EUROPEAN METALS

European Metals Holdings Limited – Europe's largest lithium hard rock resource strategically positioned to locally supply the fastest growing EV market globally with high margin lithium hydroxide.

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INTRODUCTION:

European Metals Holdings (EMH) is an Australian based and multiple listed company (ASX: EMH, AIM: EMH & NASDAQ International: ERPNF) currently developing the **fully integrated** Cinovec lithium, tin, tungsten deposit located in the northern Czech Republic. Geomet s.r.o. (Geomet) controls the Project's mineral rights and is owned by EMH (49%) and CEZ (51%). CEZ is the seventh biggest EU power utility by customers and tenth biggest by market cap (USD 13B), domiciled in the Czech Republic. The Czech Republic Government is its largest shareholder, owning ~70%.

It should be noted that while CEZ owns 51% of the project, there is a JV nature to the operational control, whereby the operational management is made up of executives from both shareholders. EMH has effective operational control through the business plan set out before the EMH-CEZ investment deal. EMH has an effective veto right over any deviation from that business plan.

Figure 1: EMH 5-year historical share price and trading volume (Source: ASX)

Containing Europe's largest hard rock lithium deposit, Cinovec is located within the Altenberg/Zinnwald/Cinovec mining district of the Krusne Hory (Ore Mountains) that straddles Germany and the Czech Republic. The region has seen considerable tin, tungsten, and uranium production, with mining activities dating back to the 14th Century. The project's excellent infrastructure and proximity to Europe's existing and developing vehicle OEM and EV battery manufacturers positions it well to provide a local source of battery-grade lithium chemicals and critical metals tin and tungsten.

Following the project's acquisition in late 2013, EMH has completed a series of surface drilling programs focusing on validating the extensive underground and surface drilling database over the deposit. EMH has since declared several iterations of Mineral Resource Estimates, including Ore Reserves' declaration in 2019 and completing several metallurgical test work campaigns. This resulted in the completion of positive Scoping (2015) and Pre-Feasibility Studies (PFS) in 2017 and 2019 that supported the mining, beneficiation, and production of battery-grade lithium chemicals as well as tin and tungsten concentrates. Dorfner Anzaplan produced battery-grade lithium hydroxide samples using EMH's material in 2019.

EMH is now focusing on completing a Definitive Feasibility Study (DFS) before the end of 2021 and has contracted SMS Group from Germany to complete all aspects of the Front End Engineering Design (FEED) for Cinovec. **SMS Group are also committed to providing a fixed lump sum turnkey Engineering Procurement, and Construction (EPC) contract and guarantee product specifications relating to battery-grade lithium chemicals and tin and tungsten production concentrates.**

Upon completing a range of catalysts over the next 12-months, particularly securing battery-grade lithium hydroxide offtake agreements with tier 1 customers and finalizing a DFS confirming the Cinovec project's economics, we estimate EMH's fair value at between A$2.91 – A$3.49/share (£1.63 - £1.95/share).

Longer-term, we believe an EV/EBITDA multiple valuation method is more appropriate. Once steady-state production is achieved from 2025 onwards, assuming a conservative 10x EV/EBITDA multiple, we estimate EMH's fair value at A$4.67/share (£2.61/share) with a 2028 "blue sky" upside (50ktpa) of A$7.64/share (£4.27/share).

LOCATION AND INFRASTRUCTURE:

The Cinovec Project is located approximately 100km north-west of Prague and on the border with Germany in the northwestern Czech Republic (Figure 2). The small hamlets of Cinovec, Zinnwald and Altenberg, are located within this region that has had a long and extensive tin and tungsten mining history. Although most of the old mining infrastructure has been removed and sites rehabilitated, several museums have been established showcasing the area's history, including one at Zinnwald where an underground visit to the German side of the Cinovec deposit is still possible.

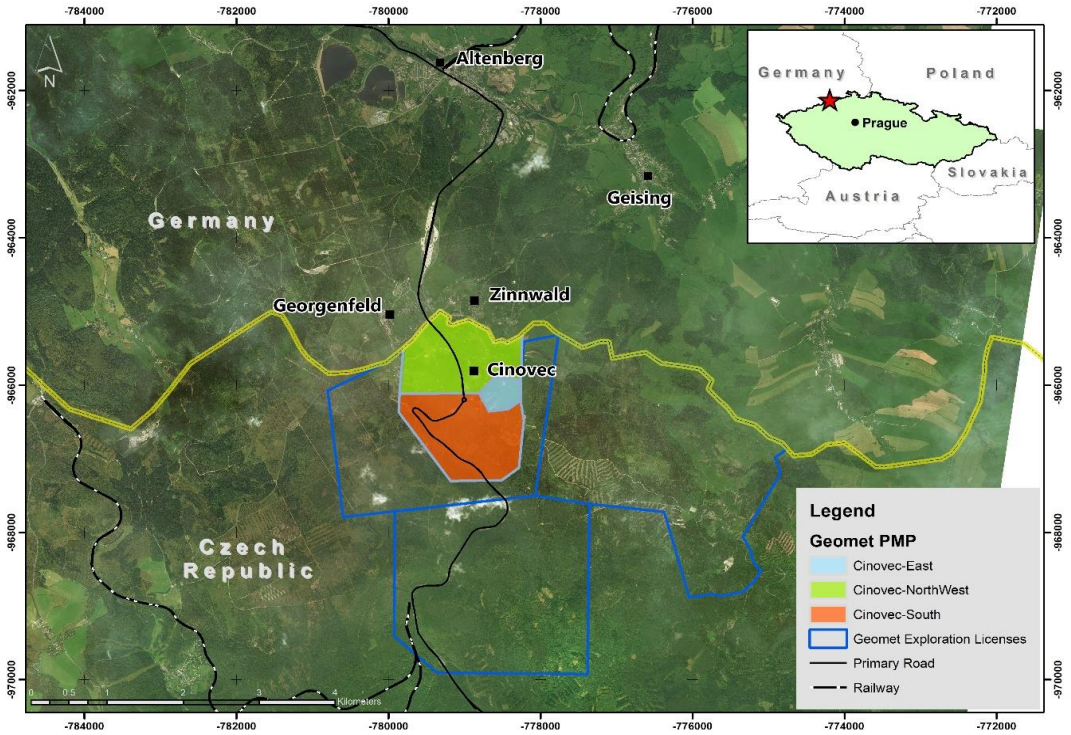


Figure 2: Location of the Cinovec Project & Mineral Rights

The area is now characterized by farmland and forestry plantations, with a low population density. Infrastructure is excellent, with readily available water, a proximal 22KvA powerline and the nearest railheads at Altenberg and Dubi located 2km to the south. Importantly the project is well positioned to provide locally sourced battery-grade lithium chemicals to the nearby automotive industry hubs of Dresden, Leipzig, and Chemnitz in Germany and the many planned EV battery plants and cathode manufacturers located elsewhere in Germany and Europe.

Figure 3: Location of the Cinovec Project (Source: EMH)

OWNERSHIP AND MINERAL TENURE:

The Cinovec Deposit is covered by three Exploration Permits and three Preliminary Mining Permits (PMP) that cover a combined area of nearly 19km2 (Figure 1). The permits are held 100% by Geomet; a Czech domiciled company owned 49% by EMH and 51% by CEZ (through its wholly-owned subsidiary SDAS). CEZ is a major listed European integrated energy utility company with core investments in regional electric power generation, supply and distribution, natural gas, nuclear power, and coal, with a key focus on developing energy services (ESCO) and renewables (RES). The company's operations are located in western, central, and southeastern Europe, with headquarters in the Czech Republic. Importantly, CEZ's largest shareholder is the Czech Republic Government that has a direct 70% stake, and this relationship is expected to support further and facilitate the project's development.

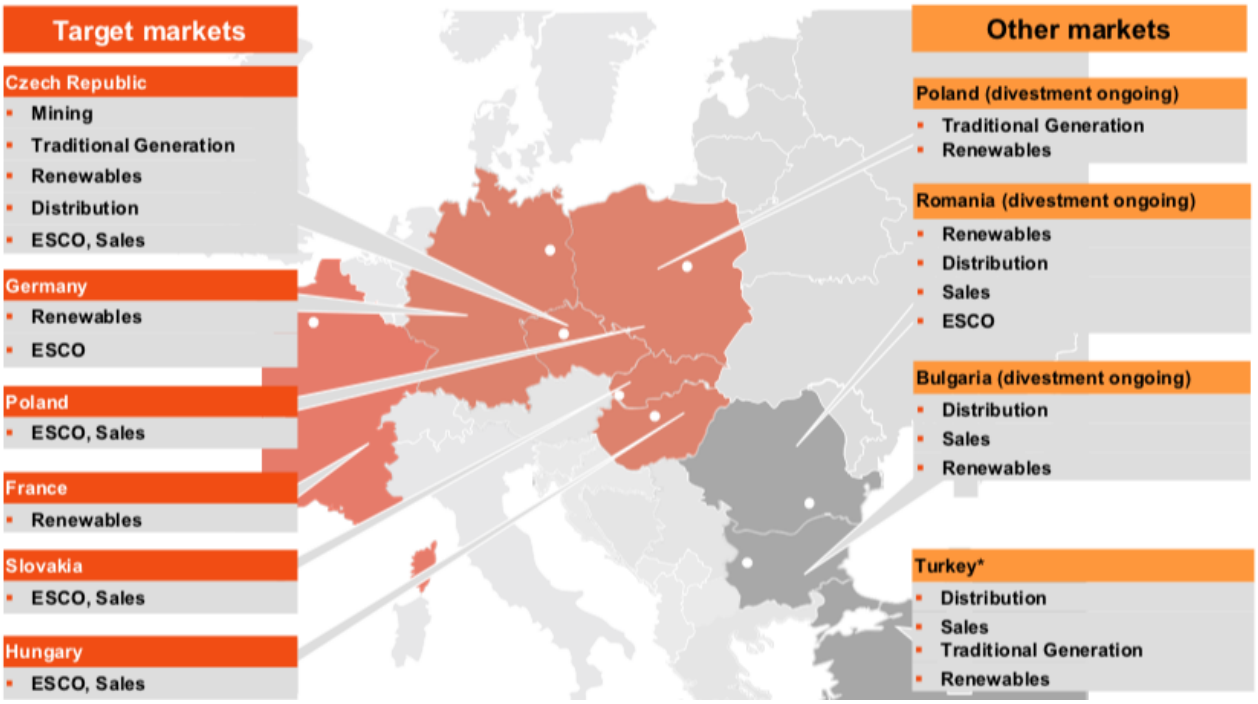


Figure 4: CEZ project locations (Source: CEZ reports)

The investment last May of €29.1 Million for the majority shareholding (51%) in Geomet by CEZ is considered a strategic investment that provides a vital development cornerstone for the project. It is now fully funded to **completion of the DFS** and essentially, the decision to construct.

