ESG FOCUS INSIDE

Savannah Resources

Sponsored Research

United Kingdom | Basic Resources

Investment Research

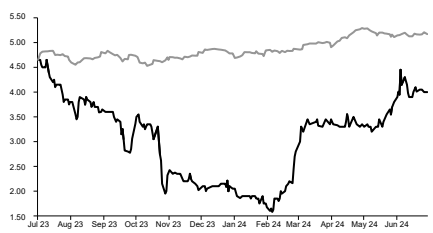
Full Company Report | **Reason: Initiation of coverage** | ***16 July 2024***

Buy	
Recommendation unchanged	
Share price: GBp	**4.00**
closing price as of 15/07/2024	
Target price: GBp	**7.80**
Target Price unchanged	
Upside/Downside Potential	**95.0%**
Reuters/Bloomberg	SAVS.L/SAV LN
Market capitalisation (GBPm)	**87**
Current N° of shares (m)	2,173
Free float	**61%**
Daily avg. no. trad. sh. 12 mth (k)	3,449
Daily avg. trad. vol. 12 mth (k)	3,327.04
Price high/low 12 months	4.68 / 1.58
Abs Perfs 1/3/12 mths (%)	5.26/19.40/-13.98

Key financials (GBP)	12/23	12/24e	12/25e
Sales (m)	0	0	0
EBITDA (m)	(4)	(3)	(3)
EBITDA margin	*nm*	*nm*	*nm*
EBIT (m)	(4)	(3)	(3)
EBIT margin	*nm*	*nm*	*nm*
Net Profit (adj.)(m)	0	0	0
ROCE	-19.3%	-12.4%	-9.6%
Net debt/(cash) (m)	(10)	(13)	(9)
Net Debt Equity	*-0.3*	*-0.3*	*-0.2*
Net Debt/EBITDA	2.7	3.6	2.6
Int. cover(EBITDA/Fin.int)	33.0	high	high
EV/Sales	nm	nm	nm
EV/EBITDA	nm	nm	nm
EV/EBITDA (adj.)	nm	nm	nm
EV/EBIT	nm	nm	nm
P/E (adj.)	nm	nm	nm
P/BV	nm	nm	nm
OpFCF yield	*-6.3%*	*-15.0%*	*-12.2%*
Dividend yield	*0.0%*	*0.0%*	*0.0%*
EPS (adj.)	0.00	0.00	0.00
BVPS	0.02	0.02	0.02
DPS	0.00	0.00	0.00

Shareholders

AMG Lithium 16%; Al Marjan LTD 13%; Slipstream Resources International PTY LTD 7%; Mário Ferreira 4%;



Source: FactSet

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Lithium Made in Europe

This report offers the initiating coverage of Savannah Resources, a UK-based company focused on the development of the Barroso Lithium Project in the north-eastern region of Portugal. The Project refers to the development of a mining and processing facility of spodumene concentrate that is then exported to a wide range of possible refiners of battery grade lithium compounds. The company has recently signed a heads of terms agreement with AMG Critical Materials that encompassed an offtake agreement for at least 25% of expected output for five years, but also a capital intake that allows the funding of operations in the near future (along with the potential for full funding). A final decision on the environmental license is expected in the next quarters, while the company continues to undergo drilling operations to complete the Definitive Feasibility Study (DFS). The next 2-3 quarters could be important to materialize the final steps towards a final investment decision and funding structure. After the completion of these steps, we believe that the rationale of the Barroso Project and its potential economic returns can drive further interest from investors and lead to a re-rating of the stock.

- ✓ The Barroso Lithium Project is one of the most important spodumene developments in Europe, given its potential in terms of mineral resources and production. Expected lithium production should be enough to meet the requirements of close to 500 thousand battery packs per year, geographically close to Europe's automobile plants. It also helps to boost European security of supply of a critical raw material, as considered by the European Union.
- ✓ In the last years, Savannah has engaged with the Portuguese authorities for the required environmental license, at the same time trying to provide detailed information on the Barroso Lithium Project to the relevant communities. At this time, environmental permitting and DFS related work are being done, with the expected completion by the end 2024. Given current information, we believe that this has a high probability of being successfully completed.
- ✓ The valuation of Savannah is completely linked with the valuation of the Barroso Lithium Project, which was done having as working assumptions the operating considerations depicted in the last scoping study of the project (June 2023). Under this set of criteria, we find the project appealing given the share price's underperformance in the last years. There is a strong possibility of a re-rating of the stock being materialized in the next quarters, as the DFS and licensing permitting near completion.
- ✓ The recent partnership with AMG Critical Materials, encompassing the full subscription of a GBP 16m capital increase and the possibility of an offtake agreement for at least 25% of production for five years, can be seen as a proof of concept that can drive further investor interest and push for a stock re-rating to levels closer to those in which comparable projects are trading.
- ✓ Electric vehicle penetration should be the main driver of lithium demand for the foreseeable future (with further upside from the deployment of static storage solutions). Despite possible disruptions in shorter term expansion rates, we believe that the underlying trend of higher EV penetration is irreversible, and that a low-cost raw material offer sourced from Europe has advantages that are difficult to be matched.

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Investment Case

Savannah Resources PLC was incorporated in July 2010 in the United Kingdom, where it is also based. The company is the sole owner of the Barroso Lithium Project, located in northern Portugal. At this stage, Savannah does not own any other revenue generating asset, with Barroso anticipated to start production in the second half of 2026. The Barroso Project contains one of the most **significant spodumene lithium resources in Europe**.

The Portuguese environmental regulator (APA) has already approved the company's Environmental Impact Assessment (EIA) study and a DFS is currently underway. The company's senior executives have years of experience in mining, commodities and finance. Seasoned management and operational teams, along with a high potential asset (Barroso) provide a compelling investment case under a de-risked scenario.

The Barroso development plan foresees an **average annual run-of-mine throughput rate of 1.5 million tonnes over 14 years**, a life of mine (LOM) **production of 2.6 million tonnes of 5.5% lithium oxide (Li_2O) grade spodumene concentrate** at an annual production rate of close to **191 thousand tonnes**.

At the end of May 2023, the Portuguese environmental regulator (APA) issued a positive Environmental Impact Statement (DIA) on the company's revised design and optimization plan for the Barroso Project. This was the first DIA for a lithium raw material supply project in Portugal. The company anticipates to complete the DFS by the end of 2024, with RECAPE[1] submission shortly after that (the RECAPE will only be completed after the completion of the DFS).

Once the Environmental License is granted, we believe that the project has a high probability of being developed or monetized. Hence, at the pre-environment license stage, investors may benefit from the pre-de-risking discount at which the company is currently trading. A further step in the de-risking process is the fulfilment of an offtake agreement, giving investors an important layer of assurance in terms of cash flow predictability.

This has already occurred (in part) with the heads of terms agreement with AMG Critical Materials (AMG Lithium), in which the latter subscribed a capital increase in Savannah (becoming the largest shareholder) and foreseeing offtake volumes of at least 25% of production (along with AMG's help in helping secure funding for the project).

According to the company's scoping study of June 2023, the **required initial capex for the Barroso Project is of USD 236m (excluding contingencies)**, which makes it indispensable for the company to raise cash (the post AMG funding cash balance at June 2024 was more than GBP 21m). Funding options include a mix of new equity increases and debt, but also cash advances within the context of an offtake agreement with third parties.

We initiated the coverage of Savannah Resources with a **target price of 7.80 GBp/share (pence per share) and a Buy recommendation**. We valued Barroso through a DCF using the company's June 2023 scoping study assumptions as a working base, but with our own calibrations where we believed they were required.

It was also assumed that the Environmental License is issued in time for the current development plan to be materialized (production starting in the second half of 2026). Given that we still do not know how the funding of the initial capex will be done, we just assumed the raise of a mix of debt and equity, with a capital increase of c. GBP 70m in 2026.

As mentioned, other alternatives are also likely to occur, such as funding linked to offtake, but also European or government grants given the potential of the project to supply material quantities of a critical raw material to Europe.

