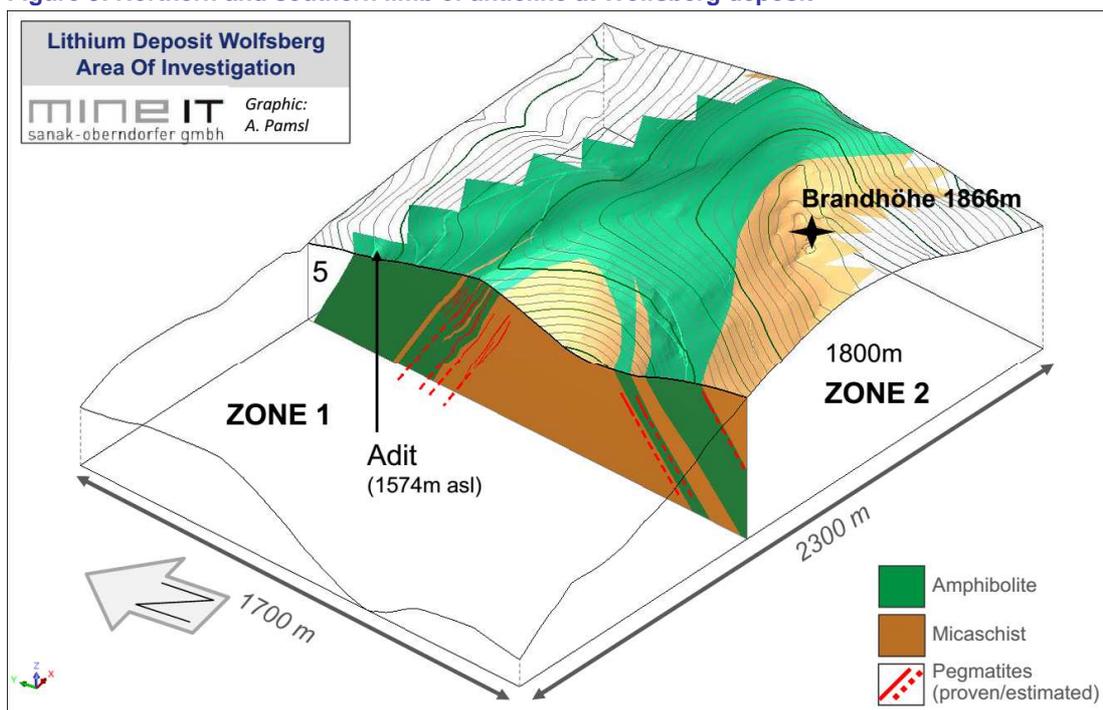
In 2012 ECM identified additional lithium-bearing pegmatites on the southern limb of the mineralised anticline (Zone 2 of the deposit) but did not produce a resource estimate for this part of the property.

Global Strategic Minerals delisted from the Australian Stock Exchange (ASX) in late 2014 and demerged the project company, ECM, and its holding company, European Lithium Limited. Paynes Find Gold acquired European Lithium Limited through a reverse takeover in September 2016, took over the name, and was subsequently readmitted to the ASX under the code EUR. EUR listed its shares on the Frankfurt Stock Exchange in October 2016 and on the Vienna Stock Exchange in October 2017.

GEOLOGY OF WOLFSBERG DEPOSIT

The project area is characterised by a sequence of quartzitic, locally kyanite-bearing micaschists and eclogitic amphibolites. The amphibolites (AHP) are finely laminated, greenish rocks, mainly composed of amphibolite, plagioclase, and minor quartz. The micaschists (MHP) are predominantly quartzitic and mainly composed of muscovite, quartz, garnet and biotite. The Wolfsberg mineralisation consists of a series of spodumene-bearing pegmatites as dyke-like intrusions in the amphibolites and mica-schist horizons. The exploration work carried out by Minerex in the 1980s focused on the pegmatite-dikes situated along the “Brandrücken” to the WNW of the “Brandhöhe” (see figure 9).

Figure 9: Northern and southern limb of anticline at Wolfsberg deposit



Source: European Lithium

This part of the deposit is referred to as Zone 1. The pegmatites occur on the flank of a westward plunging anticline and uniformly strike WNW-ESE and dip moderately to the NNE at an average angle of 60°. A number outcrop on the mountainside and have been traced over a distance of approximately 1.5km and to a depth of about 450 m. These dykes (locally termed veins) typically average 1.5-2.0m in thickness, although they can locally swell to over 5m. The veins, particularly the finer-grained pegmatites in the MHP, have remarkably consistent characteristics along strike and dip.

The “Brandrücken” represents the northern flank of a roughly E – W striking anticline. During the exploration of Zone 1 Minerex identified the 15 major veins detailed in figure 10 below. The southern flank of the anticline (known as Zone 2) is also a prospective area as is indicated by the occurrence of mineralised pegmatite boulders. The lithology of Zone 2 is exactly the same as in Zone 1, composed of AHP, MHP and the characteristic spodumene bearing pegmatites.

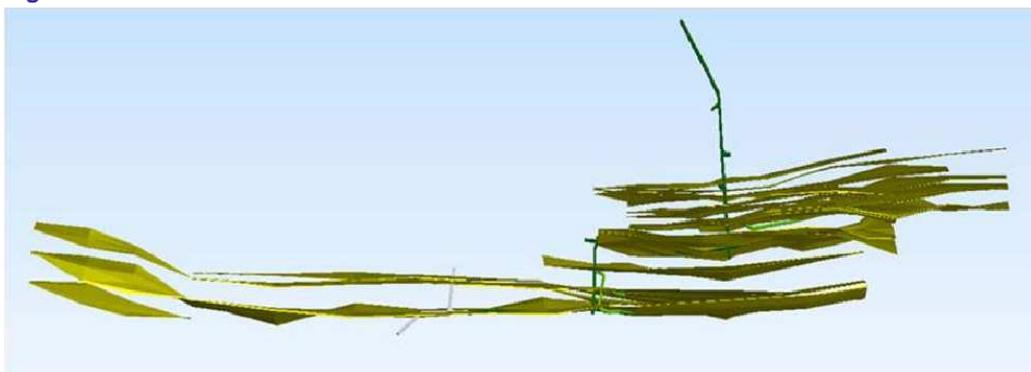
Figure 10: 15 major Zone 1 veins identified by Minerex

vein	source	host rock	maximum extension (m)	
			horizontal	vertical
0.0	Minerex	AHP	460	175
0.1	Minerex	AHP	640	160
0.2	Minerex	AHP	100	180
0.3	Minerex	AHP	500	180
1.1	Minerex	AHP	590	190
1.2	Minerex	AHP	590	190
2.1	Minerex	AHP	590	235
2.2	Minerex	AHP	310	180
3.1	Minerex	AHP	460	350
3.2	Minerex	AHP	460	310
4	Minerex	AHP	500	225
6.1	Minerex	MHP	550	80
6.2	Minerex	MHP	1,300	350
7	Minerex	MHP	1,300	250
8	Minerex	MHP	260	80

Source: European Lithium

A mine access was developed by Minerex with tunnels following major veins in both AHP and MHP which confirmed the continuity of the veins along strike. Figure 11 shows a plan view of veins identified as of November 2016 and also shows the mine access adit and tunnels (green).