After acquiring the project in late 2013, EMH has completed a series of drilling and metallurgical sampling campaigns that have supported the declaration of positive Scoping and Pre-Feasibility Studies over the project. This work enabled EMH to apply for and convert existing Exploration licenses areas to PMPs, prerequisites for a Final Mining Permit.

The three existing PMPs cover the known extents of the deposit's existing mineralization footprint within the Czech Republic. EMH is amalgamating the PMPs into a single permit to facilitate and simplify the Final Mining Permit application. **Through its partner CEZ, the project appears to have solid support from the Czech Government and regulatory authorities; Geomet has encountered few delays in applying for and being awarded the various permitting requirements for the ongoing Mine Permitting Environmental studies to support the DFS.**

PROJECT GEOLOGY:

The Cinovec/Zinnwald Li-Sn-W Deposit is one of the most important greisen Li-Sn-W type ore deposits belonging to the Altenberg/Zinnwald/Cinovec mining district that is located in the northeastern parts of the Erzgebrige (Ore Mountains) that straddles Germany and the Czech Republic. The appropriately named region has seen considerable production of Sn, W, U, and base metals with a long history of mining activities dating back to the 14th Century.

The distribution of lithium (Zinnwaldite a Fe-Li bearing mica), tin (Cassiterite) and tungsten (Wolframite) mineralization at Zinnwald/Cinovec is relatively simple. It is spatially restricted to the upper parts/roof or "cupola" of an intruding granite pluton. Here resultant hydrothermal alteration and associated metasomatism within the dome have resulted in a series of relatively subparallel, flat lying, irregular massive to semi-massive "greisenised" or mineralized zones stockworks that include cross-cutting mineralized quartz veins. These mineralized zones form a relatively continuous zone measuring some 2 x 1km with greisenised zones attaining a thickness of up to several hundred meters, and occurring from outcrop to depths of 400m below surface (Figures 7 & 8).

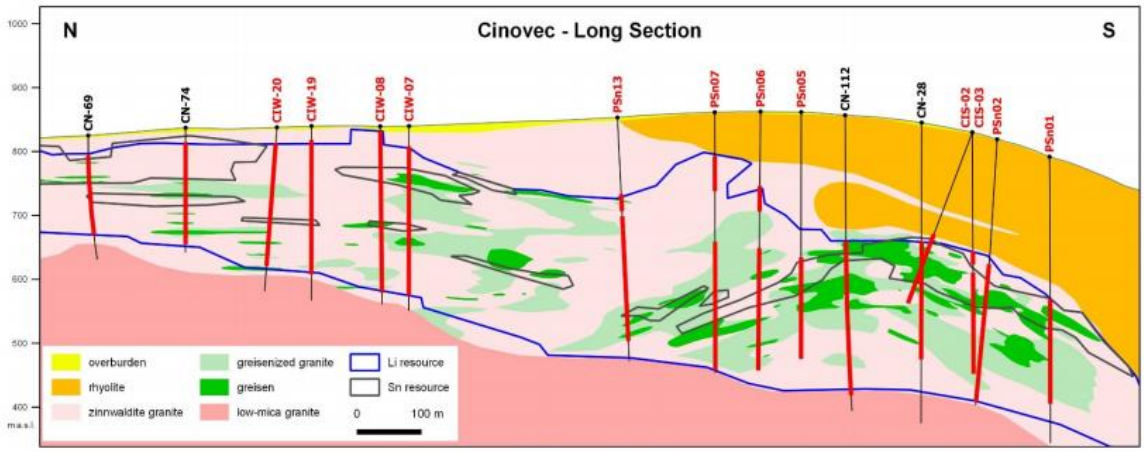


Figure 5: North-South Section across Cinovec Deposit (Source: EMH)

MINING & EXPLORATION HISTORY:

The Altenberg/Zinnwald/Cinovec region has had a long history of mining activities that date back to the 14th Century. Historically, the region has been an important producer of tin, tungsten, and Li mica (Zinnwaldite). Tin production dominated from 1300 – 1880 whereafter tungsten was produced following the emerging steel industry's rapid growth. The most sustained production occurred during the First and Second World Wars, with production ceasing from the Zinnwald (German) side after WWII. Production continued from the Czech Republic side until the 1970s whereafter the near surface; high-grade quartz vein hosted tin-tungsten deposits became exhausted.

This prompted the Czech State to embark on an extensive exploration and underground development program focusing on the southern, more (relatively) deeper parts of the Cinovec Deposit. Detailed (25m and 50m spaced) underground and surface drilling totalling some 83,000m coupled with almost 21,500m of underground development resulted in delineating a large low-grade Sn, Li and W deposit amenable to bulk underground mining methods.

Despite the completion of underground trial mining of ~ 400,000t, supporting metallurgical test work and a Feasibility Study, the mine ceased operation following a drop in commodity prices in 1990 and was subsequently abandoned. This detailed exploration data, supported by trial mining and metallurgical test work, provided EMH with a solid technical base to work off following acquisition of the project in late 2013. Accordingly, this information was used to direct all future drilling and evaluation programs at Cinovec. (Figure 7).

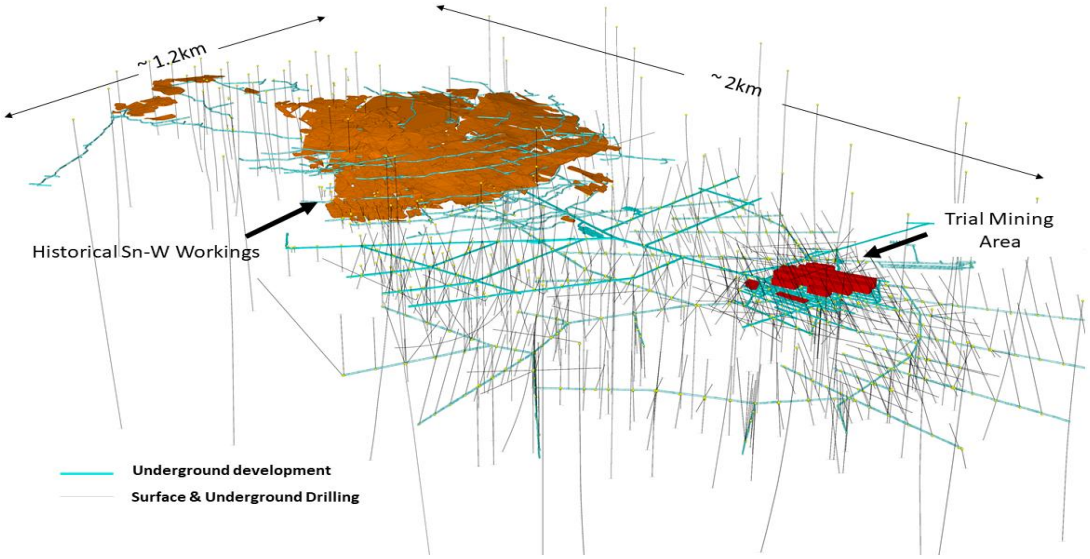


Figure 6: 3D Oblique view of Cinovec historical workings (looking NE) (Source: RK Equity)

DRILLING:

EMH Drilling

Since the Cinovec Project acquisition in 2013, EMH has embarked on relatively continuous surface drilling programs that initially have focused on validating the extensive historical database and geological model to declare JORC 2012 compliant Mineral Resource Estimates.
In tandem with sourcing material for metallurgical test work, EMH's drilling programs have also continued to increase the size of and confidence in the Mineral Resources at Cinovec, which have supported the completion of Scoping and PFS Level of Studies. Geotechnical drilling was also completed to support the proposed portal entrance and access adit to the orebody.

In 2020 EMH initiated a 19 hole infill drilling program to upgrade existing Indicated Mineral Resources to higher confidence Measured Category to support the ongoing DFS. EMH has drilled 47 holes totalling ~ 17,000m with drilling ongoing (Figure 6 & 7).