One of the most interesting particularities of the Barroso Project is the fact that it **can help to better integrate a lithium ion battery value chain in Europe**. Most of the hard rock and brine lithium production projects in operation and planned are located in classical geographies such as Latin America and Australia, but some are already anticipated in North America, other

[1] Environmental Compliance Report of the Execution Project (RECAPE).

South American countries (such as Brazil) and Europe. The desire of the European Union to expand its independence in the lithium value chain, led to increasing incentives for developers to build refining and assembly capacity in the continent.

Effective independence should only be achieved by also considering the upstream stages of the value chain, namely lithium production. Barroso is one of the few projects in Europe with enough dimension to make a difference in terms of being an alternative for lithium sourcing, namely with the set of new gigafactories planned to be built in Europe.

Savannah Resources: a one page summary

The Company is listed and regulated on the London Stock Exchange's Alternative Investment Market (AIM). The Company's ordinary shares are also available on the Quotation Board of the Frankfurt Stock Exchange (FWB:SAV) and the Börse Stuttgart (SWB: SAV). Market cap is c. GBP 90m. The company's sole focus is the development of the Barroso Lithium Project.

Key Shareholders (>3%)

AMG Lithium B.V. **(15.77%)**
Al Marjan Ltd **(12.69%)**
Slipstream Resources International PTY Ltd **(6.82%)**
Mário Ferreira **(4.22%)**

Barroso Lithium Project

- Europe's most significant resource of hard rock spodumene lithium;
- Lithium produced responsibly with conventional techniques & a commitment to minimizing carbon footprint;
- Sufficient lithium production for approximately 0.5 million vehicle battery packs per annum;
- Features a 30-year Mining Lease (awarded in 2006) and a 3-block mining lease application;
- Agência Portuguesa do Ambiente (APA) issued a Positive Declaration of Environmental Impact (DIA);
- Lithium is designated as a Strategic and Critical Raw Material in the EU's Critical Raw Materials Act. Feldspar is designated as a Critical Raw Material;
- New Scoping Study completed in 2023 demonstrated:
  - . Highly positive economics
  - . Low technical risk
  - . Added value from by-products (feldspar/quartz)

Risks

- Environmental Permitting Risk;
- Natural Resource Project Development & Construction Risk;
- Attraction and Retention of Key People;
- Future Funding Requirements;
- Country Risk;
- Social License Risk;
- Commodity Price Risk;
- Global & Regional External Shocks.

What sets Savannah apart?

- Largest spodumene resource in Europe
- Expansion potential
- Renewable baseload power supply
- Good country supporting infrastructures
- "Made in Europe" critical raw material
- At the middle point of the cost curve
- Close to Europe's auto manufacturers
- Environmental permitting and DFS on sight
- Proven mining and processing technology

CEO and Board of Directors


Rick Anthon **Chairman**


Emanuel Proença **CEO**


Dale Ferguson **Technical Director**


Bruce Griffin **Non-executive Director**


Diogo da Silveira **Deputy Chair**


Mohamed Sulaiman **Non-executive**

Management

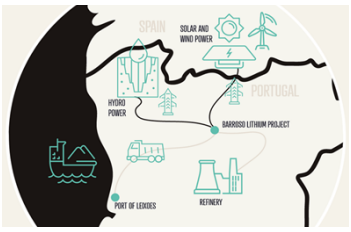

Michael McGarty **CFO**


Asa Bridle **Head IR, Com. & B. Dev.**


Sascha Keen **CSO**


Sónia Coelho **Environ. Manager**


John Pereira **Exploration Manager**



Valuation

Post-tax NPV_8	USDm	714
Post-tax IRR		38%
Post-tax payback period	years	2.6
Initial capex (excluding contigencies)	USDm	236
LOM opex	USDm	1,066
Average LOM C1 operating cost	USD/ton	293
LOM revenue	USDm	3,920
LOM EBITDA	USDm	2,664
LOM Post-tax FCF	USDm	1,544
Start of production		2027
Potential mine life	years	14
Target LOM ore mined	Mton	20.4
Annual ore throughput	Mton	1.5
Average LOM strip ratio	w:o	5.9
Plant Li_2O recovery		73%
Potential annual 5.5% spodumene production	ton/year	186,207
Average royalty rate		4.0%
Average 6% spodumene concentrate price equivalent	USD/ton	1,500
Average 5.5% spodumene concentrate price	USD/ton	1,375

Fair value 7.80 GBp/share
Recommendation **BUY**

Valuation

The valuation and estimates incorporate the **recent capital increase of GBP 16m made by AMG Lithium**, which was one of the consequences of a partnership agreement also signed. Under this partnership, AMG has invested in Savannah and entered a heads of terms agreement in which **AMG can purchase 45 thousand tonnes of spodumene concentrate from the project (c. 25% of total) for five years** based on prevailing market prices at the time. In addition, AMG will also take a leading role in securing a full project financing solution for the project's development. If this financing is successful, the heads of terms agreement foresees the **increase and extension of the offtake agreement to 90 thousand tonnes for 10 years**.

Our valuation of Savannah Resources is based on a DCF analysis of the project with most of the operating assumptions based on the company's last scoping study of June 2023. The discount rate is 8% (NAV8). Our price assumption for spodumene concentrate at 6% Li_2O (SC 6%) is **1,500 USD/ton** FOB, which is equivalent to **1,375 USD/ton of SC 5.5%** (or c. 14,100 USD/ton of LCE) and flat across the estimated life of the project. The first production year is conservatively assumed to be **2027**, just a few months after the unofficial target of the company (second half of 2026). The valuation considers a P/NAV of a magnitude that we believe is fair considering the still pre-production phase, but also the project's close distance from the final investment decision.

Exhibit 1 Valuation summary

GBPm	NAV8 @ 100%	P/NAV	Net NAV8	GBp/share
Barroso	571	30%	171	7.9
Corporate			-14	-0.7
Net debt (cash)			-13	-0.6
# shares (m)	2,173			
Equity			170	7.80

GBP/USD=1.25

Source: CaixaBI Equity Research

AMG Critical Materials was established in 2007 and is a global critical materials company exposed to energy transition and sustainability trends. The company aims to be a relevant player in the European lithium refining sector. With this agreement, Savannah is able to **raise additional cash to fund its planned workstreams**, such as the DFS, environmental licensing process, team expansion, and relevant land acquisitions. It is also important to highlight that AMG will be able to increase the offtake volumes to 90 thousand tonnes (c. 47% of the project's total) if it provides Savannah with a full funding solution that is acceptable by the latter.

This partnership is important as it **significantly de-risk the project**, providing a funding pathway and assuring the sale of a significant part of future production. This could also be important as a way to increase the appeal of the project to a wider range of investors, with the consequent re-rating of the stock price.

The following exhibit presents the main assumptions and results from our economic valuation model of the Barroso project. There are some minor changes in terms of inputs, but the overall set of assumptions follow those of the company's last scoping study.

Exhibit 2 Barroso economic results table vs. SAV scoping study

	Units	CaixaBI Valuation	Savannah scoping June 2023
Post-tax NPV_8	USDm	714	953
Post-tax IRR		38%	77%
Post-tax payback period	years	2.6	1.3
Initial capex (excluding contigencies)	USDm	236	236
LOM opex	USDm	1,066	1,066
Average LOM C1 operating cost	USD/ton	293	292
LOM revenue	USDm	3,920	4,151
LOM EBITDA	USDm	2,664	2,793
LOM Post-tax FCF	USDm	1,544	1,694
Start of production		2027	2026
Potential mine life	years	14	14
Target LOM ore mined	Mton	20.4	20.5
Annual ore throughput	Mton	1.5	1.5
Average LOM strip ratio	w:o	5.9	5.9
Plant Li_2O recovery		73%	73%
Potential annual 5.5% spodumene production	ton/year	186,207	191,000
Average royalty rate		4.0%	4.0%
Average 6% spodumene concentrate price equivalent	USD/ton	1,500	1,597
Average 5.5% spodumene concentrate price	USD/ton	1,375	1,464

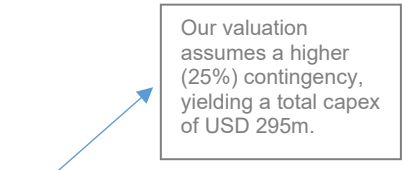
Note: the difference in the annual 5.5% spodumene production comes from the fact that Savannah considers 13.7 years of production and CaixaBI considers 14 years. The total LOM output is the same in both scenarios.