Figure 11: Plan view of veins identified as of November 2016/access adit and tunnels



Source: European Lithium



Several resource estimates have been produced for the Wolfsberg property over the past 30 years (see figure 12).

Figure 12: Wolfsberg project resource estimates 1987-2017

Company	Date	Code	Type	Million tonnes Li ₂ O	Cut-off grade	Grade	Tonnes in situ Li ₂ O
Minerex	1987	Austrian reporting codes		18.00		1.30%	234,000
ECM	2011/12	JORC 2004	Measured	3.70	0.75%	1.50%	55,500
			Indicated	3.20	0.00%	1.20%	38,400
			Inferred	10.00	0.00%	1.20%	120,000
			Total	16.90		1.27%	213,900
Paynes Fine Gold	2016	JORC 2012	Inferred	3.70		1.50%	55,500
European Lithium	Nov-16	JORC 2012	Measured	2.86		1.28%	36,608
			Indicated	3.44		1.08%	37,152
			Total	6.30		1.17%	73,760
European Lithium	Jul-17	JORC 2012	Measured	2.86		1.28%	36,608
			Indicated	3.44		1.08%	37,152
			Inferred	4.68		0.78%	36,504
			Total	10.98		1.00%	110,264

Source: *European Lithium*

All resource estimates, including the current numbers, based solely on Zone 1 All of these resource estimates, including the current estimate dating from July 2017, are based solely on exploration work at Zone 1. One of the exploration holes drilled by Minerex intersected pegmatite veins at about RL1,250m. The other Minerex drill holes stopped above RL1,300m. All but 3.7m tonnes of the resource estimates declared by Minerex and later by ECM (which used Minerex data) were based on extrapolation of the vein structure to RL1,100m. In addition, due to the passage of time and changes of ownership the drill core and original QA/QC protocols from the Minerex drilling programme can no longer be found.

Under JORC Code (2012), resources can only be declared after sampling, which in this situation required drilling. This is why the Paynes Find Gold resource estimate of June 2016, which appeared in the prospectus accompanying the reverse takeover transaction, showed the measured 3.7m tonnes from the ECM resource estimate only as an inferred resource. The indicated 3.2m tonnes and the inferred 10.0m tonnes shown in the ECM resource estimate of 2011/12 were disregarded.

EUR verification of the Minerex data In order to raise and upgrade the resource estimate in compliance with JORC Code (2012), EUR carried out a channel sampling and twin hole drilling programme in September 2016 to verify the Minerex data. The verification programme comprised:

- channel sampling along exposed pegmatite veins in the underground drifts to replicate the channel sampling conducted by Minerex. 40 channel samples were taken from vein 2.1 in amphibolite over a sampled strike length of 140m.
- The average grade of the samples was 1.80% Li₂O and the average vein width was 1.74m. 40 channel samples were taken from vein 3.1 in AHP over a sampled strike length of 145m. The average grade of the samples was 1.82% Li₂O and the average vein width was 2.19m. The sampled strike length of vein 7 in mica schist was shorter at 40m because of access restrictions. The average grade of the 9 samples taken was 1.31% Li₂O and the average vein width was 2.49m.



- Twin hole drilling from underground to compare the drill core logs from Minerex for seven drill holes selected to maximise the number of pegmatite intersections. Minerex drilled from both surface and underground. For the twin hole drilling programme EUR decided to twin a number of the underground drill holes as they provided the largest number of pegmatite intersections within the shortest drilling distance.
- Seven Minerex drill holes drilled perpendicular to the dip of the veins were selected that intersected pegmatite veins in both AHP and MHP host rocks. Twin hole collars were located within an average of 5.5 metres of the original Minerex drill holes and also oriented perpendicular to the dip of the veins. EUR drilled a total of 829.6m which was 17.6% of the underground metres drilled by Minerex and 5% of the total metres drilled by Minerex from surface and underground.

The verification programme was successful and on 21 November EUR declared a 75% increase in JORC code compliant resource tonnes to 6.3m tonnes (see figure 12 above).

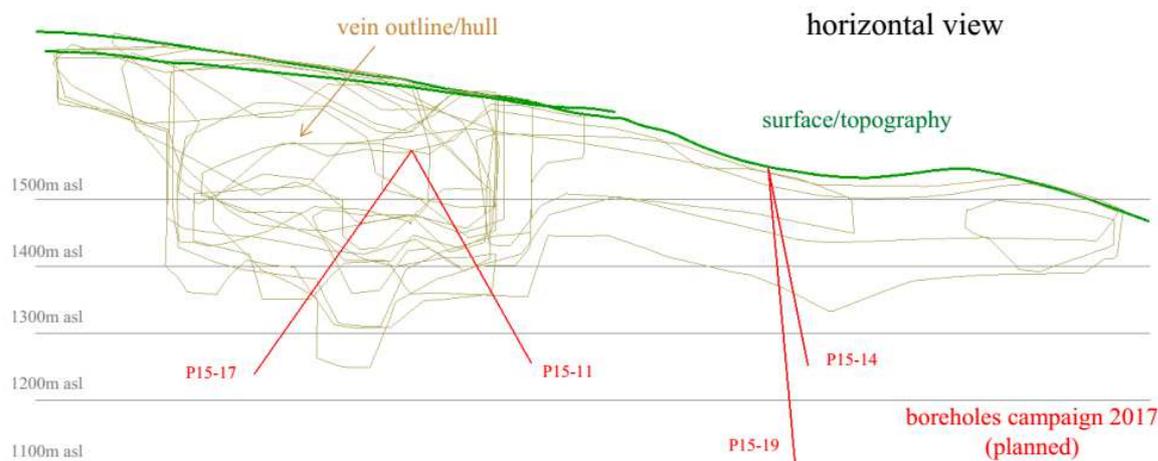
October 2016 announcement of down dip exploration of Zone 1, exploration of Zone 2

The Minerex drilling programme showed a maximum strike extension of 590 metres for AHP and 1,300 metres for MHP with maximum extension down dip for both at 350 metres from ca. RL1,700m to RL1,350m. The down dip extension was only limited by the depth of drill holes made at that time. In late October 2016 EUR announced a surface drilling exploration programme aimed at extension of the resource down dip in Zone 1 and investigation of the mineralisation in Zone 2.

ZONE 1 DOWN DIP DEEP HOLE DRILL PROGRAMME

EUR's down dip deep drill hole programme began in Spring 2017 and comprised four surface drill holes (see figure 13 below). As mentioned above, the deepest exploration hole drilled by Minerex intersected pegmatite veins at about RL1,250m. All four EUR drill holes were drilled along strike from the Minerex deep hole.

Figure 13: Spring 2017 deep drill hole locations



Source: European Lithium

Three drill holes (PF-11, PF-17 and PF-14) were each about 500m in length, and targeted the intersection of pegmatite veins at RL1,250m. A fourth drill hole (P15-19) targeted the intersection of pegmatite veins at RL1,100m. Drill holes P15-11 and P15-17 were drilled from outside the mine entrance and drill holes P15-14 and P15-19 were drilled west of the mine entrance about half way along the known strike of the MHP-hosted pegmatite.