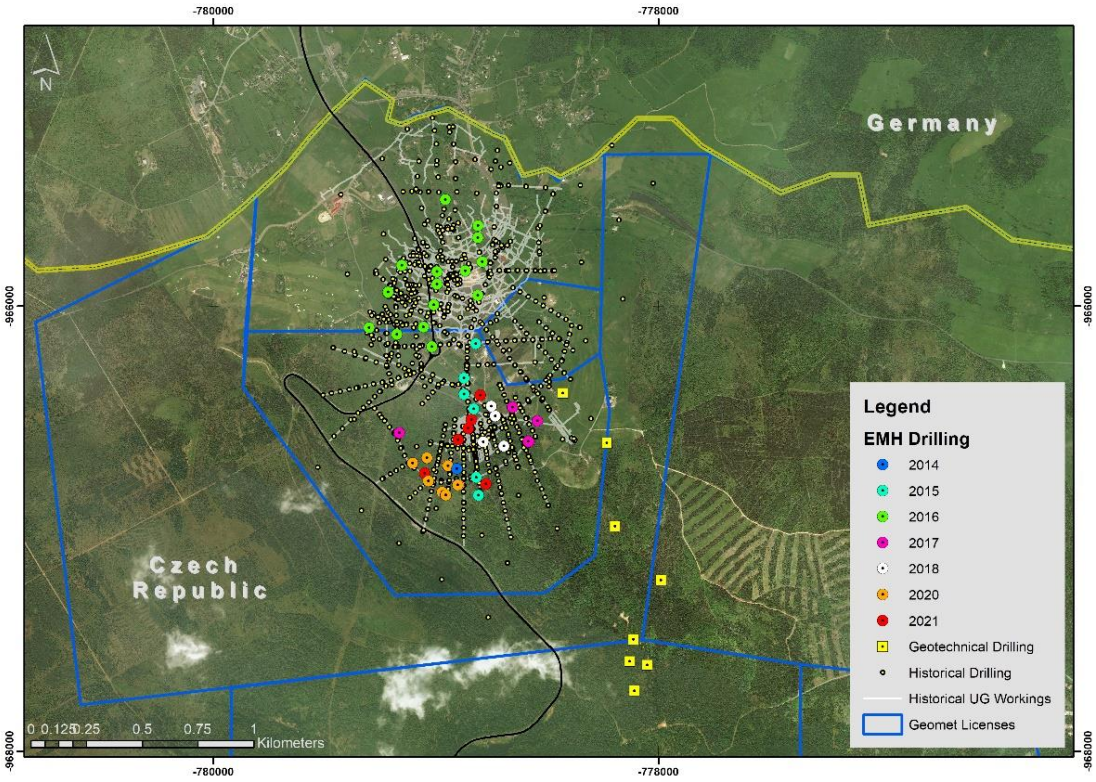


Figure 7: Drilling completed by EMH (Source: EMH)

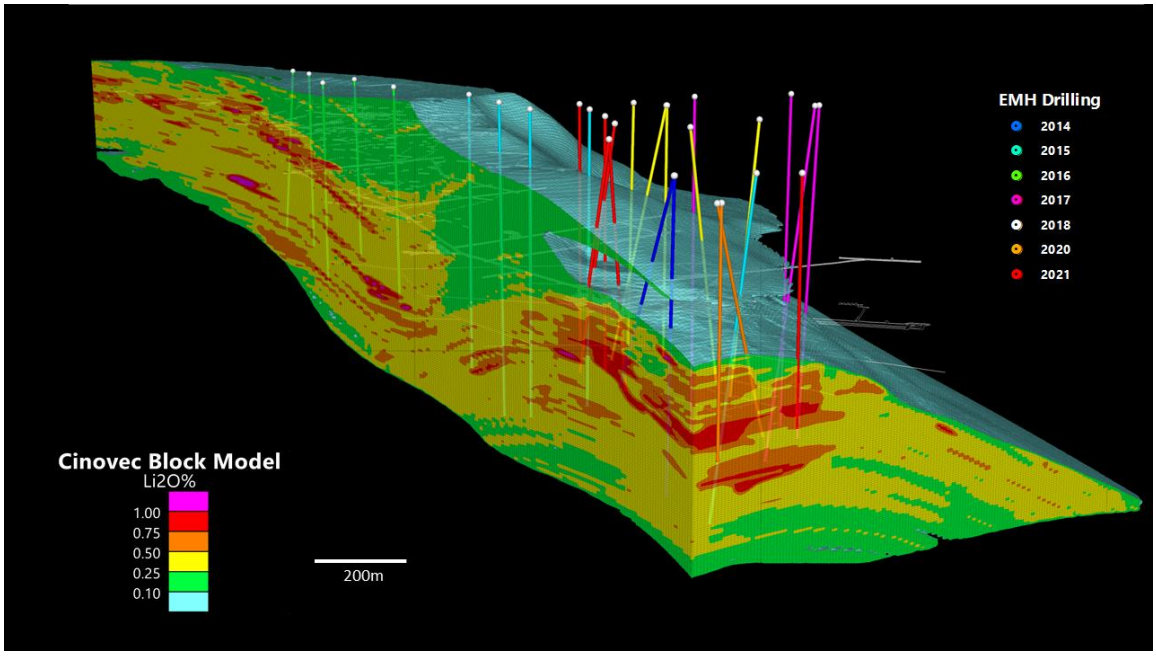


Figure 8: 3D view of Li2O Block Model and EMH drilling (Looking NE) (Source: RK Equity)

MINERAL RESOURCE AND RESERVE ESTIMATES:

Since 2014, EMH's has completed six iterations of Mineral Resource Estimation at Cinovec, each based on results generated from its drilling campaigns that have focused on validating and further improving confidence in mineralization distribution styles and grade distribution at Cinovec. These efforts have resulted in a steady increase in the stated size of Mineral Resources at Cinovec, including the successful conversion of a significant amount of Inferred Resources into the Indicated Category (table 1). Until 2017, Mineral Resources Estimates for Li and Sn were declared separately by EMH, but thereafter a combined model representing a unified Li and Sn model was incorporated to support the PFS completed in 2017.

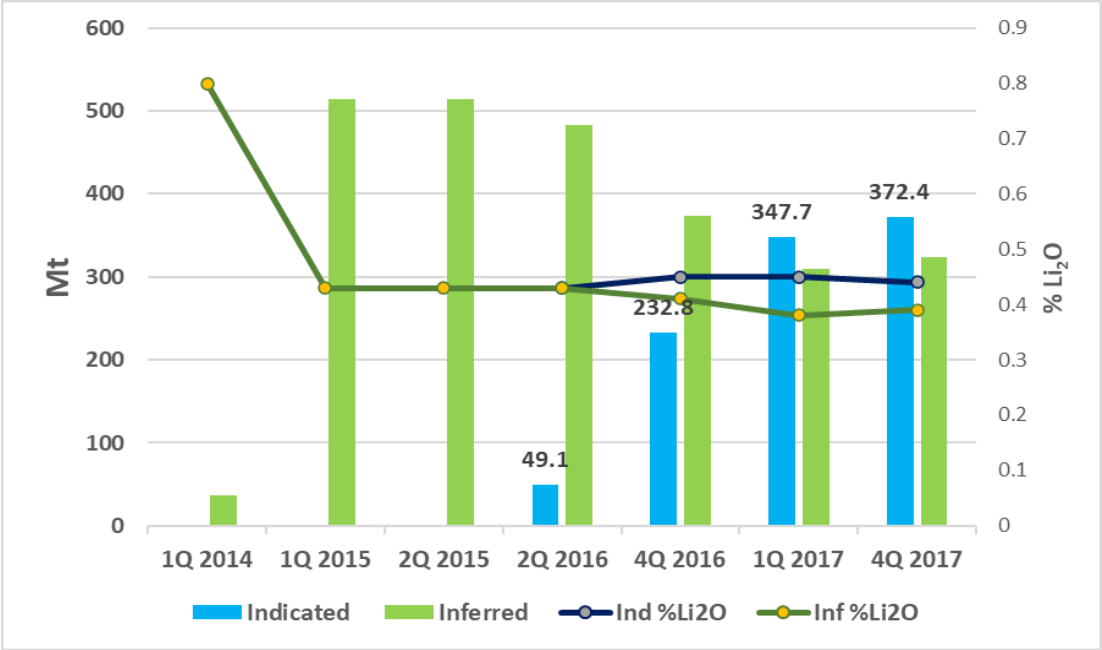


Figure 9: Cinovec Mineral Resource Estimate Timeline (Lithium) Source: (EMH)

Following the PFS's completion and supported by additional metallurgical test work, EMH declared Probable Ore Reserves at Cinovec totalling 34.5Mt grading 0.65% Li2O, 0.09% Sn and 0.03% W, sufficient to support a 21 year Life of Mine. This Ore Reserve is forming the basis for ongoing infill drilling to increase confidence in resources and reserves to underpin the DFS currently underway (Table 1).

Cinovec Mineral Resources and Ore Reserves					
	Category	**Mt**	**Li_2O%**	**Sn%**	**W%**
Mineral Resources	Measured	0	0	0	0
	Indicated	372.4	0.44	0.04	0.02
	Inferred	323.5	0.39	0.04	0.01
	Total	**695.9**	**0.42**	**0.04**	**0.01**

	Category	**Mt**	**Li_2O%**	**Sn%**	**W%**
Ore Reserves	Proven	0	0	0	0
	Probable	34.5	0.65	0.09	0.03
	Total	**34.5**	**0.65**	**0.09**	**0.03**

Table 1: Cinovec Mineral Resource Estimates & Ore Reserves (2017)(Source: EMH)

The size and relative simple mineralization style and geology of the Cinovec deposit defined by EMH have established it as one of the largest lithium deposits of its type globally, with the current Ore Reserve only making up ~ 5% of the total Mineral Resource that has been defined to date.

METALLURGICAL TESTWORK:

Following the acquisition of Cinovec in late 2013, EMH immediately began metallurgical test work on material drawn from its initial drilling program, with the focus aimed at validating and improving tin and tungsten recoveries using primarily gravity methods. Here EMH successfully attained 80% tin recovery which supported historical pilot plant results (~75%) completed during the 1970s.