Source: CaixaBI Equity Research

The initial capex expected in the last scoping study was set at USD 235.9m excluding a 19% contingency (total of USD 280.3m). Our valuation assumes the same value but uses a more **conservative 25% contingency** (total of USD 295m). To give context, the former scoping study of June 2018 used a 25% contingency, and the feasibility study of Lithium Ionic's Bandeira Lithium Project in Brazil (announced on May 29, 2024) used a 15% contingency.

Exhibit 3 Detail of Barroso Project capex (as per SAV's scoping study)

	USDm
Mining	13.6
Processing facilities	107.8
Process infrastructure	17.4
Non-process infrastructure	35.5
Land acquisition	5.8
Freight	9.4
Project indirects	40.1
General	6.3
Initial capex excluding contingency	**235.9**
Contingency (average 19%)	44.4
Total initial capex	**280.3**



Source: Savannah Resources, CaixaBI Equity Research

The next exhibits shows a detail of operating costs as presented in the last scoping study[2], and that was the basis of our own opex assumptions. Transportation costs are added to total opex and the proceeds from the sale of by-products (e.g. quartz, feldspar) are subtracted to

[2] As per Savannah's June 2023 scoping study, the operating costs were calculated at a scoping level of accuracy of -20% / +30%.

yield C1 operating costs. Finally, royalties, sustaining capex and closure and rehabilitation costs are added to reach all-in sustaining costs.

Exhibit 4 Detail of Barroso Project opex (as per SAV's scoping study)

	LOM (USDm)	Annual (USDm)	USD per ton of concentrate
Mining	533.4	39.1	205.0
Equipment operating costs	364.5	26.7	140.1
Labour	49.4	3.6	19.0
Drill and blast	88.9	6.5	34.2
Indirect costs	30.6	2.3	11.7
Concentrator	444.0	32.5	170.7
Power	67.0	4.9	25.7
Processing supplies and consumable	91.3	6.7	35.1
Reagents	106.9	7.8	41.1
Water and tails disposal	56.3	4.1	21.6
Maintenance supplies	34.5	2.5	13.3
Labour	81.6	6.0	31.4
Operating contractors and services	6.4	0.5	2.5
General and administrative	69.1	5.1	26.6
Community benefits	19.7	1.4	7.6
Total opex	**1,066.2**	**78.1**	**409.9**

Source: Savannah Resources, CaixaBI Equity Research

Exhibit 5 Detail of Barroso Project opex, C1 and All-in sustaining costs (as per SAV's June 2023 scoping study)

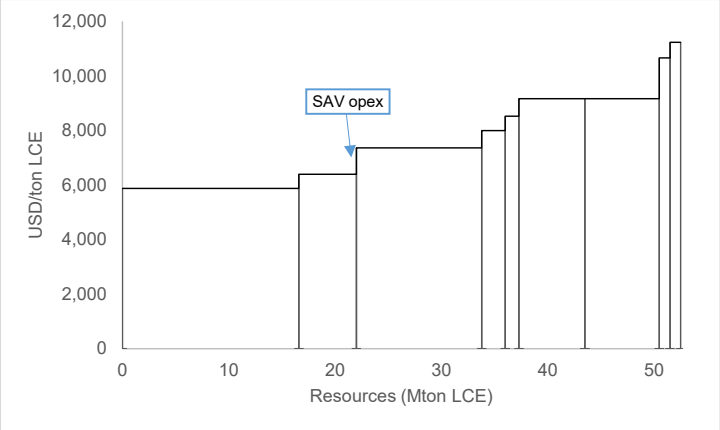
	USD per ton of concentrate
Mining	205.0
Concentrator	170.7
General and Administrative	26.6
Community benefits	7.6
Opex	**409.9**
Freight	13.9
Credit from sale of by-products	-132.1
C1 operating costs	**291.7**
Royalties	58.7
Sustaining capex	19.0
Closure and rehabilitation	39.3
All-in sustaining costs	**408.7**

Savannah only assumes the cost of transport from the mine to the port of Leixões (no storage nor ocean freight costs).

Source: Savannah Resources, CaixaBI Equity Research

The deal with AMG increases the probability of a scenario in which most of supply (if not all) is targeted at European customers, as opposed to the alternative of widening export routes to more distant targets such as China. This would add a cost advantage to Savannah against non-European producers. A cost comparison of Savannah's anticipated opex per tonne of LCE against Australian hard rock producers is provided below, showing a **competitive position in the cost curve** (opex per tonne prior to benefits from by-product sales).

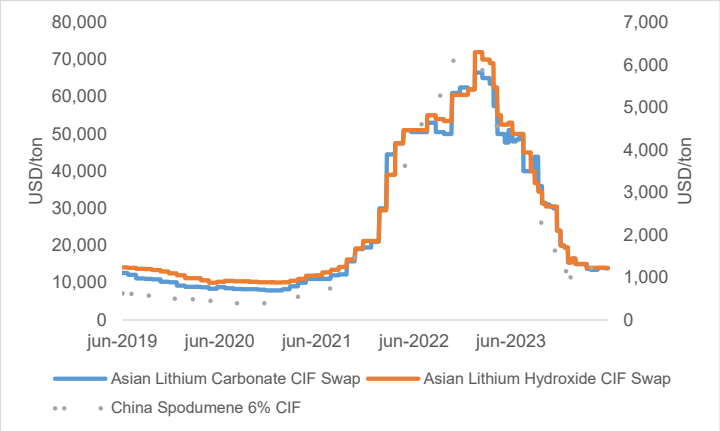
Exhibit 6 Spodumene cost curve (Australian producers) vs. Savannah



Source: CaixaBI Equity Research

In the June 2023 scoping study, Savannah used a spodumene concentrate price curve based on a pool of third party forecasts, averaging 1,464 USD/ton of SC 5.5% or 1,597 USD/ton of SC 6% equivalent. The price assumptions change throughout the project's life, reaching higher prices in the first two years and declining to a flat level from the eighth year forward. Our price curve is flat at 1,375 USD/ton SC 5.5% (**1,500 USD/ton SC 6%**), equivalent to 14,106 USD/ton LCE assuming a 4,000 USD/ton refining cost.

Exhibit 7 Lithium price performance

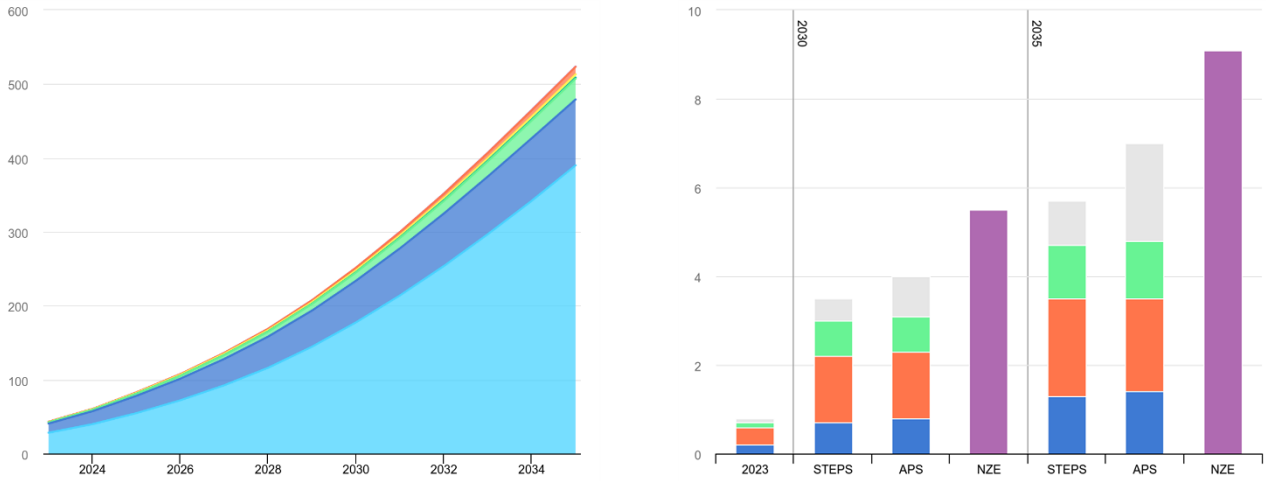


Source: CaixaBI Equity Research

The year-to-date average price of China SC 6% stands close to 1,135 USD/ton, with the five-year average at 2,055 USD/ton. The price performance of lithium in the last five years was atypical, with a strong surge starting in the second half of 2021 after a long period below 1,000 USD/ton. SC 6% prices reached a high of 6,110 USD/ton at the end of 2022, declining to the current levels throughout 2023. This steep increase was the result of multiple factors such as a widening deficit of battery grade lithium carbonate, restructuring of contracts to a more market-led pricing, restrictions of Russian hydroxide volumes and demand from Chinese automakers ahead of the end of government vehicle subsidies at the start of 2023.