P15-11 intersected numerous fairly thin veins in the AHP. The primary target was the deeper MHP and a vein packet of 4.28m comprising 2.71m of mineralised veins with a composited grade of 0.73% Li₂O was intersected from 405m down dip (RL1,273m).

P15-17 intersected a number of pegmatite veins in the AHP including a vein package of 6.2m comprising 4.33m of mineralised veins with a composited grade of 1.9% Li₂O at 325m down dip (RL1,359m). P15-17 also intersected pegmatite at 460m down dip (RL1270m) in the mica schist (MHP) but the thickness was appreciably lower than generally found at higher elevations.

P15-19 was targeted deeper into the mica schist to RL1,100m. Drilling commenced through an initial AHP zone that was not thought to have potential for pegmatite veins. Unexpectedly, significant intersections of pegmatite in the initial AHP were obtained including a packet of 2.67 metres with 2.03 metres of mineralised veins at 2.01% Li₂O. Only thin pegmatite veins were encountered in the mica schist. On the basis of a single drill hole, it is not possible to know whether the pegmatite veins are generally thinning out at this depth.

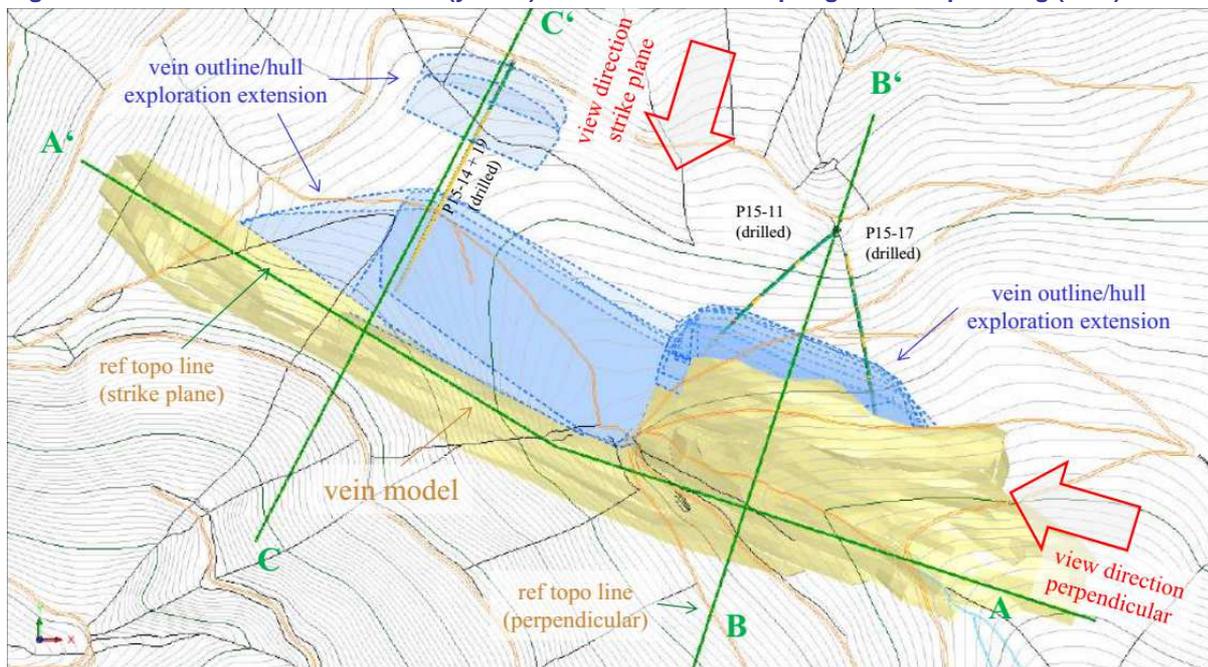
P15-14 intersected a 3.62m package of pegmatite veins in the MHP comprising 2.03 metres of mineralised veins with a composited grade of 1.00% Li₂O at about RL1,260m. Again significant intersections of pegmatite in the initial AHP were obtained including two significant intersections within 50-70 metres of surface of 2.33 metres assaying 1.44% Li₂O and 1.01 metres assaying 1.56% Li₂O. This AHP area has extended strike and merits further exploration.

Deep drilling shows major AHP veins extend down to RL1,300m... Results of the deep drilling programme published in April and May 2017 show that the major AHP veins (veins 1.1 to 3.2) extend down to a lower elevation of about RL1,300m. The average weighted thickness of the AHP veins in the November 2016 resource estimate was 1.36m. We calculate the average weighted thickness of the AHP veins added to the resource estimate through the deep drill hole programme (see figure 15) at 1.17m. This shows that the thickness of these veins persists at depth and indicates that drilling the AHP deeper than 1,300m RL should result in additional resource. The weighted average Li_2O grade at depth for the AHP veins was 0.87% compared with 1.27% for the November 2016 resource estimate.

...MHP veins extend down to RL1,200-1,250m for vein 4, RL1,130m for vein 7 The April/May drilling results also show that the major MHP veins (veins 4 to 7) extend down to RL1,200-1,250m for vein 4 and RL1,130m for vein 7. The average weighted thickness of the AHP veins in the November 2016 resource estimate was 2.06m. We calculate the average weighted thickness of the AHP veins added to the resource estimate through the deep drill hole programme (see figure 15 overleaf) at 1.31m. The weighted average Li_2O grade at depth for the MHP veins was 0.75% compared with 1.10% for the November 2016 resource estimate. Indications that the MHP veins are thinning out and decreasing in lithium grade with depth suggest that RL1,250m is the practical limit of the down dip extension of the resource.

Figure 14 shows the November 2016 vein model (yellow) and its extension as a result of the Spring 2017 deep drilling programme (blue).

Figure 14: November 2016 vein model (yellow) and extension due Spring 2017 deep drilling (blue)



Source: European Lithium

Resource estimate increased in July 2017 following deep drilling programme EUR increased its resource estimate on the basis of the deep drilling programme (see figure 12). The deep drilling programme added inferred resource of 4.68m tonnes grading 0.79% to the November 2016 resource estimate of 2.86m tonnes grading 1.28% measured and 3.44m tonnes grading 1.08% indicated.



Grade and thickness of the resource are generally lower at depth Weighted average grade and vein thickness in the November 2016 resource estimate are 1.19% Li₂O and 1.67m respectively. For the added inferred resource these figures are respectively 0.79% Li₂O and 1.26m. Grade and vein thickness are lower for the inferred resource than for the measured and indicated resource because, as we have seen above, the deposit generally shows lower grades and thickness at depth.

As far as grade is concerned, as figure 15 shows, this is generally lower in the MHP than in the AHP. In the November 2016 resource estimate the MHP:AHP weighting is approximately 50:50. In the inferred resource added through the deep drilling programme, the MHP:AHP weighting is 70:30.