Using a third party proprietary process technology, EMH successfully produced battery-grade lithium carbonate from the tailings stream generated from the tin-tungsten recovery process. These results formed the basis for completion of the positive Scoping Study completed in 2015. Additional test work completed during 2015 and 2016 showed that the recovery of zinnwaldite could be optimized using Wet High Intensity Magnetic Separation (WHIMS) methods as opposed to more traditional flotation methods. These high recoveries (>90%) and the ability to produce a high-grade zinnwaldite concentrate prompted EMH to focus on lithium as the prime economic driver for the project, with tin-tungsten as important by-product credits.

Ongoing test work on (magnetic) zinnwaldite concentrates in 2016 successfully produced battery-grade lithium carbonate using well-established sodium sulphate roast and leaching process with overall lithium recoveries of 77%.

Test work completed on the non-magnetic fraction stream utilized gravity, flotation, magnetic and electrostatic separation methods to produce saleable tin and tungsten concentrates with expected tin recoveries of 65% (Figure 9). These results were used to support EMH's positive PFS released in 2017.

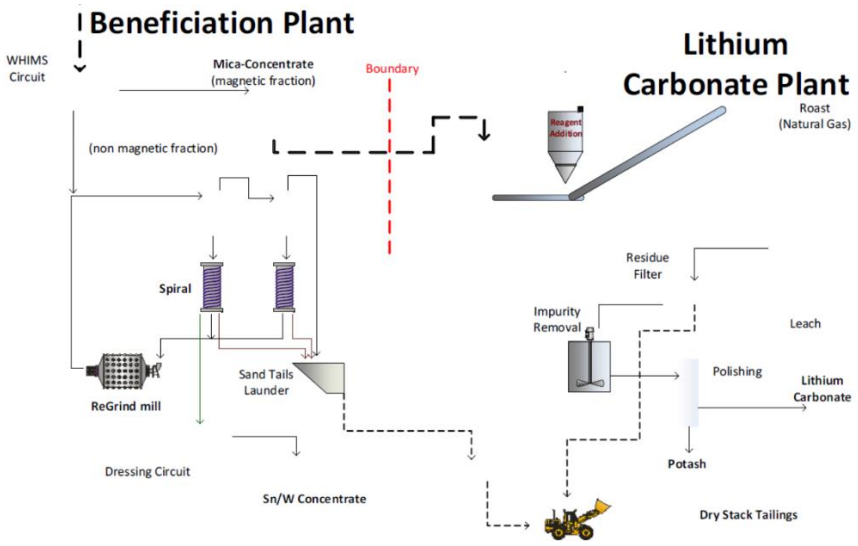


Figure 10: 2017 PFS Sn and W Process Flowsheet (Source: EMH)

In 2018 test work continued by generating a 15t bulk sample to produce both lithium carbonate and lithium hydroxide and material to further optimize tin and tungsten recoveries.

Several independent laboratories completed test work showed that lithium hydroxide could be produced from an initial lithium carbonate precursor with overall lithium recoveries of 82%. EMH proceeded to update its flowsheet to include this additional process stream resulting in an updated PFS completed in 2019.

This result provided the project with the flexibility to produce battery-grade lithium carbonate and hydroxide and supported by-product(?) tin, tungsten and potassium sulphate production (Figure 10).

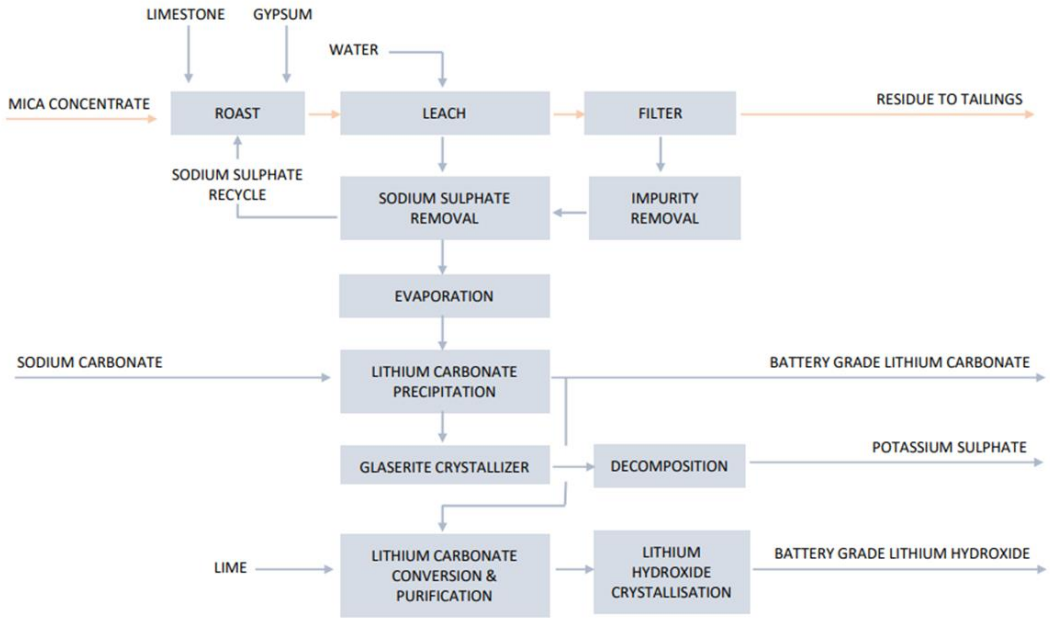


Figure 11: 2019 PFS Lithium Hydroxide Process Flowsheet (Source: EMH)

Efforts to optimize the recoveries and quality of battery-grade lithium chemicals, as well as tin and tungsten concentrates, are ongoing at Cinovec. This work is critical to enhance the recoveries, confidence, and economics of the various process steps and provide battery grade/specification lithium carbonate, hydroxide, and tin/tungsten sample material/concentrates to potential offtake partners.

To date, EMH has had to complete a wide variety of metallurgical test work using several independent process laboratories and consultants, many of which are still ongoing. To de-risk, consolidate and streamline all process and engineering test work, EMH appointed Düsseldorf based SMS Group Process Technologies GmbH (SMS Group) to steer the project towards completing the DFS due early 2022. SMS Group has over 150 years of providing process and engineering solutions to the metals and materials sector globally with an active presence in more than 50 countries.

To support the DFS, SMS Group has been engaged in providing a complete Front End Engineering Design (FEED) for the project. This work encompasses integrating all ongoing metallurgical test work to support the full integration from the point of delivery of broken ore underground, comminution, beneficiation through to production of battery-grade lithium chemicals and tin and tungsten concentrates from the project.

In addition, SMS Group will integrate results of the FEED work to provide a binding fixed price turnkey Engineering, Procurement and Construction (EPC) contract that will guarantee the production of within-specification battery-grade lithium chemicals at Cinovec.

The SMS Group has been assigned and tasked with completing these critical engineering and process development tasks over Cinovec. Their combined results are expected to improve ongoing DFS economics further and to importantly de-risk the project.

THE CASE FOR LITHIUM HYDROXIDE & THE EUROPEAN EV MARKET:

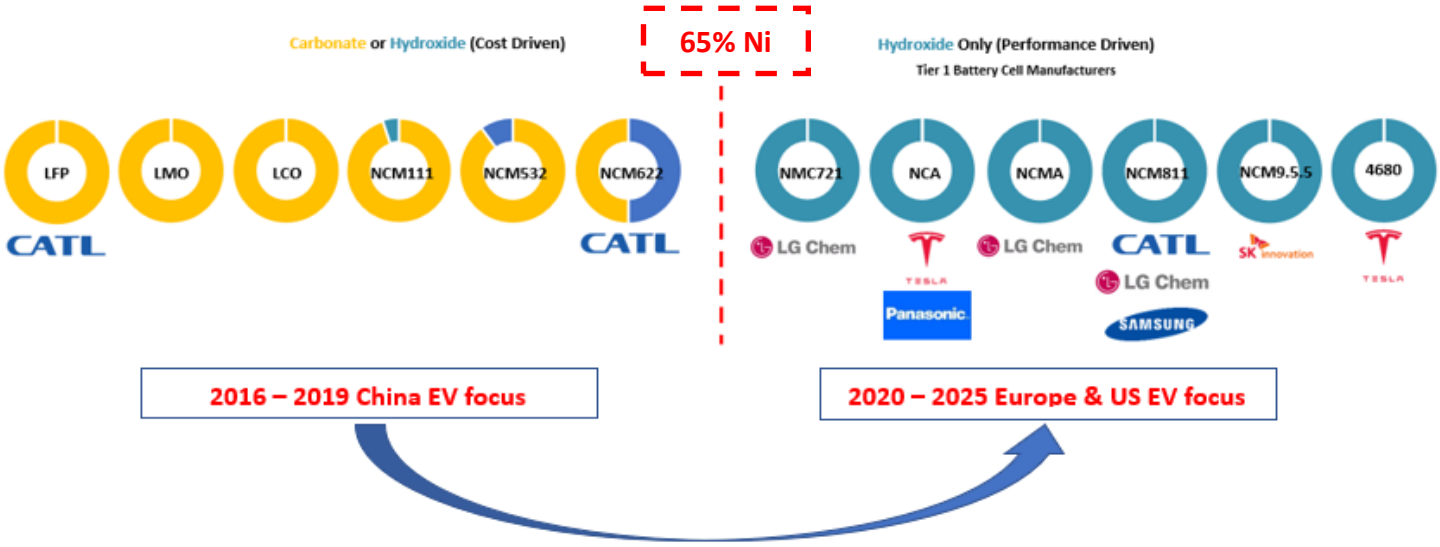


Figure 12: Evolution of battery cathode usage (Source: RK Equity)