Ultimately, lithium prices will be driven by demand from electric vehicles, the most important source of growth today and, presumably, in the future. The International Energy Agency anticipates a **12x increase in the stock of the global electric vehicle fleet** (EVs and PHEVs) up to 2035, with battery demand expected to grow by **7x to 12x** depending on which scenario of policy adoption is considered.

Exhibit 8 IEA forecast of global EV fleet (million LHS) and battery demand (TWh)

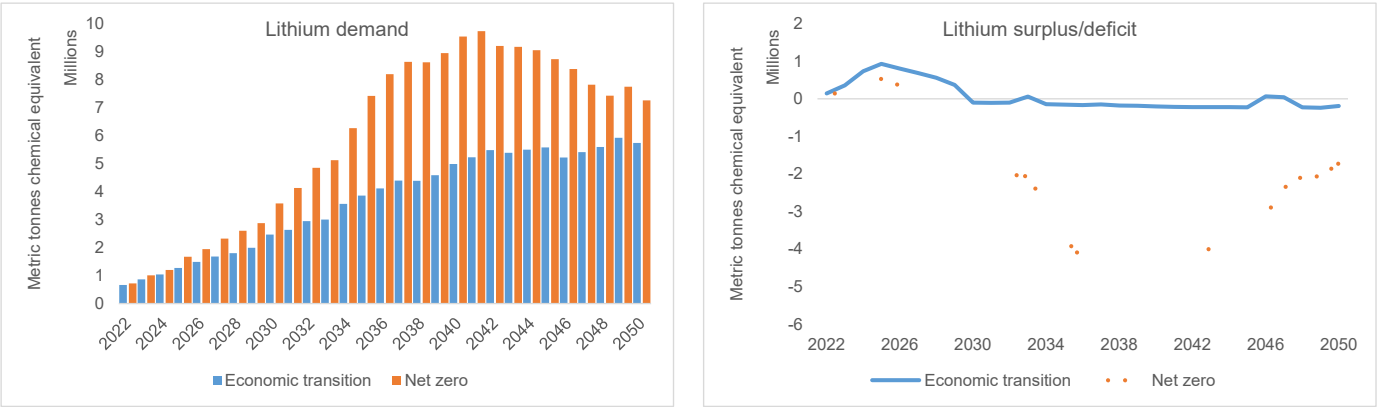


STEPS: Stated Policies Scenario (designed to provide a sense of the prevailing direction of energy system progression, based on a detailed review of the current policy landscape); APS: Announced Pledges Scenario (illustrates the extent to which announced ambitions and targets can deliver the emissions reductions needed to achieve net zero emissions by 2050); NZE: Net Zero Emissions by 2050 (normative scenario that shows a pathway for the global energy sector to achieve net zero CO2 emissions by 2050, with advanced economies reaching net zero emissions in advance of others)

Source: IEA

BNEF estimates **global lithium demand to increase 6.7x to 7.2x from 2023 to 2050** (depending on the scenario adopted), while supply is anticipated to expand by only **4.6x**. This leads to a deficit already in 2028 (according to the Net Zero scenario) or just a few years later in 2030 (Economic Transition scenario) that will grow up to the start of 2040.

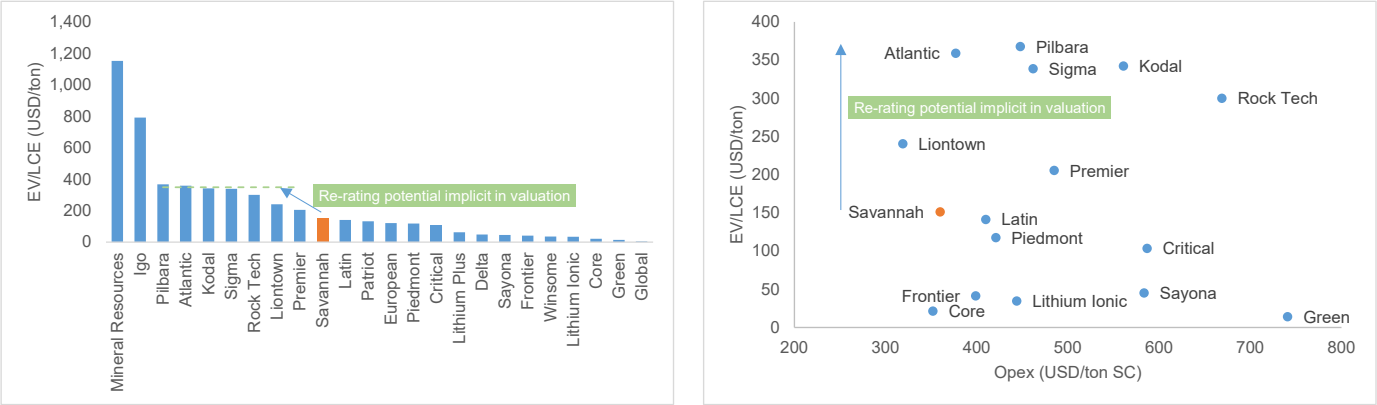
Exhibit 9 BNEF forecast global lithium demand and balance



Source: CaixaBI Equity Research

Looking at a set of selected peers comprising of developers and producers, **Savannah has an upside potential of 1.8x to >4x**, respectively, on an EV/resources measure. If we consider developers and producers together, the upside is **2.8x against the total average** and **2.3x against the median**. One additional supporting point for a possible re-rating to Savannah is the **competitive level of operating costs** that the Barroso project demands.

Exhibit 10 Re-rating potential (selected peers)



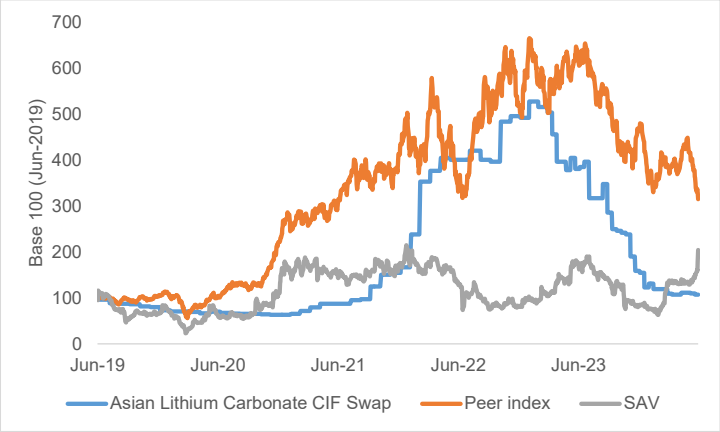
Source: CaixaBI Equity Research

As mentioned earlier, the valuation includes a P/NAV to account for the development phase of the project. The discount on the full NAV is meant to place the valuation of the company on par with the trading level of companies at a similar stage of development of their projects (on an EV-to-resources basis). **The implicit P/NAV after the discount is 0.3x**.