Figure 15: Addition to resource estimate following deep drill programme

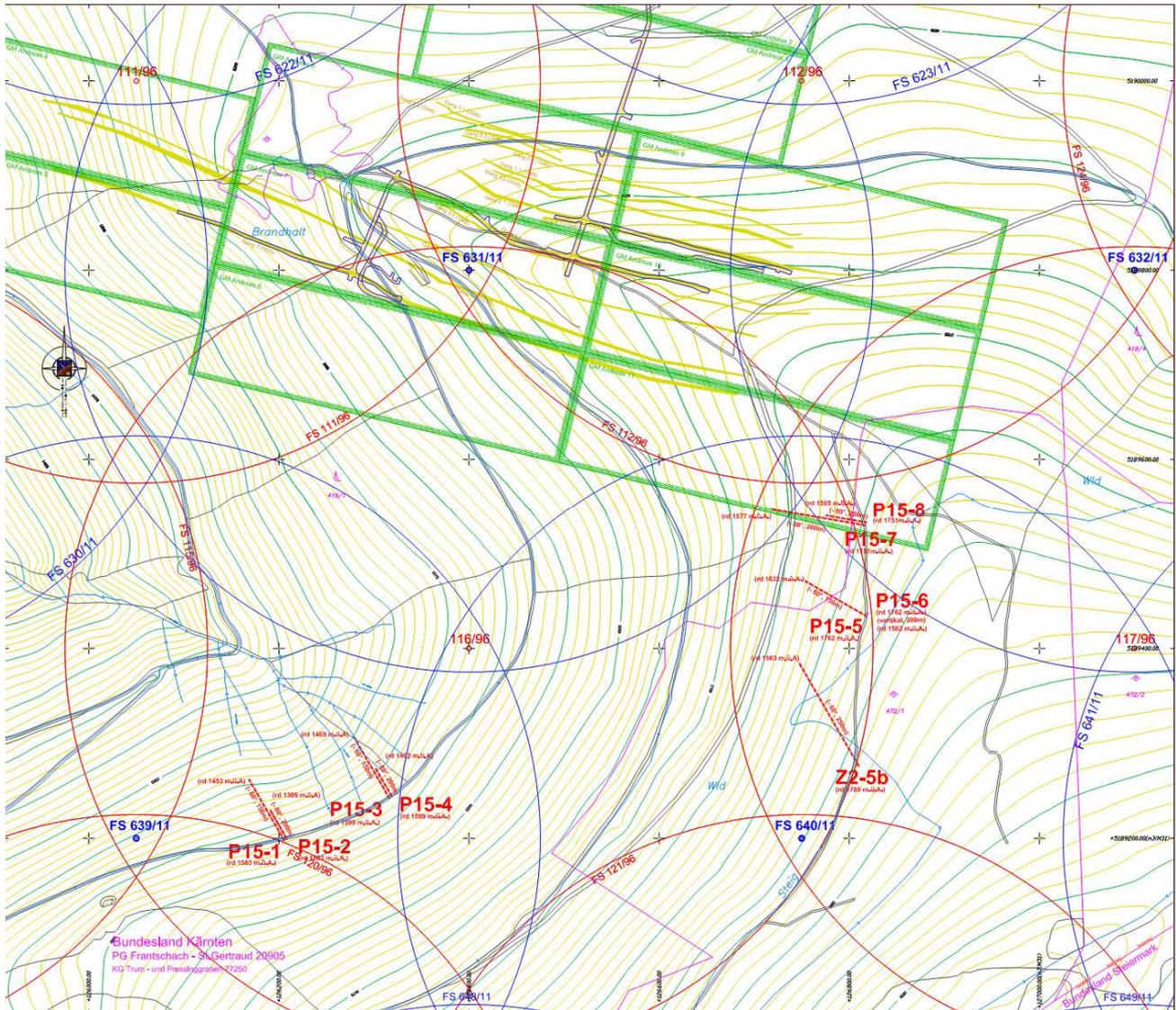
Host Rock	No.	Vein	Total tonnage meas + ind	Grade meas. + ind.	in situ Li ₂ O t	in situ rank meas. + ind.	Thickness (m)	Total tonnage inferred	Grade inferred	Contained Li ₂ O t	in situ rank inferred	Thickness (m)	Grand total tonnage	Grade grand total
AHP	1	0	116,000	0.91%	1,057	11	0.76	0	0	0	0	0	116,000	0.91%
AHP	2	0.1	118,300	1.08%	1,277	10	0.92	0	0	0	0	0	118,300	1.08%
AHP	3	0.2	56,200	1.53%	859	13	0.80	0	0	0	0	0	56,200	1.53%
AHP	4	0.3	103,700	0.84%	874	12	0.66	0	0	0	0	0	103,700	0.84%
AHP	5	1.1	451,300	1.13%	5,094	5	1.20	281,600	0.79%	2,225	6	1.04	732,900	1.00%
AHP	6	1.2	635,800	0.72%	4,554	6	1.82	358,200	0.25%	896	9	1.48	994,000	0.55%
AHP	7	2.1	619,800	1.51%	9,341	3	1.42	281,800	1.17%	3,297	4	1.10	901,600	1.40%
AHP	8	2.2	253,500	1.32%	3,344	8	0.99	243,400	1.18%	2,872	5	0.97	496,900	1.25%
AHP	9	3.1	720,900	1.62%	11,649	2	1.49	106,200	1.51%	1,604	8	1.77	827,100	1.60%
AHP	10	3.2	274,100	1.30%	3,560	7	0.77	64,200	1.14%	732	10	0.94	338,300	1.27%
MHP	11	4	199,800	1.15%	2,292	9	0.79	604,300	0.69%	4,170	3	1.29	804,100	0.80%
MHP	12	6.1	88,400	0.69%	608	14	0.96	380,800	0.54%	2,056	7	0.81	469,200	0.57%
MHP	13	6.2	807,700	1.08%	8,759	4	1.40	981,000	0.72%	7,063	2	1.03	1,788,700	0.88%
MHP	14	7	1,777,200	1.13%	20,052	1	2.50	1,381,200	0.86%	11,878	1	1.56	3,158,400	1.01%
MHP	15	8	80,800	0.60%	485	15	1.32	0	0	0	0	1.19	80,800	0.60%
		Total	6,303,500	1.17%	73,799			4,682,700	0.78%	36,792			10,986,200	1.01%
Total AHP			2,955,400	1.27%	37,542		1.36	1,335,400	0.87%	11,625		1.17		
Total MHP			2,873,100	1.10%	31,711		2.04	3,347,300	0.75%	25,168		1.31		
Grand Total			5,828,500	1.19%	69,253		1.67	4,682,700	0.79%	36,792		1.26		

Source: European Lithium

ZONE 2 EXPLORATION PROGRAMME

EUR drilled the first three drill holes of a planned 9 drill hole programme in the southern limb of the anticline (Zone 2) in late spring/early summer 2017. Figure 16 shows the location of these drill holes in relation to the identified veins and underground workings in the northern limb of the anticline (Zone 1) where the license areas are outlined in green.