As China cuts EV buyer subsidies and transitions towards supporting charging infrastructure and favouring penalties, their EV market remains "cost-driven", the US and European EV markets are "performance-driven" focusing on driving range and shorter charging times. Europe follows a different path to China and has allocated €750B to a "European Green Deal" that includes generous EV buyer subsidies alongside punitive CO2 emission penalty legislation that started in 2020. Despite EV penetration reaching ~11% in Europe in 2020 certain OEMs, including VW, incurred penalties. In 2020 OEMs could exclude 5% of their fleets (worst CO2 emissions) but that clause falls away in 2021. Also, OEMs were allocated a maximum of 7.5g of "super credits" between 2020 and 2022 that are used up by increasing the actual number of electric vehicles sold with a gCO2/km of less than 50 by a ratio. On average OEMs used up 6.7 super credits in 2020. RK Equity is forecasting that EV penetration will need to be 18.5% in 2021 to avoid penalties. Beyond 2021, the required EV penetration to avoid fines levels off until the next step-change in the CO2 fleet emission limit to 80.8g CO2/km in 2025. After that 2030 ushers in the final emission limit (~59g CO2/km) legislated thus far. In line with the EU's target to cut carbon emissions 55% from 1990 levels by 2030, **there is a proposal to lower the 2030 fleet limit further to 47.5g CO2/km (50% reduction from 2021) requiring a ~62% EV penetration rate according to our calculations.**

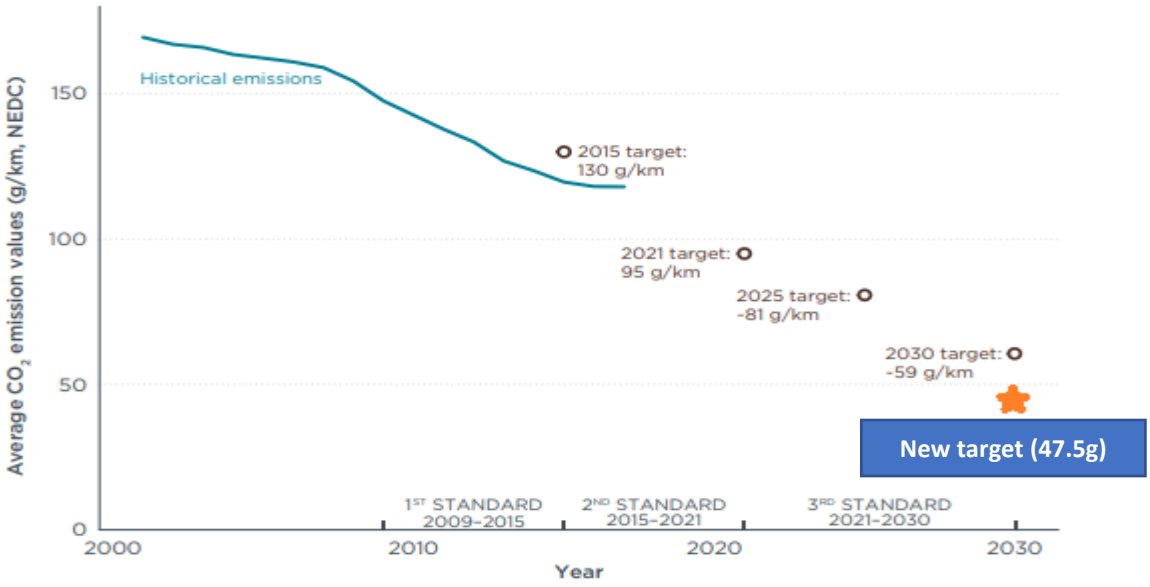


Figure 13: EU CO2 Emission Targets 2000-2030 (Source: ACEA)

A further differentiating factor that will underpin the increased sale of EVs in Europe is the legislated or proposed ban on the sale of new diesel or internal combustion engine (ICE) vehicles in the major auto markets by ~2030. Falling battery pack prices to below US$100/kWh (and improving energy density) will result in price parity between EVs and ICE vehicles across all market segments by ~2024. **Beyond 2025 the all-in relative total cost of owning an EV will be compelling**. Subsidies will no longer be needed. The limitation on EV penetration will be consumer concerns regarding fast charging availability (10-15 minutes to 80% charge) and driving range (300 miles +). RK Equity believes the evolution to high nickel cathodes (figure 12 will alleviate those concerns in the European market.

ICE Ban by European Country (Legislated or proposed)

Country	Diesel Ban	ICE Ban	Auto sales 2019 (MM)
Norway	2025	2025	0.1
Belgium	2026	2026	0.6
Austria	2027	2027	0.3
Denmark	2030	2030	0.2
Germany	2030-2035	2030-2035	3.6
Iceland	2030	2030	0.0
Ireland	2030	2030	0.1
Netherlands	2030	2030	0.5
Slovenia	2030	2030	0.1
Sweden	2030	2030	0.4
UK	2030	2030	2.3
Spain	2040	2040	1.3
France	2040	2040	2.2

Figure 14: Legislated and proposed European ICE bans (Source: RK Equity, press releases)

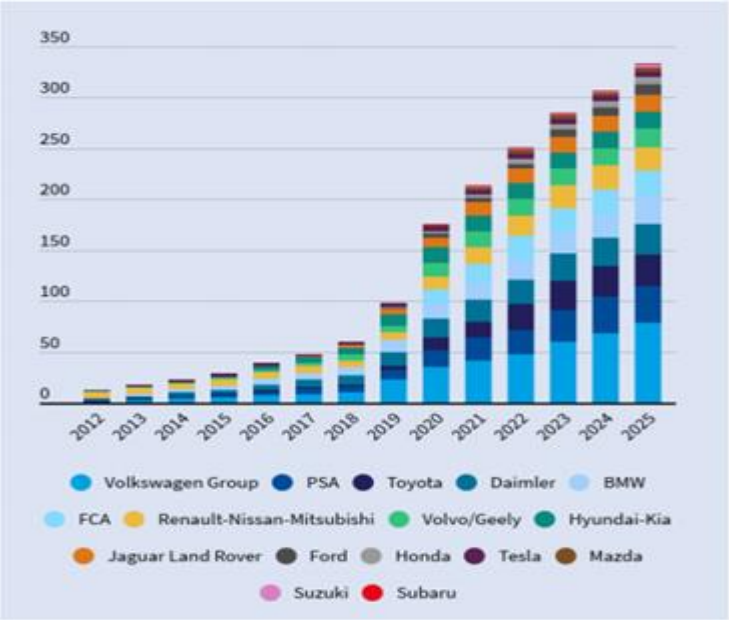


Figure 15: New EV model launches Europe (Source: ICCT)

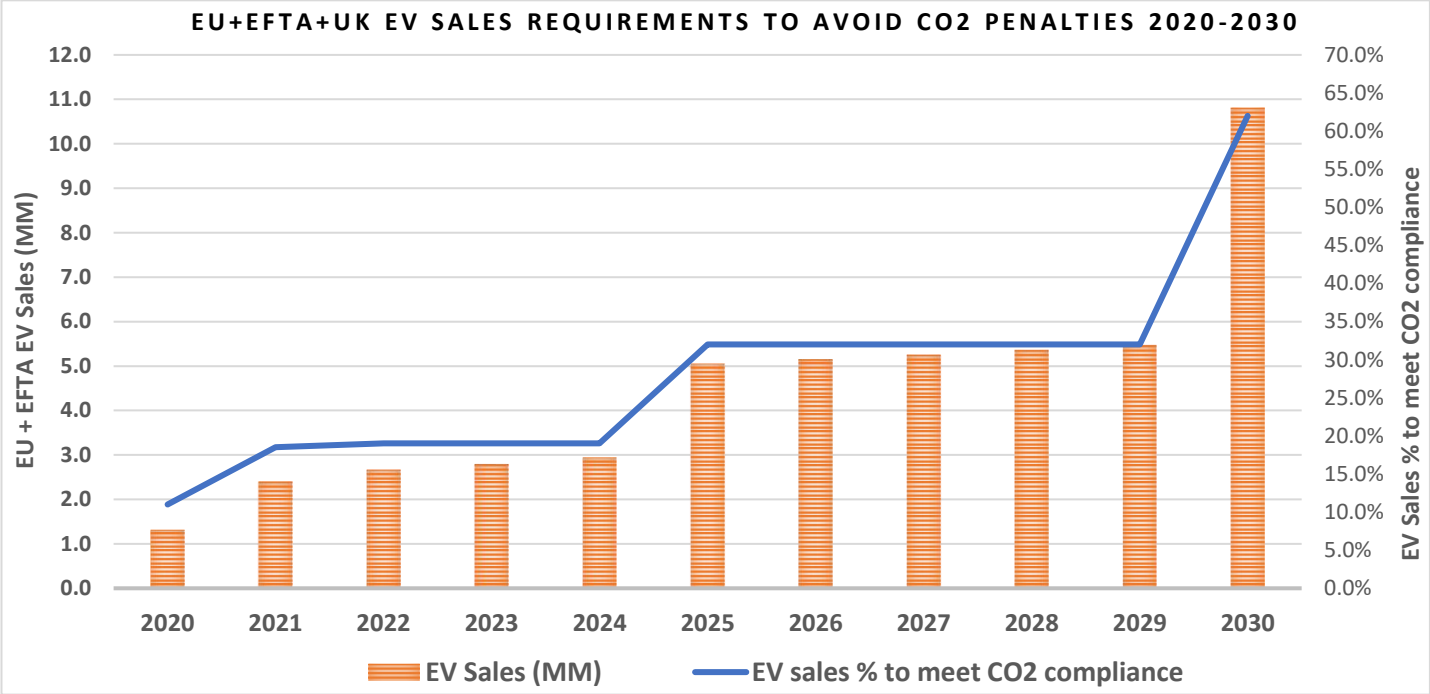


Figure 16: Estimated EV sales required to avoid CO2 penalties (Source: RK Equity)

Based on a projected 47.5g CO2/km fleet emission standard in 2030 we derive the expected battery GWh (installed) and lithium demand in Europe.