Taking a selected group of peers focused on hard rock mining/processing, and at different stages of development (already in production and in earlier stages), a simple market cap (USD) index was computed and an historical series of five years was compiled. The next exhibit shows the evolution of this peer group index and that of lithium carbonate prices and Savannah.

The company underperformed the peer group in almost all periods, and also failed to perform as well as prices throughout the surge started in the second half of 2021. It was only in the second quarter of 2024 that Savannah was able to outperform lithium prices, but still lagging behind the peer group. One possible explanation for the underperformance could be the **uncertainty over the development of the project prior to the approval of the DIA from APA** (achieved on May 2023).

Exhibit 11 Price performance of lithium price, peer group and Savannah



Source: CaixaBI Equity Research

Scenario and sensitivity analysis

This chapter offers a scenario and sensitivity analysis on the valuation, changing key assumption parameters. The first part presents a Monte Carlo style scenario analysis, in which we assigned different probabilities to a set of model inputs, compute 1,000 possible outcomes and calculate the statistics of this set of interactions. Naturally, results are heavily dependent on the probabilities assigned and the intrinsic importance of each changing variable on the final valuation outcome. The second part consists of a sensitivity analysis to changes in individual parameters.

First, we start with the definition of the probabilities of each model input under analysis:

Exhibit 12 Scenario analysis probabilities tables

Change	Prob	Cumulative Prob	Plant Li2O recovery rate
-20%	5%	5%	58%
-15%	10%	15%	62%
-10%	15%	30%	66%
-5%	20%	50%	69%
0%	30%	80%	73%
5%	10%	90%	77%
10%	5%	95%	80%
15%	3%	98%	84%
20%	3%	100%	88%

Change	Prob	Cumulative Prob	Concentrate grade
-20%	3%	3%	4.4%
-15%	3%	5%	4.7%
-10%	5%	10%	5.0%
-5%	10%	20%	5.2%
0%	65%	85%	5.5%
5%	5%	90%	5.8%
10%	5%	95%	6.1%
15%	3%	98%	6.3%
20%	3%	100%	6.6%

Change	Prob	Cumulative Prob	Capex change
-20%	5%	5%	-20%
-15%	5%	10%	-15%
-10%	5%	15%	-10%
-5%	5%	20%	-5%
0%	30%	50%	0%
5%	20%	70%	5%
10%	10%	80%	10%
15%	15%	95%	15%
20%	5%	100%	20%

Change	Prob	Cumulative Prob	Opex change
-20%	5%	5%	-20%
-15%	5%	10%	-15%
-10%	5%	15%	-10%
-5%	5%	20%	-5%
0%	30%	50%	0%
5%	20%	70%	5%
10%	15%	85%	10%
15%	10%	95%	15%
20%	5%	100%	20%

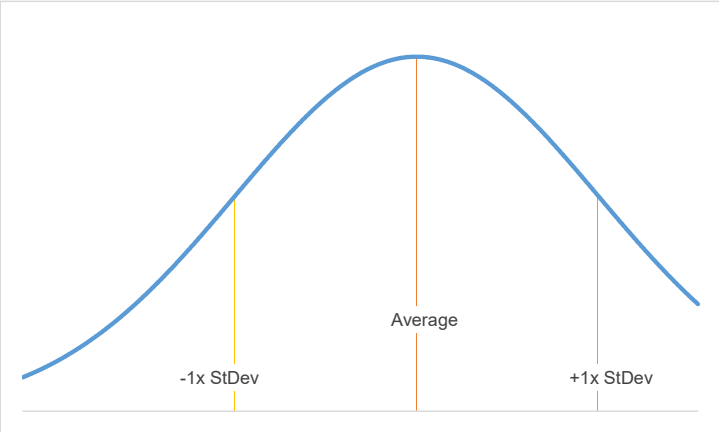
Change	Prob	Cumulative Prob	Price SC 6%
-1,200	10%	10%	300
-800	10%	20%	700
-300	15%	35%	1,200
-100	20%	55%	1,400
0	20%	75%	1,500
100	10%	85%	1,600
300	5%	90%	1,800
800	5%	95%	2,300
1,200	5%	100%	2,700

Change	Prob	Cumulative Prob	Discount rate
-4%	5%	5%	4%
-3%	5%	10%	5%
-2%	5%	15%	6%
-1%	15%	30%	7%
0%	40%	70%	8%
1%	15%	85%	9%
2%	5%	90%	10%
3%	5%	95%	11%
4%	5%	100%	12%

Source: CaixaBI Equity Research

A randomized probability generator run 1,000 interactions through all the above variables and calculates, in each interaction, a project NPV. The result are normalized and shown in the next exhibit, along with the sample statistics.

Exhibit 13 Normalized results of interactions and statistics



Statistics	USDm
Prob > valuation	15%
Prob < valuation	85%
Prob = valuation	0%
Average	440
Standard deviation	364
Mode	694
Max	1,003
Min	-348

Source: CaixaBI Equity Research

Our assignment of probabilities was done in a conservative way, with a heavier bias on negative outcomes to provide a stress test analysis on the project. Results show that the average NPV of the interaction is of USD 440m (vs. our own valuation of USD 714m), with the value mode at USD 694m and the standard deviation of USD 364m. The probability that a value in the sample being higher than our valuation is of 15%.

The next step is to provide a sensitivity analysis on the valuation, changing key model inputs, such as the price of spodumene concentrate and the discount rate. A bearish and bullish scenarios are also added to compute NPV and IRR sensitivity analysis.

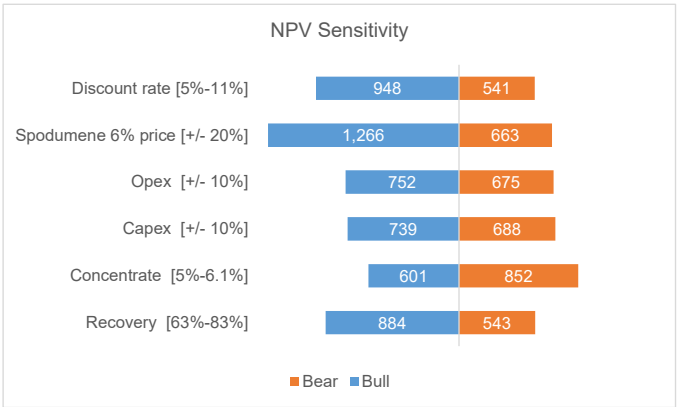
Exhibit 14 Sensitivity analysis on SC 6% price (USD/ton) and discount rate

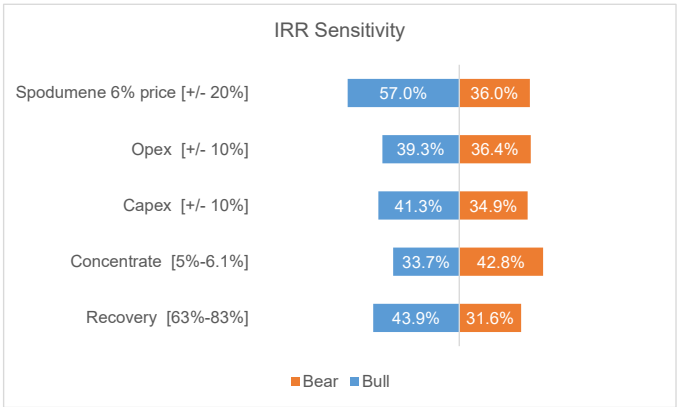
	5%	6%	7%	8%	9%	10%	11%
600	9	-9	-26	-40	-53	-65	-75
800	225	192	162	134	110	88	68
1,000	426	378	334	295	260	228	199
1,500	948	861	784	714	650	593	541
2,000	1,469	1,345	1,233	1,132	1,041	958	883
2,200	1,677	1,538	1,413	1,299	1,197	1,104	1,019
2,400	1,886	1,731	1,592	1,467	1,353	1,250	1,156

Million USD

Source: CaixaBI Equity Research

Exhibit 15 Sensitivity analysis on NPV and IRR





Source: CaixaBI Equity Research

Financial forecasts

Savannah Resources sole operating focus is the **Barroso Lithium Project in Portugal**, with the expected start date being in the second half of 2026 (we assume in 2027). The current GBP 21m cash balance is not enough to fully fund the development of the Barroso project, but it is sufficient to cover all current workstreams and reach a final investment decision.