Figure 16: Location of Zone 2 exploration programme drill holes



Source: European Lithium

Assay results from these first three drillholes were published in late June 2017. Hole P15-1, the furthest from the hinge of the anticline, did not intersect pegmatites. Assays from holes P15-5 and P15-6 showed several wide intersections of spodumene rich pegmatites (see figure 17 overleaf)

Figure 17: Assay results from first three Zone 2 drill holes

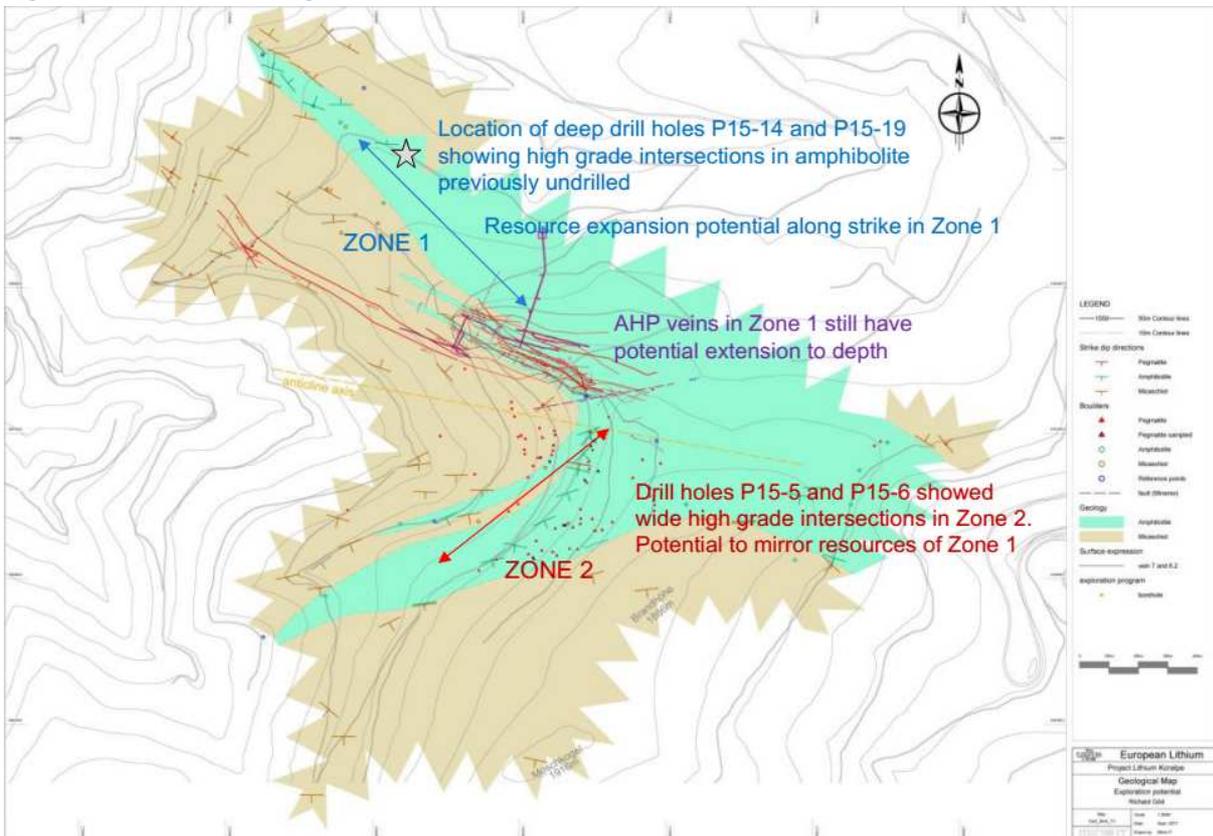
Drill Hole ID	Composite from (m)	Composite to (m)	Composite width (m)	Measured dip angle (°)	True thickness (m)	Composited %Li ₂ O	Composite mineralised (m)	Mineralised % Li ₂ O
P15-5	22.7	23.4	0.7	40	0.54	1.16	0.54	1.16
P15-5	47.6	48.4	0.8	40	0.61	1.87	0.61	1.87
P15-5	70.96	73.83	2.87	30	2.49	1.76	2.27	1.92
P15-5	132.35	136.38	4.03	35	3.38	1.45	3.38	1.45
P15-6	70.08	71.43	1.35	65	0.57	1.22	0.57	1.22
P15-6	83.84	88.77	4.93	53	2.97	1.23	2.38	1.52
P15-6	100.68	101.48	0.8	55	0.46	0.51	0.46	0.51
P15-6	106.5	117.4	10.75	60	5.38	0.82	3.88	1.1
P15-6	143.3	143.86	0.56	65	0.24	0.6	0.24	0.6
P15-6	167.7	169.01	1.31	60	0.66	0.41	0.66	0.41
P15-6	186.7	197.2	10.5	60	5.25	0.98	3.99	1.26

Source: European Lithium

The Zone 2 drilling programme was suspended during the summer of 2017 due to funding constraints but was resumed in early February 2018 on the basis of the funds raised through the November 2017 capital increase. EUR aims to complete the outstanding six drill holes totalling 1,250m by early April 2018.

As we have seen above, drilling in 2017 identified a number of exploration targets. These are illustrated in Figure 18. Apart from the potential of Zone 2 there is additional potential deeper in the AHP-hosted pegmatites of Zone 1. In the course of the deep hole drilling programme EUR also discovered significant high grade veins close to surface in a previously unexplored AHP area. Additionally, the pegmatite veins in the mica schist are still open to the north west.

Figure 18: Current drill targets



Source: European Lithium



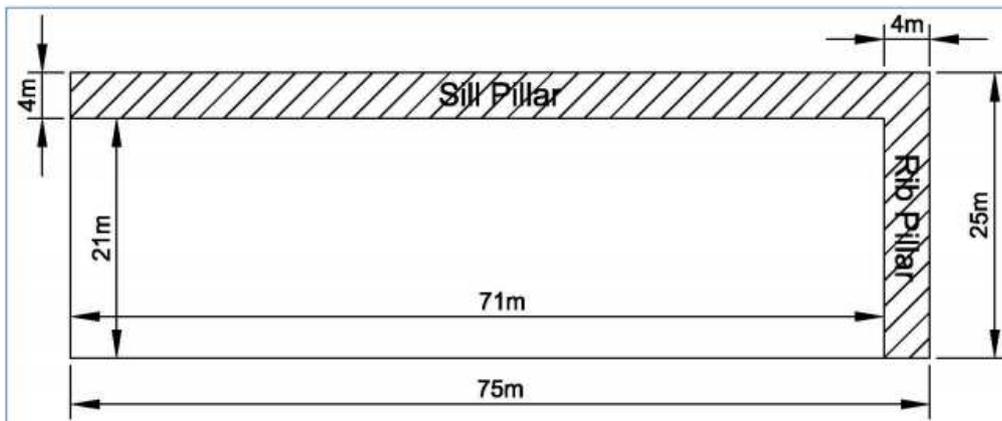
Increase in resource estimate likely by Q3 2018 The PFS scheduled for completion in Q1 2018 will be based on the November 2016 measured and indicated resource. In April 2017 EUR published the results of a scoping-level study of the Wolfsberg project by the UK firm, SRK Consulting. The SRK study identified an annual average production rate of 7.1k tonnes LCE and a mine life of 13 years as realistic for the project – also based on the November 2016 measured and indicated resource. The aim of EUR’s ongoing exploration programme is to increase the measured and indicated resource so that annual average output can be raised well above the 7.1k tonne LCE mark and the mine life extended beyond 13 years. This higher production rate would then be the basis for the DFS scheduled for finalisation in Q3 2018.