EV sales in 2030 (M units)	Avg battery pack kWh	GWh of installed batteries	Lithium demand (KT LCE)
10.8	44.8	483.7	386.9

This forecast excludes battery cell inventory builds along the supply chain (typically 20%). That would increase the required GWh of battery cells to 580.4 and lithium demand to 464.3 KT LCE. **Currently planned battery capacity targets in Europe by 2030 tie in with the above forecasts at around ~600 GWh**. RK Equity expects planned cell capacity to grow in the coming years to above 600 GWh to accommodate inventory build requirements, production scrappage (15%) and a capacity utilization rate of around 80%-85%.

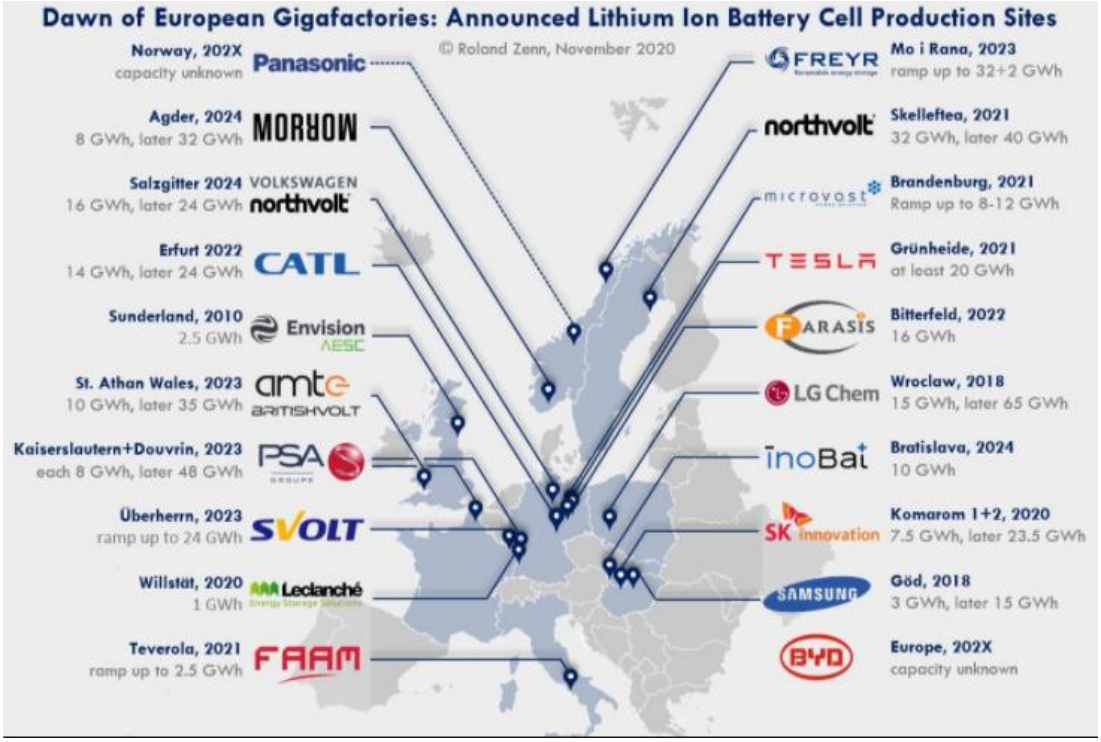


Figure 17: Planned European battery cell plants (Source: Roland Zenn)

As a sign of further vertical integration in the European battery supply chain, several cathode material plants are being constructed. Once local production of battery metals (and recycling) begins in Europe, the closed-loop supply chain will be complete.

Company	Location	Start Date
Umicore	Nysa	2021
BASF	Schwarzheide	2022
Johnson Matthey	Konin	2021
Northvolt	Skelleftea	2022
EcoPro	Hungary	TBD

Table 2: Planned European cathode plants (Source: Company reports)

Why hydroxide?

There are numerous reasons why we believe the Cinovec project should elect the hydroxide flowsheet route while maintaining the flexibility of reverting to battery-grade carbonate if needed.

- **RK Equity forecasts that consumers will prioritize fast charging and range, resulting in over 80% of EVs sold in Europe from 2024 onwards using high nickel cathodes requiring hydroxide (figure 12).**
- Despite a recent rise in LFP cathode usage, there are still questions around the performance of LFP in sub-zero temperatures (shorter range). More importantly, the cost of recycling LFP is more than the recovery value. Europe is making recycling of battery cells mandatory – who will assume the responsibility and cost of recycling LFP cathodes if its uneconomic?
- There is substantial low-cost ex-China production of carbonate (Chile, US and Argentina) making that market more competitive and less profitable, especially as demand growth is likely to be muted in the future.
- There is limited ex-China hydroxide production (figure 18, yet demand is growing strongly (40%+ per annum). The incentive price to bring on new hydroxide production ex-China is estimated at between $13-$14k/t.
- RK Equity is forecasting a larger global shortfall of battery-grade lithium hydroxide from 2024 onwards than battery-grade carbonate. We see carbonate as a largely China-based product.

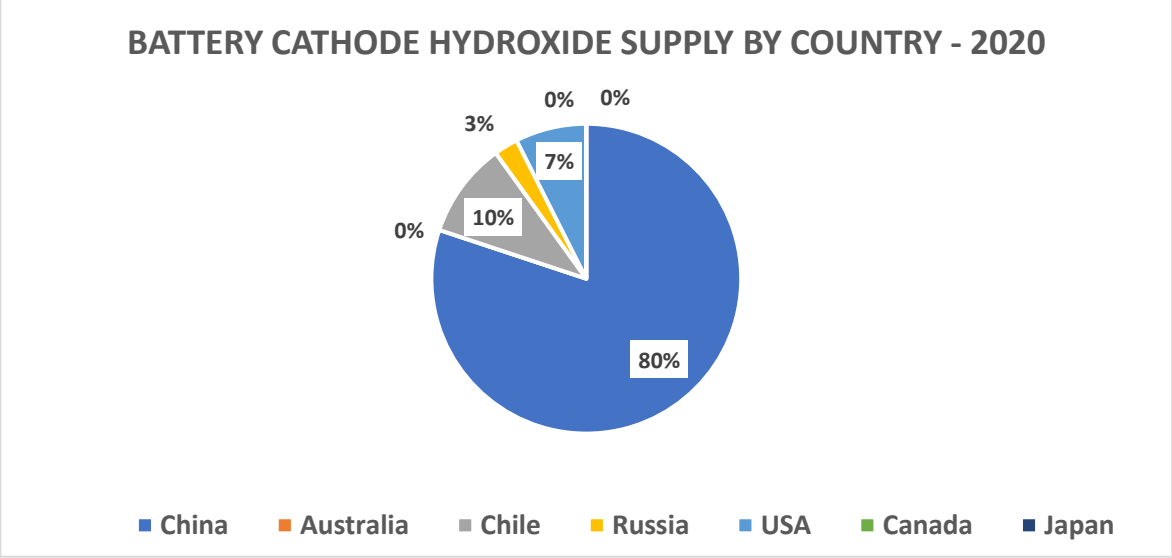


Figure 18: Battery cathode hydroxide supply (Source: RK Equity estimates)

- As European OEMs face substantial fines (~€10,000 per ICE vehicle), they are strongly incentivized to ensure no supply chain bottlenecks exist, particularly battery cells. Most of the proposed/existing European battery cell plants have not secured lithium chemicals'

long-term supply. Recently Paul Graves, the CEO of Livent, commented that if OEMs went out to the market, they would secure around 15% of their lithium demands. With EV sales now achieving or exceeding forecasts, it's far cheaper for OEMs to pay a $2/kg premium for lithium hydroxide (and other battery materials in short supply) than for them to pay the €10,000 fine per vehicle.

China dominates the battery cathode hydroxide supply chain representing around 80%. However; ex-China demand dominates that market making Japan and South Korea (and soon Europe and the US) heavily exposed to Chinese supply chain risks and higher carbon intensity (CO2/t) product. **As part of its Brexit agreement, the UK has agreed to source 50% or more of its required lithium from either within the UK or Europe by 1 January 2024 or face EU tariff.** The European Raw Materials Alliance (ERMA) aims to secure 80% of its required lithium from local sources by 2025. **Using our European 2030 demand forecast of 386.9 then 80% would equate to ~310KT LCE.** As the entire installed EV battery cathode lithium market was **~109KT LCE globally** in 2020, that's an ambitious goal. Logically, large scale, long-life projects with the ability to produce in the midterm would likely be promoted within the EU. **The Cinovec deposit that will reach its final investment decision in early 2022 stands out amongst its hard rock peers.**

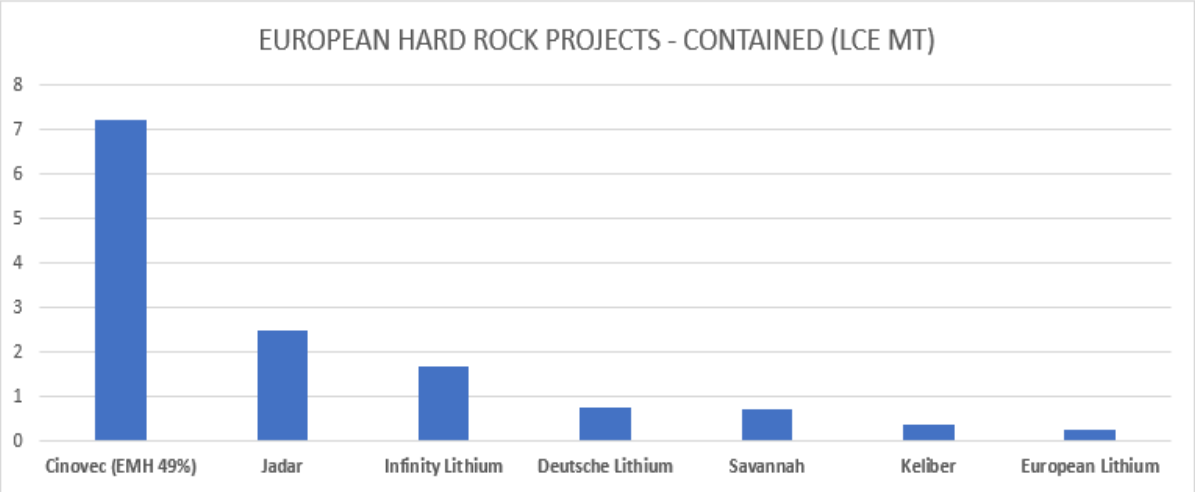


Figure 19: Europe hard rock universe (Source: Company reports & RK Equity)

EMH is projected to start production (2024) as the battery-grade hydroxide market falls deeper into a structural deficit.