The recently announced partnership with AMG Critical Materials (through AMG Lithium) has the potential to deliver the full financing required for the Project in exchange for a long term offtake agreement. The relationship has begun with an initial GBP 16m equity investment, making AMG Savannah's largest shareholder and a 45 thousand tonnes per year offtake for five years. In addition, if AMG presents an acceptable full financing solution for the Project, this offtake would increase to 90 thousand tonnes per year for ten years.

Ahead of AMG's financing proposal being received, our estimates incorporate a mix of new debt and equity (70/30) to be raised to fund the initial capital needs of the project. This is a possible scenario for the company's funding requirements that will eventually produce a dilution effect in the future.

Exhibit 16 Summary of financial statements

GBPm	2023	2024	2025	2026	2027	2028	2029	2030
Revenues	0.0	0.0	0.0	0.0	198.8	177.4	192.9	197.1
EBITDA	-3.6	-3.5	-3.5	-3.5	137.7	123.1	133.7	136.5
margin	NA	NA	NA	NA	69.2%	69.4%	69.3%	69.3%
EBIT	-3.6	-3.5	-3.5	-3.5	113.6	101.8	110.3	112.6
margin	NA	NA	NA	NA	57.1%	57.4%	57.2%	57.1%
Net financials	0.1	0.0	0.0	-11.6	-11.0	-10.5	-9.9	-9.3
EBT	-3.5	-3.5	-3.5	-15.0	102.5	91.3	100.4	103.4
Taxes	0.0	0.0	0.0	0.0	-33.4	-29.9	-32.7	-33.7
Net income	-3.9	-3.5	-3.5	-15.0	69.1	61.5	67.7	69.7
margin	NA	NA	NA	NA	34.8%	34.7%	35.1%	35.4%
Assets	30.8	41.3	49.3	285.2	263.6	251.1	299.9	315.4
Non-current assets	20.6	28.6	36.6	272.5	250.9	238.4	223.8	208.6
Current assets	10.2	12.7	12.7	12.7	12.7	12.7	76.1	106.8
Equity	27.9	40.5	45.0	100.7	169.9	231.3	299.0	314.6
Liabilities	2.8	0.8	4.3	184.5	93.7	19.7	0.8	0.8
Non-current liabilities	0.0	0.0	3.5	183.7	92.9	18.9	0.0	0.0
Current liabilities	2.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8
Capex	0.0	-8.0	-8.0	-235.9	-2.5	-8.7	-8.7	-8.7
CFO	-2.4	-5.0	-3.5	-15.0	93.2	82.7	91.0	93.6
New equity	6.5	16.0	8.0	70.8	0.0	0.0	0.0	0.0
Net debt (cash)	-9.7	-12.6	-9.1	171.0	80.2	6.3	-76.0	-106.7
Shares outstanding (million)	1,830.2	2,172.8	2,352.5	3,942.9	3,942.9	3,942.9	3,942.9	3,942.9
ROE	-13.8%	-8.6%	-7.7%	-14.9%	40.7%	26.6%	22.6%	22.2%
ROA	-12.5%	-8.4%	-7.1%	-5.3%	26.2%	24.5%	22.6%	22.1%
ROCE	-12.7%	-8.6%	-7.2%	-1.2%	43.2%	40.7%	36.9%	35.8%

Source: CaixaBI Equity Research

In October 2016, Savannah entered into a consortium agreement with Rio Tinto to develop their respective projects in Mozambique through an unincorporated consortium. In December 2021, Savannah signed a Deed of Termination relating to this consortium agreement. Under this deed of termination, a compensation of USD 9.5m (GBP 7.0) was agreed to be paid by Rio Tinto to Savannah.

In 2023, the company was indirectly notified that the Mozambican Tax Authority (MTA) considered the transaction in scope for capital gains tax and that a tax amount of c. GBP 1.65m should be paid. In its 2023 report, the company reported that it did not received any formal notification from MTA and it does not agree with MTA's position. Still, the company made a provision of c. GBP 0.8m based on the sum of the probability-weighted outcomes. The company has a restricted cash amount of c. GBP 0.7m that can be used to settle this issue with MTA (accounted for 7.2% of the total cash balance at the end of 2023).

The Group has carried forward losses amounting to c. GBP 18.4m at the end of 2023, but the deferred tax asset has not been recognized in the financial statements given that the timing and extent of taxable profits are uncertain. The tax losses related to subsidiaries in Mozambique can be carried forward for a five year period. In Portugal, tax losses can be carried forward for a 14 years period for losses related to the 2017-2019 tax years and for a 12 year period for losses related to the 2020-2023 tax years. There is no expiration date for tax losses carried forward in the United Kingdom.

According to the schedule of tax loss expiration reported in the 2023 Annual Report, c. 48% of the GBP 18.4m of the tax losses carried forward have no expiration date, with c. 12% valid until 2030. We did not consider any of these in our forecasts or valuation.

At the end of 2023, the most significant line in the balance sheet was Intangible Assets (GBP 18.4m) related to the expenditures related to the exploration licenses in Portugal. There was an addition of GBP 2.1m in 2023 and no impairments made. PP&E was reported at GBP 1.66m at the end of 2023, almost entirely related to land. Trade and Other Payables stood at c. GBP 2.0m at the end of 2023, an increase of GBP 0.9m against 2022 (o.w. GBP 0.64m related to drilling and DFS work, but also legal fees related to Operation Influencer[3] in Portugal). A significant part of trade payable is related to work performed in Barroso that is capitalized.

Once the project is running it should generate enough funds to allow for ample dividend distributions. We incorporated an 80% dividend payout once the project's cumulative FCF is positive, which in our model is in 2030. Still, the key point of the investment case in a valuation perspective is the potential for capital growth, and not so much yield through shareholder distributions.

[3] In November 2023, the Portuguese Public Prosecutor ran an investigation into possible active and passive corruption, undue influence, malfeasance and other wrongdoings in relation to a variety of "green" projects including Savannah's Barroso Lithium Project. On 30 January 2024, Savannah announced the conclusions from an independent legal review (the 'Independent Review') and legal opinions (the 'Legal Opinions') which it commissioned following the announcement of the Operation Influencer investigation. In summary, the Independent Review found no evidence which would give rise to liability of the Company in connection with any irregular financial transactions by the Company. It also found no evidence of improper offers, improper payments, or other forms of wrongdoing by the Company regarding the suspicions set out in the Investigation associated with: past relations with a potential partner, discussions on the by-pass road, royalties, or in relation to interactions with national entities in the EIA process under Article 16. No material legal risk was identified related to the alleged facts and circumstances outlined in the Investigation. Separate Legal Opinions also confirmed that, based on the findings of the Independent Review, but also on the functioning of the Portuguese permitting process, past legal experience, and constitutional protections, under no realistic circumstance would the Project's execution and its expected future cash flows be at risk from the Investigation's findings.

The Barroso Project

Many of the factual information about the Barroso Project used in this chapter is sourced from Savannah's June 2023 scoping study, in which the company provides an explanation of the fundamentals of the project regarding geology, production infrastructure and economic valuation (the latter according to the company's own assumptions).

Historical overview

In November 30, 2001, the Portuguese State signed with the company Saibrais – Areias e Caulinos, S.A. (Saibrais) a prospecting and research contract (no. 7/2001) for prospecting for feldspar, quartz, lithium, tin, tungsten, niobium and tantalum, having requested the granting of the mining concession. Saibrais carried out studies that confirmed the existence of viable feldspar reserves and the occurrence of lithium minerals such as petalite and spodumene.

Given the promising results, Saibrais requested in 2003 the concession for the exploration of mineral deposits (quartz and feldspar), having complied with the environmental assessment procedure. The conditional DIA was issued on March 25, 2005, with the mining concession contract signed on May 12, 2006, recorded as C-100 and with the denomination of "Mina do Barroso" (Barroso Mine).