MINING CONCEPT

SRK's scoping-level study details a mining concept for the Wolfsberg project based on the updated resource and geological models declared by EUR, reported metallurgical testwork undertaken by the consultant, Dorfner Anzaplan, and geotechnical and mine design studies by previous owners.

SRK selected longitudinal long-hole open stoping as the preferred method for low cost mining at Wolfsberg. A standard stope shape shown in Figure 19 was selected for geotechnical analysis.

Figure 19: Stope shape selected for mining at Wolfsberg



Source: European Lithium

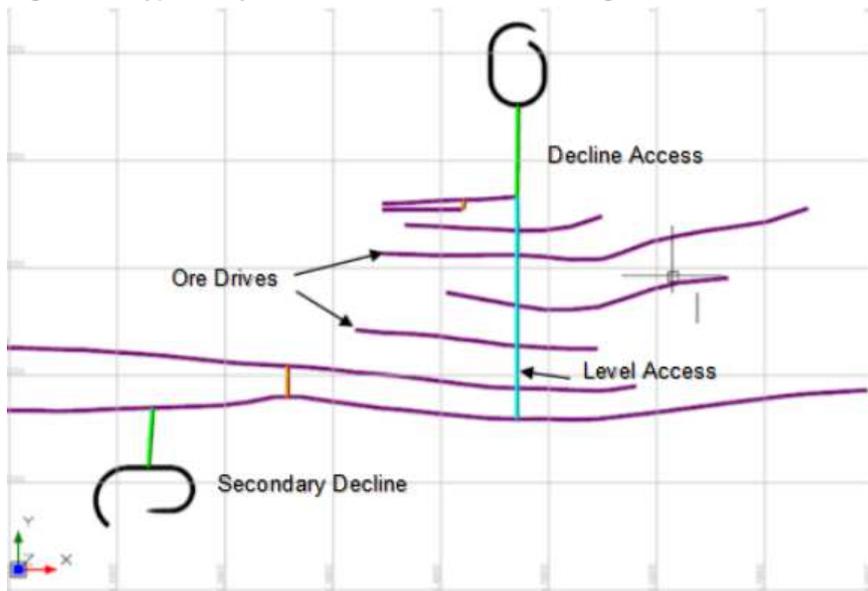
Rib and sill pillars are required to be left for support whilst stopes are to be partially backfilled with mining and concentrator waste to reduce the surface impact of the project. As mining continues below the RL1,450m level, the sill and rib pillars should be increased to 5m but there is potential to reduce the pillars at shallow mining depths.

In order to run a stope optimizer and create a mine design and schedule, SRK created a block model in Deswik software. Fifteen pegmatite veins identified as of economic interest were modelled. Deswik's Mineable Shape Optimiser (MSO) module was used to outline deposit areas with potential to be both practically and economically extractable.

A minimum mining width of 1.2m was considered practical which, with a dilution skin of 0.8m, results in an effective minimum mining width of 2m. Veins less than 1.2m width, if mined because of their grade, would incur additional dilution in addition to the dilution skin. Dilution is dependent on the width of the vein mined and for veins at the average width of 1.4m for the resource a dilution of 57% is expected. The use of ore sorting to reject this waste dilution is essential to the project. The ore sorters are to be placed underground to minimize haulage as reject waste is to be returned as backfill to the open stopes.

Because of the size, depth and location of the orebody, SRK chose declines as the most favourable mine access method. The existing adit to surface will be used as the primary method of access to underground workings. The main decline, shown in Figure 20, spirals upwards and downwards from the adit access at the RL1,550m level. In the SRK plan, the stopes are aligned along the strike of the orebody. This method allows for the majority of the development to be within the orebody, thereby minimising the waste mined. Extraction commences along strike from the extremities of each level retreating towards the central access drives. Figure 18 shows the typical layout of a level with access from the decline to the north with level access connecting all the ore drives.

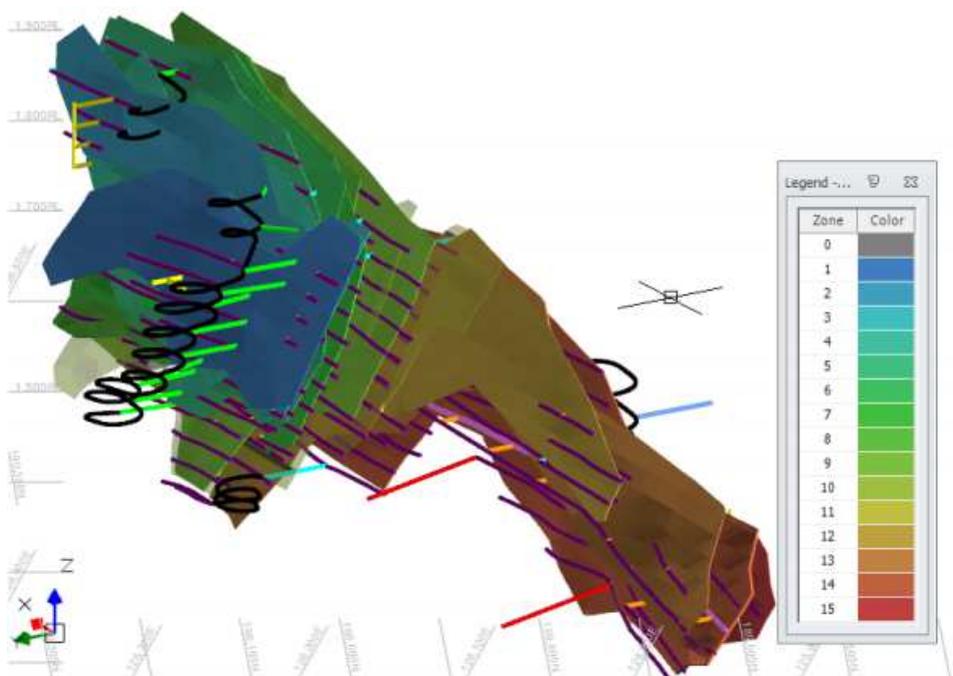
Figure 20: Typical layout of a mine level at Wolfsberg



Source: European Lithium

Trackless equipment is used for decline and orebody development, production and haulage activities. The decline and haulageways are 5m x 5m, sufficient to accommodate 30 tonne underground trucks whilst production drives are 4m x 4.5m. A second egress is provided in the western half of the orebody which, together with the main access, also acts as a fresh air intake. A visualisation of the mine development is shown in Figure 21 looking from the north depicting the main decline spiral (black), access drives on each sub-level (light green) and production drives (purple).