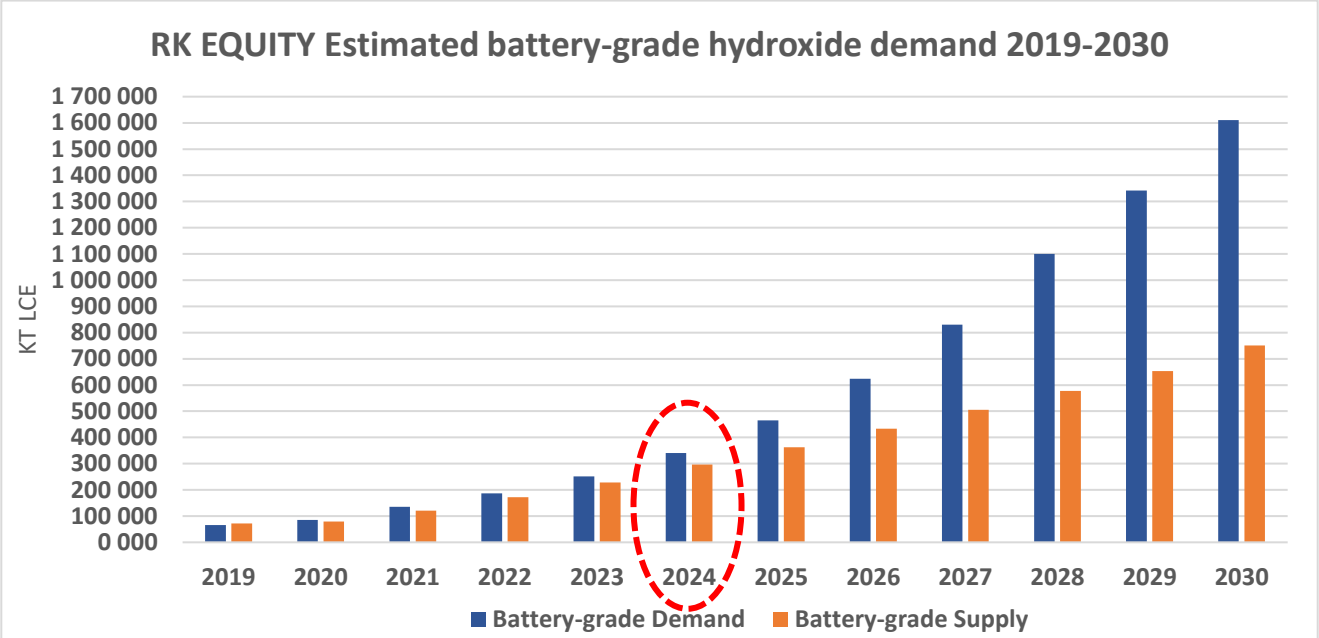


Figure 20: Battery-grade hydroxide forecasts (Source: RK Equity estimates)

EMH MANAGEMENT:

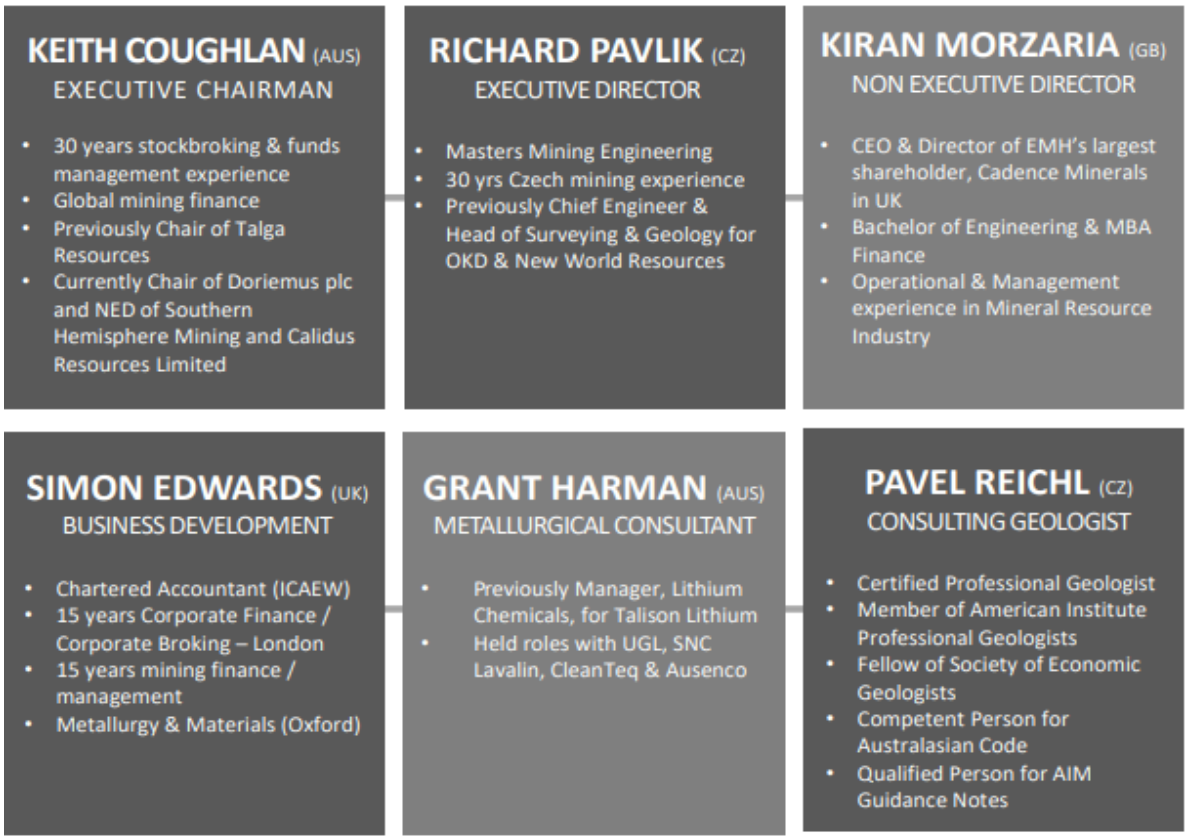
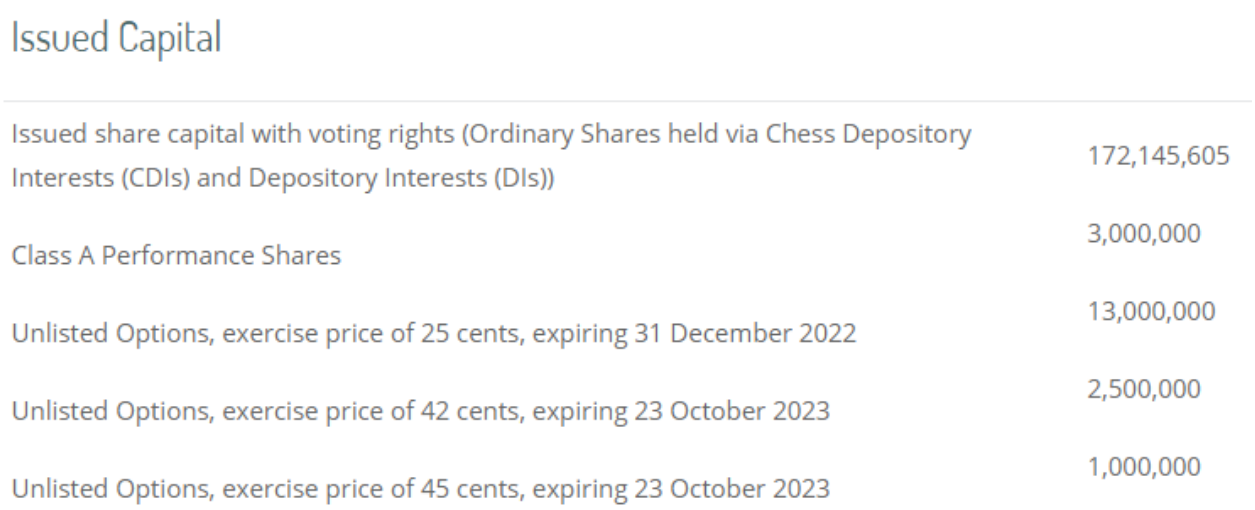


Figure 21: EMH management team (Source: EMH company presentation)

More recently, Ambassador Lincoln P. Bloomfield Jnr joined the board of EMH in January 2021 as a non-executive director. "Ambassador Bloomfield's prior work in developing the US Government's first international policy on Cyber Security, and his related work on Critical Infrastructure Protection will help EMH and downstream partners operate securely for many years. His deep experience in managing bilateral relationships with both the State Department and the Department of Defense will help EMH sustain effective relationships, both governmental and non-governmental. He will support EMH in its key relationships with the European Community, European Battery Alliance, European Raw Metals Alliance, and others seeking to create a highly secure, uniform and resilient framework for batteries and critical raw materials supply." (EMH news release)

Another key member of the management team is the highly experienced Grant Harman who previously held a senior position at Talison Lithium (Greenbushes) and currently consults many companies, including Livista Energy - a lithium start-up also aiming to produce battery-grade hydroxide for the European market.