The concession with an area of 120.4 ha was granted to Saibrais. The mining plan foresaw the exploration of three sites in a total of 70 ha. In 2008, Saibrais changes its denomination to Imerys Ceramics Portugal, S.A. (Imerys Ceramics) and signed additional prospecting and research contracts in zones surrounding the concession area.

In June 2010, these works were concluded with a new request for the expansion of the concession area and the presentation of a new mining plan with seven deposits and the use of lithium mineral deposits. This would mean an expansion of the concession area to 542 ha and with a mining plan of 88 ha. The new mining plan was approved on December 14, 2010, conditioned to the approval of the concession area and the evolution in the pace of prospecting. The addenda to the contract was signed on June 23, 2016.

In 2017, Imerys Ceramics transferred its rights of the concession of Mina do Barroso to Slipstream Resources Portugal, Lda (created specifically to explore the lithium project of Mina do Barroso), an operation approved by the government on January 25, 2017[4]. Savannah purchased 75% of Slipstream Resources Portugal with the right to purchase the additional 25%, which the company did in 2019 to become the Project's sole owner. The company proceeded to a new revaluation of the concession area, delimiting the ore bodies for lithium exploration.

Works encompassing more than 100 surveys were carried out, resulting in an estimation of 14 million tonnes of inferred resources (1.1% Li_2O) in three of the eight ore bodies that occur in Mina do Barroso. In two of these three ore bodies, additional prospection targets were identified with a potential of 8 to 10 million tonnes (1.0% to 1.2% of Li_2O), increasing the global potential to 22-24 million tonnes (1.0%-1.2% of Li_2O). In 2019, Savannah secured 100% of the project and expanded it by adding the adjacent Aldeia mining lease application (three blocks totalling 2.94 km2) to the original C-100 mining lease. Also in 2019, through further drilling, the resource was increased to 27 million tonnes and to 28 million by June 2023.

The change of focus to the exploration of lithium instead of quartz and feldspar (targeting the ceramics industry), along with a more detailed delimitation of the ore bodies, led to a new request for the expansion of the concession area. Savannah submitted an EIA to APA in May 2020 for the consideration of an expansion of the concession area to 593 ha from the current 542 ha, with the expansion of the mining plan to 384-476 ha (depending on which of the three alternatives for the development of the project was chosen) from 88 ha, and the reduction of the number of open pits to four. This would allow a better coverage of the ore mineralization

[4] Diário da República n.º 52 – 2ª série (Aviso n.º 260/2017, March 14)

extensions beyond the current limits of the concession, the installation of an industrial facility for ore processing, construction of road accesses and of a tails storage facility (TSF).

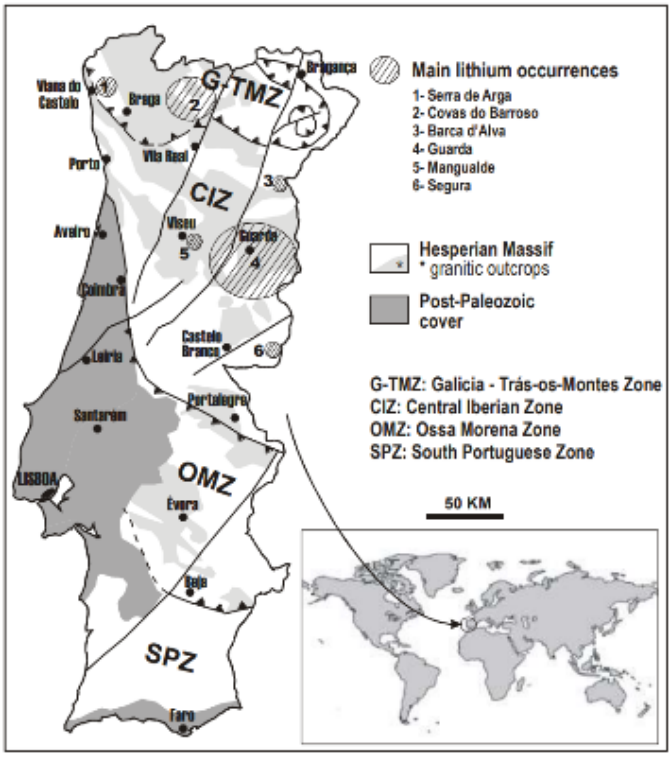
In June 2022, APA informed Savannah that it had concerns about the Project's design as presented in 2020, and proposed that the Project enter the additional Article 16 step of the EIA legislation, during which Savannah could redesign or revise certain aspects of the project's design and associated environment, ecology and socio-economic consideration, and to resubmit it to APA for consideration. This resubmission was done on March 16, 2023, with APA issuing a positive but conditional DIA at the end of May 2023.

Savannah must complete the Environmental Compliance Report of the Execution Project (RECAPE), a period of engagement between the company and APA to ensure that all the conditions set in the DIA are materialized in the final design of the project. The final designs for the project along with the measures and environmental monitoring plans to be implemented will then be submitted by Savannah to meet the criteria described in the DIA. If the designs and plans are approved by APA the environmental conformity of the detailed design can then be declared (DCAPE). In parallel with the RECAPE process is the licensing award process, and once the DCAPE declaration is made the project can be awarded with the final Environmental Licence (TUA). The company anticipates the finalization of the DFS by the end of 2024, and that environmental licensing should be completed soon after the DFS.

Geology

The Portuguese continental territory can be divided in two large units: (i) Hesperian Massif of mainly Palaeozoic age and Hercynian deformed, and (ii) the Epi-Hercynian covering that includes the western and southern Meso-Cenozoic borders. The predominantly metallic mineral resources in the Hesperian Massif can be divided into four geotectonic units:

Main Portuguese Li-rich mineral occurrences



Carvalho, Jorge & Farinha, João. (2004).

- Galicia – Trás-os-Montes Zone
- Central Iberian Zone
- Ossa Morena Zone
- South Portuguese Zone

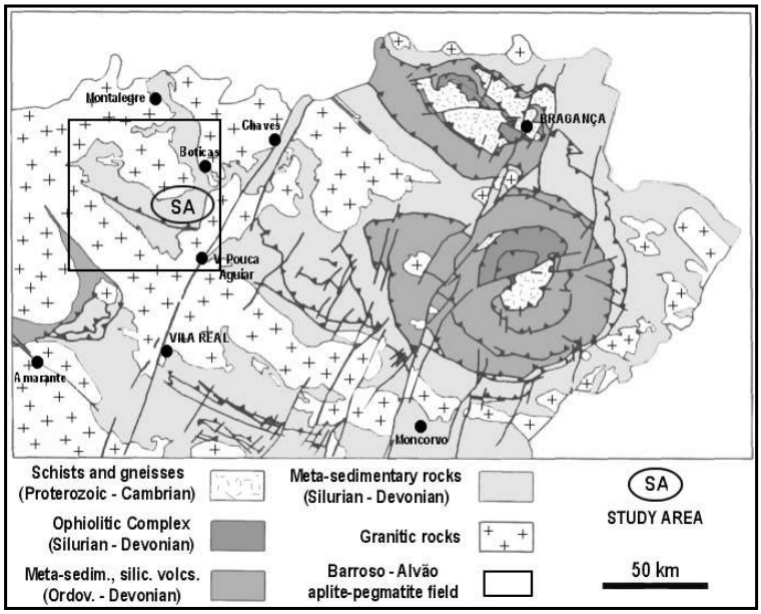
Lithium tends to be concentrated in differentiated granitic magmas and also in the aplitic, pegmatite and hydrothermal residues formed after the consolidation of magmas. This granitic rocks are widespread in the north and center of Portugal (Galicia – Trás-os-Montes and Central Iberian Zones). The most important lithium occurrences in Portugal are located in those zones, namely:

- Serra de Arga (resources are not evaluated)
- Covas do Barroso (resources evaluated)
- Barca d'Alva (resources are not evaluated)
- Guarda (resources evaluated)
- Mangualde (resources are not evaluated)
- Segura (resources are not evaluated)

The Barroso – Alvão region in northern Portugal is characterized by the presence of a large field of several dozens of pegmatite and aplite-pegmatite dykes of granitic composition. Pegmatite dykes are mainly intruded in the granitic rocks of the region whilst aplite-pegmatite dykes are hosted by low- to medium-grade metasedimentary rocks of Silurian age that are

strongly deformed[5]. These host rocks are part of the Galicia – Trás-os-Montes geotectonic zone[6].