Figure 21: Visualisation of the mine development looking from the north



Source: European Lithium



MANAGEMENT

Steve Kesler, CEO

Dr Kesler has more than 35 years' experience in the mining sector with both major and junior mining companies. Dr Kesler has experience in all phases of the mining industry from exploration through to managing operations in multiple commodities, notably uranium, copper, nickel, zinc, coal/lignite, gold/silver and iron ore. He has lived and worked professionally for mining companies in Namibia, South Africa, Chile, Philippines, UK, USA, Canada and Colombia. He also has considerable public company board and company leadership experience including previous roles as CEO and director for TSX and AIM listed Greystar Resources, President of Mining for URS Corporation (NYSE), Executive Director at Billiton plc which was listed on the Main Market and JSE prior to the takeover by BHP, CEO and director at Pacific Nickel Limited (ASX), CEO at Minera Doña Ines de Collahuasi Ltda (Chile), General Manager and director of Rossing Uranium Limited (Namibia) and Vice President of Business Development for Minera Escondida Ltda (Chile). Dr Kesler holds a B.Sc (Mining Engineering) and Ph.D. (Mineral Technology) from Imperial College and the Advanced Management Programme from Templeton College, University of Oxford and is a Chartered Engineer and Fellow of the Institution of Materials, Minerals and Mining.

Mrs Melissa Chapman, CFO and Company Secretary

Mrs Chapman is a certified practising accountant with over 15 years of experience in the mining industry. She has worked extensively in Australia and the United Kingdom including five years as Group Financial Controller for BSG Management Services. Melissa has a Bachelor of Accounting from Murdoch University and has been a member of CPA Australia since 2000. Melissa has completed a Graduate Diploma of Corporate Governance with Chartered Secretaries of Australia Ltd and the company directors course with the Australian Institute of Company Directors.

Mr Dietrich Wanke, General Manager, Austria

Mr Wanke has more than 30 years' experience in management at operational level for underground and open cut mines. Mr Wanke has held statutory positions as registered manager under the applicable mining acts in several countries and commodities, notably gold/silver, nickel, diamonds, coal and iron. Mr Wanke has lived and served professionally for mining operations in Germany, Australia, Indonesia, Papua New Guinea and Sierra Leone. Mr Wanke has managed mining operations through all phases, starting from greenfield exploration to full scale production as well as extension of existing mines.

Mr Wanke currently holds a position as General Manager for Marampa Iron Ore in Sierra Leone and has worked in the past as General Manager for Tolukuma Gold Mines in Papua New Guinea, Mine Manager for Atlas Iron in Western Australia, Technical Services Manager for Thiess (hard coal) in Indonesia, Mine Manager for Kimberley Diamonds in Western Australia, Technical Services Manager for Lightning Nickel in Western Australia, Technical Director for LMV, an engineering/surveying service provider for coal mines in Germany and Technical Services Manager and Licensed Surveyor for Laubag (lignite) in Germany.

Mr Wanke holds a Mine Engineering/Mine Surveying degree from Technical University Bergakademie Freiberg, a licensed Mine Surveyor's certificate in Germany and 1st class Mine Manger's certificates in Western Australia and Papua New Guinea.



BOARD

Mr Tony Sage, Non-executive Chairman

Mr Sage has more than 30 years' experience in corporate advisory services, funds management and capital raising predominantly within the resource sector. Mr Sage is based in Western Australia and has been involved in the management and financing of listed mining companies for the last 18 years. Mr Sage currently holds the position of Executive Chairman of ASX listed Cape Lambert Resources Limited and Cauldron Energy Limited and Non-Executive Chairman of ASX listed Fe Limited. He is also the Non-Executive Director of International Petroleum Limited.

Mr Malcolm Day, Non-executive Director

Mr Day holds a Bachelor of Applied Science in Surveying and Mapping. Mr Day was the founder and inaugural Managing Director of Adultshop.com which listed on ASX in June 1999. In October 2010 Adultshop.com was privatised. Prior to founding Adultshop.com in 1996, Mr Day worked in the civil construction industry for ten years, six of which were spent in senior management as a Licensed Surveyor and then later as a Civil Engineer. Whilst working as a Surveyor, Mr Day spent 3 years conducting mining and exploration surveys in remote Western Australia. Mr Day is a Member of the Australian Institute of Company Directors and the Managing Director of ASX listed entity Delecta Limited (ASX Code: DLC).

Mr Stefan Müller, Non-executive Director

Mr. Müller has extensive financial markets and investment banking knowledge and experience built over his 25-year career. He is CEO and founder of DGWA Deutsche Gesellschaft für Wertpapieranalyse GmbH, a boutique European investment and financial markets consulting firm for national and international SMEs based in Frankfurt, Germany. Mr. Müller graduated as a banker and began his career at Dresdner Bank AG as senior vice president of global equity trading. He held senior positions with Equinet AG, Bankhaus Sal Oppenheim (largest European private bank at that time) as Head of global proprietary trading and managing partner at Proprietary Partners AG, a Swiss based hedge fund advisory company. Mr. Müller holds a supervisory board position with Agrarius AG, an agriculture-based company listed on the Frankfurt Stock Exchange, and also consults for various companies, institutions and federal organisations regarding their investment strategy.



SHAREHOLDERS & STOCK INFORMATION

Stock Information	
ISIN	AU000000EUR7
WKN	A2AR9A
Bloomberg ticker	PF8 GR
No. of issued shares	544.7m
Transparency Standard	Frankfurt Open Market
Country	Australia
Sector	Mining
Subsector	Lithium

Source: Börse Frankfurt, First Berlin Equity Research

Shareholder Structure	
Cape Lambert Resources	12.20%
Exchange Minerals Ltd.	10.09%
European Lithium	4.59%
Cedarland Consulting	2.84%
Free float and other	70.28%

Source: European Lithium Limited



INCOME STATEMENT

All figures in AUD	2015/16A	2016/17A	2017/18E	2018/19E	2019/20E	2020/21E
Revenue and other incomes	20,193,003	790,705	664,252	12,000	15,000	83,623,587
Mining and processing costs	0	0	0	0	0	-31,375,518
Parent co. employee benefits expense	0	-315,124	-247,548	-272,303	-299,533	-329,486
Consulting fees	-8,043	-596,163	-655,779	-721,357	-793,493	-872,842
Travel expenses	0	-226,201	-248,821	-273,703	-301,074	-331,181
Regulatory and compliance costs	-22,847	-381,828	-400,000	-440,000	-484,000	-532,400
Reverse takeover transaction cost	0	-4,925,229	0	0	0	0
Other expenses	-52,593	-2,215,810	-349,241	-384,165	-422,582	-464,840
EBITDA	20,109,520	-7,869,650	-1,237,137	-2,735,996	-3,007,796	80,298,512
Depreciation, amortisation and impairment	-996,178	-127,820	-31,733	-2,820,600	-11,275,200	-19,729,800
Operating income (EBIT)	19,113,342	-7,997,470	-1,268,870	-5,556,596	-14,282,996	60,568,712
Net financial result	-2,691	-10,893	138,074	-2,250,859	-9,612,991	-14,993,169
Pre-tax income (EBT)	19,110,651	-8,008,363	-1,130,797	-7,807,455	-23,895,986	45,575,543
Income taxes	0	0	0	0	0	0
Net income / loss	19,110,651	-8,008,363	-1,130,797	-7,807,455	-23,895,986	45,575,543
Diluted EPS (in AUD)	7.64	-2.02	-0.22	-1.22	-3.69	5.36
Ratios						
EBITDA margin on revenues	99.6%	n.m.	n.m.	n.m.	n.m.	96.0%
EBIT margin on revenues	94.7%	n.m.	n.m.	n.m.	n.m.	72.4%
Net margin on revenues	94.6%	n.m.	n.m.	n.m.	n.m.	54.5%
Tax rate	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Expenses as % of revenues						
Mining and processing costs	n.m.	n.m.	n.m.	n.m.	n.m.	37.5%
Parent co. employee benefits expense	n.m.	39.9%	37.3%	2269.2%	1996.9%	0.4%
Other expenses	0.3%	280.2%	52.6%	3201.4%	2817.2%	0.6%
Y-Y Growth						
Revenues	n.a.	-96.1%	-16.0%	-98.2%	25.0%	557390.6%
Operating income	n.a.	n.m.	n.m.	n.m.	n.m.	n.m.
Net income/ loss	n.a.	n.m.	n.m.	n.m.	n.m.	n.m.