EMH SHARE STRUCTURE:



Issued Capital

Issued share capital with voting rights (Ordinary Shares held via Chess Depository Interests (CDIs) and Depository Interests (DIs))	172,145,605
Class A Performance Shares	3,000,000
Unlisted Options, exercise price of 25 cents, expiring 31 December 2022	13,000,000
Unlisted Options, exercise price of 42 cents, expiring 23 October 2023	2,500,000
Unlisted Options, exercise price of 45 cents, expiring 23 October 2023	1,000,000

Figure 22: EMH issued capital and unlisted options/performance shares (Source: EMH)

EMH recently placed A$7.1M (A$1.10/share) with institutions including the fast growing Thematica Future Mobility Fund – a strategic move by the company as it will require institutional support to raise an estimated ~US$138M ([$440M capex x 49%]plus $20M working capital) in early 2022 to cover its capex and working capital commitments for the Cinovec project.

Our forecasted fully diluted shares in issue to completed construction is as follows:

Company	Shares / Options (MM)
Current issued	172.15
Performance	3.00
Unlisted Options	16.50
Est Issue (2022)	71.00
TOTAL	**262.65**

Table 3: Forecasted fully diluted shares in issue (Source: RK Equity estimate)

ESTIMATED FAIR VALUE (NEXT 12-MONTHS):

RK Equity has made adjustments to the PFS completed in 2019. We have conservatively applied a lower assumed lithium recovery rate translating into a higher operating cost before by-product credits—the recovery rate used in our model increases over time. Additionally, we have lowered the by-product credit assumption for tin. Offsetting these lower assumptions is a higher long-term forecast price for battery-grade hydroxide set at $13k/t. We have assumed a higher capex of $540m, offset by an expectation that Cinovec receives an EU grant of ~$100M. These adjustments result in an NPV very similar to the June 2019 PFS.

Variable US$	Updated PFS June 2019	RK Equity estimates Feb 2021
Construction capex	482.6	540 (before EU Grant $100M)
Operating costs (w/o credits)	4,876	5,000-5,500
Operating costs (with credits)	3,435	4,500-5,000
LiOH price assumption	12,000	13,000
NPV(8%) after tax (100%)	1,108	1043
IRR after tax	28.8%	29.7%

Table 3: June 2019 PFS and RK Equity estimates (Source: Company reports, RK Equity)

European/USA peer group for EMH

	Company	Location	Chemical	Price (Local)	EV (US$M)	Stage	Production	Capex (US$M)	$11k/t Li2CO3 $13k/t LiOH EBITDA (US$M)	Fully funded/EBITDA	EMH Discount
	Piedmont	USA	Hydroxide	59.00	747	PFS	22 700	600	216	6.1	-38%
	Vulcan	Germany	Hydroxide	8.00	527	PFS	40 000	2 766	394	8.4	-55%
	LAC	USA	Carbonate	29.75	2583	PFS	50 000	800	350	9.7	-61%
	Standard Lithium (100%)	USA	Carbonate	4.11	1270	DFS	21 000	0	141	9.0	-58%
	Ioneer	USA	Hydroxide	0.44	553	DFS	20 000	800	220	6.1	-39%
									AVERAGE	7.9	-52%
49%	EMH (25ktpa)	Czech	Hydrox or Carb	1.40	182	PFS	12 381	216	105	3.8	
49%	EMH (50ktpa)	Czech	Hydrox or Carb	1.40	182	PFS	24762	480	210	3.1	

	A$
EMH (25ktpa)	2.91
EMH (50ktpa)	3.49

Figure 23: EMH peer group valuations (Source: RK Equity, Company Reports)

On successful completion of the following catalysts within the next 12-months, we believe EMH (using a conservative capex of $540m pre-grant and an opex estimate of $4.5-$5k/t) will trade at or around the average fully funded enterprise value/EBITDA ratio of its European and USA peers (8x) **between A$2.91 and A$3.49/share (£1.63 - £1.95/share).**

- Offtake agreement/s with one or more downstream customer (cathode/battery cell/OEM)
- Completion of a DFS with SMS Group guarantees re capex and battery quality hydroxide
- Securing an EU grant of ~US$100M for Geomet to build the Cinovec project
- Securing "soft" low-interest loans from European Investment Bank or other agency for Geomet thus ensuring a project 70/30 non-equity/equity split
- Secure the necessary Czech permitting to begin mine construction
- Guide the feasibility of **increasing chemical production to 50KT a year** (two eight hour shifts up from one currently)

CINOVEC (100%) NPV MODEL (25.3KT, 21-YEAR LIFE, EQUITY FUNDED)

IRR Model (25,267tpa)																											
Years	0	0.5	1	1.5	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
Capex (net of grant)	-1	-76	-126	-126	-116	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Working capital					-25	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Revenue					66	197	328	328	328	328	328	328	328	328	328	328	328	328	328	328	328	328	328	328	328	328	328
Opex (net of credits)					-25	-75	-125	-124	-123	-121	-120	-119	-117	-116	-115	-115	-115	-115	-115	-115	-115	-115	-115	-115	-115	-115	-115
EBITDA US$M					41	122	203	205	206	207	208	210	211	212	214	214	214	214	214	214	214	214	214	214	214	214	214
Depreciation					-5	-16	-26	-26	-26	-26	-26	-26	-26	-26	-26	-26	-26	-26	-26	-26	-26	-26	-26	-26	-26	-26	-26
Tax (19%)					-7	-20	-34	-34	-34	-34	-35	-35	-35	-35	-36	-36	-36	-36	-36	-36	-36	-36	-36	-36	-36	-36	-36
Profit after tax					34	102	170	171	172	173	174	175	176	177	178	178	178	178	178	178	178	178	178	178	178	178	178
Sustaining Capex					-1	-4	-6	-6	-6	-6	-6	-6	-6	-6	-6	-6	-6	-6	-6	-6	-6	-6	-6	-6	-6	-6	-6
After tax cash flow	-1	-76	-126	-126	-84	98	163	164	165	166	167	168	170	171	172	172	172	172	172	172	172	172	172	172	172	172	172
IRR (%) After-tax	29.7%																										
NPV(8%) US$M	1 043																										

Notes:

- Capex net of grant US$440M
- Working capital included
- Ramp-up of production is 20% in year 1, 60% in year 2 and 100% in year 3

ESTIMATED FAIR VALUE (STEADY-STATE 2025 ONWARDS):

Variable	US$
Capex per tonne	22 000
Capex MM	540
Grant (EU) MM	-100
Low interest loan MM	-200
Net Equity	240
EMH (49%) MM	118
Working capital MM	20
Issue Price (A$2.50)	1.94
Shares issued (MM)	71.0

Cinovec	US$
EBITDA	212.5
EV/EBITDA x	10
EV	2 125

EMH	MM
Shares (diluted)	191.65
New issue	71.0
Total shares	262.6

EMH	US$	
EMH EV	1 041.3	49%
Less Loan (49%)	-98	
Equity	943.3	
Shares	262.6	
US$ Per share	3.59	
A$ per share	4.67	1.3
Upside	236%	

What if scenarios (base case 25ktpa)

EV/EBITDA x	EMH A$	Upside %
8	3.64	162%
10	4.67	236%
12	5.70	310%
15	7.25	421%
20	9.82	607%

What if scenarios (blue sky 50ktpa)

EV/EBITDA x	EMH A$	Upside %
8	6.01	333%
10	7.64	450%
12	9.26	567%
15	11.70	742%
20	15.76	1034%

Figure 24: Cinovec / EMH steady-state valuation (Source: RK Equity estimates)

Once the Cinovec project reaches steady-state production from 2025 onwards, an EV/EBITDA multiple valuation method is more relevant. The **base case scenario production of 25ktpa of lithium hydroxide results in a A$4.67/share** valuation on a fully diluted basis. If we increase the annual production to **50ktpa**, then a **"blue sky" valuation post ~2028 would be A$7.64/share.** As battery quality lithium is a specialty chemical business, there is scope for EMH to be valued on a higher EV/EBITDA multiple than 10x.

CONCLUSION:

The Cinovec project is a strategic asset in Europe situated near logical downstream customers. With ERMA targeting 80% of lithium supply on the continent and the EU introducing a battery passport (2024) and carbon taxes soon after that, we believe the **Cinovec project, given its scale and location will be one of the first producers in Europe.** If Europe needs close to ~400ktpa of battery quality lithium for EVs only by 2030, mostly hydroxide, then 80% local supply equates to ~320ktpa (excluding inventory build). This is an aggressive target given the **global** battery-grade lithium market for **GWh deployed** in passenger EVs was ~109KT in 2020. When the challenge is viewed in this light, then bringing on projects, the size of Cinovec at potentially 50ktpa is critical.

We believe the capex and processing guarantee from the SMS Group is a credible route for Cinovec project to take – relative to other lithium juniors. Additional differentiating factors is the ability to fund the project with 70/30 non-equity/equity and the likelihood of a US$100m grant.

European / UK regulations are yet to be reflected in the EMH share price. Several catalysts should re-rate EMH relative to its European and US peers. Based on current lithium peer fully funded EV/EBITDA valuations, we have a fair value price range of A$2.91 – A$3.49/share over the next 12 months.

Longer-term we believe EMH's 49% stake should trade on a 10x EV/EBITDA multiple once steady-state production is achieved from 2025. This equates to a A$4.67/share price with a "blue sky" upside assuming 50ktpa of production long-term of A$7.64/share.

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