BALANCE SHEET

All figures in AUD	2015/16A	2016/17A	2017/18E	2018/19E	2019/20E	2020/21E
Assets						
Current assets, total	426,224	1,079,853	3,445,599	11,116,918	32,943,632	29,319,233
Cash and cash equivalents	344,286	549,855	3,345,961	11,115,118	32,941,382	16,775,695
Trade and other receivables	81,938	330,765	99,638	1,800	2,250	12,543,538
Restricted cash and other deposits	0	199,233	0	0	0	0
Non-current assets, total	17,101,967	21,791,323	25,763,656	100,219,656	239,497,256	297,058,056
Property, plant & equipment	0	6,150	5,000	70,461,000	205,738,600	259,299,400
Deferred exploration and evaluation expenditure	17,072,463	21,532,875	25,503,542	29,503,542	33,503,542	37,503,542
Restricted cash and other financial assets	29,504	252,298	255,114	255,114	255,114	255,114
Total assets	17,528,191	22,871,176	29,209,255	111,336,574	272,440,888	326,377,289
Shareholders' equity & debt						
Current liabilities, total	1,009,236	523,484	66,425	1,200	1,500	8,362,359
Trade and other payables	337,836	523,484	66,425	1,200	1,500	8,362,359
Borrowings	671,400	0	0	0	0	0
Long term liabilities, total	0	0	0	90,000,000	275,000,000	275,000,000
Borrowings	0	0	0	90,000,000	275,000,000	275,000,000
Shareholders' equity	16,518,955	22,347,692	29,142,829	21,335,374	-2,560,612	43,014,930
Total consolidated equity and debt	17,528,191	22,871,176	29,209,255	111,336,574	272,440,888	326,377,289
Ratios						
Current ratio (x)	0.42	2.06	51.87	9264.10	21962.42	3.51
Quick ratio (x)	0.42	2.06	51.87	9264.10	21962.42	3.51
Net debt	-1,045,190	-1,001,386	-3,601,075	78,629,768	241,803,504	257,969,191
Net gearing	-6.3%	-4.5%	-12.4%	368.5%	-9443.2%	599.7%
Book value per share (in AUD)	n.m.	0.05	0.05	0.04	0.00	0.07
Return on equity (ROE)	n.a.	-41.2%	-0.7%	-30.9%	-254.6%	225.3%



CASH FLOW STATEMENT

All figures in AUD	2015/16A	2016/17A	2017/18E	2018/19E	2019/20E	2020/21E
Cash flow from operating activities						
Revenue from mining	0	0	0	0	0	83,623,587
Payments to suppliers and employees	-37,127	-2,922,853	-1,846,207	-24,279,773	-25,559,335	-7,505,505
Payments for exploration	0	-3,575,108	-4,000,000	-4,000,000	-4,000,000	-4,000,000
Finance costs	0	-10,893	0	0	0	0
Interest received	107	14,144	0	0	0	0
Net interest	107	3,251	138,074	-2,250,859	-9,612,991	-14,993,169
Decrease/(increase) in restricted cash balances	0	-422,027	196,417	0	0	0
VAT refund	63,346	0	233,138	0	0	0
Net cash provided by/(used in) operating activities	26,326	-6,916,737	-5,278,578	-30,530,632	-39,172,325	57,124,913
Cash flow from investing activities						
Proceeds from the sale of exploration tenements	-409,405	70,000	150,000	0	0	0
Payment for property, plant and equipment	0	-6,838	-1,250	-73,276,600	-146,552,800	-73,290,600
Cash acquired on acquisition of accounting subsidiary	0	343,642	0	0	0	0
Net cash provided by/(used in) investing activities	-409,405	406,804	148,750	-73,276,600	-146,552,800	-73,290,600
Free cash flow	-383,079	-6,509,933	-5,129,828	-103,807,232	-185,725,125	-16,165,687
Cash flow from financing activities						
Proceeds from capital raisings/option exercise	0	7,016,675	8,377,309	21,576,389	22,551,389	0
Payment for share issue costs	0	-299,801	-451,375	0	0	0
Decrease/(increase) in loans and borrowings	-37,463	0	0	90,000,000	185,000,000	0
Transfer to subsidiaries	754,759	0	0	0	0	0
Net cash provided by financing activities	717,296	6,716,874	7,925,934	111,576,389	207,551,389	0
Net increase in cash and cash equivalents	334,217	206,941	2,796,106	7,769,157	21,826,264	-16,165,687
Cash and cash equivalents at the beginning of the year	16,591	344,286	549,855	3,345,961	11,115,118	32,941,382
Effects on exchange reate fluctuations on cash held	-6,522	-1,372	0	0	0	0
Cash and cash equivalents at the end of the year	344,286	549,855	3,345,961	11,115,118	32,941,382	16,775,695
EBITDA/share (in AUD)	8.04	-1.98	-0.24	-0.43	-0.46	9.44
Y-Y Growth						
Operating cash flow	n.a.	2938.3%	4147.1%	n.m.	n.m.	n.m.
Free cash flow	n.a.	n.m.	n.m.	n.m.	n.m.	n.m.
EBITDA/share	n.a.	n.m.	n.m.	n.m.	n.m.	n.m.

FIRST BERLIN RECOMMENDATION & PRICE TARGET HISTORY

Report No.:	Date of publication	Previous day closing price	Recommendation	Price target
Initial Report	Today	€0.15	Add	€ 0.19

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STRONG BUY: An expected favourable price trend of more than 50% combined with sizeable confidence in the quality and forecast security of management.

BUY: An expected favourable price trend of more than 25% percent.

ADD: An expected favourable price trend of between 0% and 25%.

REDUCE: An expected negative price trend of between 0% and -15%.

SELL: An expected negative price trend of more than -15%.

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Legally required information regarding

- key sources of information in the preparation of this research report
- valuation methods and principles
- sensitivity of valuation parameters

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SUPERVISORY AUTHORITY: Bundesanstalt für Finanzdienstleistungsaufsicht (German Federal Financial Supervisory Authority) [BaFin], Graurheindorferstraße 108, 53117 Bonn and Lurgiallee 12, 60439 Frankfurt

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