Exhibit 17 Geological setting of the Barroso – Alvão aplite-pegmatite field



Source: Carvalho, Jorge & Farinha, João. (2004). LITHIUM POTENTIALITIES IN NORTHERN PORTUGAL

Lithium mineralization at the Barroso mine occurs mainly in the form of spodumene-bearing pegmatites, hosted in metapelitic and mica schists, and occasionally carbonate schists of upper Ordovician to lower Devonian age.

Savannah started drilling at the Barroso Lithium Project in 2017 and completed over 35,000 meters of drilling using a combination of reverse circulation and diamond drilling to define a JORC (2012)[7] compliant resource. The resource is comprised of five main deposits: Grandão, Reservatório, Pinheiro, NOA and Aldeia.

Grandão is the primary deposit of the project with a mineralised zone of 650m long, 500m wide and thickness of up to 50m. This deposit has exhibited consistent mineralization within the pegmatite body, producing (according to the company) the most significant results.

Reservatório is a moderately dipping outcropping pegmatite of over 450m of strike exposure traced for at least 170m down dip. The pegmatite thickness can reach 40m, exhibiting consistent lithium mineralization.

Pinheiro is composed of two steeply dipping converging pegmatite bodies that can be traced for 200m on the surface and 150m down, with thickness up to 25m. Lithium mineralization occurs in both pegmatites and remains open along both strike and down dip.

NOA is a moderately dipping and semi-contiguous pegmatite body that is traced for 350m along strike and down for 140m. The lithium mineralization is consistent both down dip and along strike.

[5] CHAROY B., LHOTE F., DUSAUSOY Y. NORONHA F. (1992): The crystal chemistry of spodumene in some granitic aplite-pegmatite of Northern Portugal: a comparative review. Canadian Mineralogist, 30, 639-651.
[6] Carvalho, Jorge & Farinha, João. (2004). LITHIUM POTENTIALITIES IN NORTHERN PORTUGAL.
[7] The Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves (the JORC Code) establishes standards for public reporting, emphasising principles of transparency and materiality.

Aldeia is a northwest dipping tabular pegmatite with a number of minor subsidiary bodies, which can be traced for 200m along strike and 250m down dip. The mineralization is consistent throughout the pegmatite and with a higher grade compared with the other deposits.

Mineral resources

June 2023 resource update

In June 2023, the JORC (2012) compliant Measured, Indicated, and Inferred Mineral Resource for the Barroso Lithium Project was updated to 28 million tonnes at 1.05% Li_2O with a lithia content of 293,400 tonnes. According to the company, to further demonstrate the potential of the project, an Exploration Target has been refined based on the results of the drilling works for the Grandão, Reservatório and Aldeia deposits. This Exploration Target projects a potential of 11 to 19 million tonnes at 1.0%-1.2% Li_2O, giving a combined project Resource and Exploration Target of 39 to 47 million tonnes at 1.0%-1.2% Li_2O.

Exhibit 18 Mineral Resource estimation summary, 0.5% Li_2O cut-off (June 2023)

Deposit	Resource class	Tonnes	Li_2O	Fe_2O_3	Li_2O
		Mton	%	%	tonnes
Grandão	Measured	6.6	1.1	0.7	71,600
	Indicated	6.4	1.0	0.8	61,300
	Inferred	4.8	1.0	0.7	48,900
	Total	**17.8**	**1.04**	**0.7**	**181,800**
Reservatório	Measured				
	Indicated	3.5	0.95	0.8	33,000
	Inferred	0.7	0.9	0.9	6,500
	Total	**4.2**	**0.94**	**0.8**	**39,500**
Pinheiro	Measured				
	Indicated				
	Inferred	2.0	1.0	0.7	20,000
	Total	**2.0**	**1.0**	**0.7**	**20,000**
NOA	Measured				
	Indicated	0.4	1.2	0.8	4,200
	Inferred	0.3	1.0	0.9	2,900
	Total	**0.7**	**1.1**	**0.9**	**7,100**
Aldeia	Measured				
	Indicated	1.6	1.3	0.5	21,300
	Inferred	1.8	1.3	0.4	23,700
	Total	**3.4**	**1.3**	**0.4**	**45,000**
All deposits	Measured	6.6	1.1	0.7	71,600
	Indicated	11.8	1.0	0.7	119,800
	Inferred	9.6	1.1	0.9	102,000
	Total	**28.0**	**1.05**	**0.8**	**293,400**

Source: Savannah Resources, CaixaBI Equity Research

Exhibit 19 Exploration Target summary (June 2023)

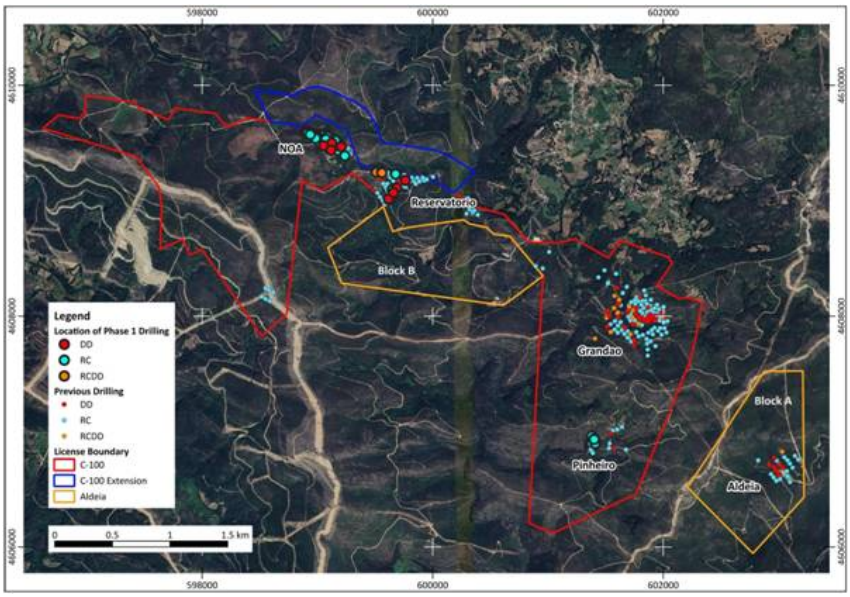
Deposit	tonnage range (Mton)		Li_2O
	Lower	Upper	%
Reservatório	5.0	7.0	1.0%-1.2%
Grandão	4.0	8.0	1.0%-1.2%
Aldeia	2.0	4.0	1.0%-1.3%
Total	**11.0**	**19.0**	**1.0%-1.2%**

Source: Savannah Resources, CaixaBI Equity Research

May 2024 resource update

On May 2024, the company announced an upgrade to the JORC (2012) compliant resource for the NOA orebody, along with further results from the current drilling programme (in Reservatório and Grandão). This update was the result of the ongoing works towards a Definitive Feasibility Study (DFS) on the project. As a consequence, 93% of the total resource of NOA is now in the Indicated category (previously it was 67%), expanding the geological confidence in the resource and meeting the requirements for inclusion in the DFS. The JORC (2012) compliant NOA resource is now of 661,000 tonnes at 1.03% Li_2O, containing 6,800 tonnes of Li_2O. The size of the resource increased by 3% following extending mineralization on the western pegmatite. Additional exploration potential was recognized to the west, with the pegmatite still open along strike to the west and depth to the north.

Exhibit 20 Barroso Lithium Project map of deposits and drill hole sites



Source: Savannah Resources

The Mineral Resource estimate at NOA was classified as Indicated or Inferred in line with JORC (2012) and is summarized in the next exhibit.

Exhibit 21 Updated 2024 Resource Estimation Summary of NOA at 0.5% Li_2O Cut-off

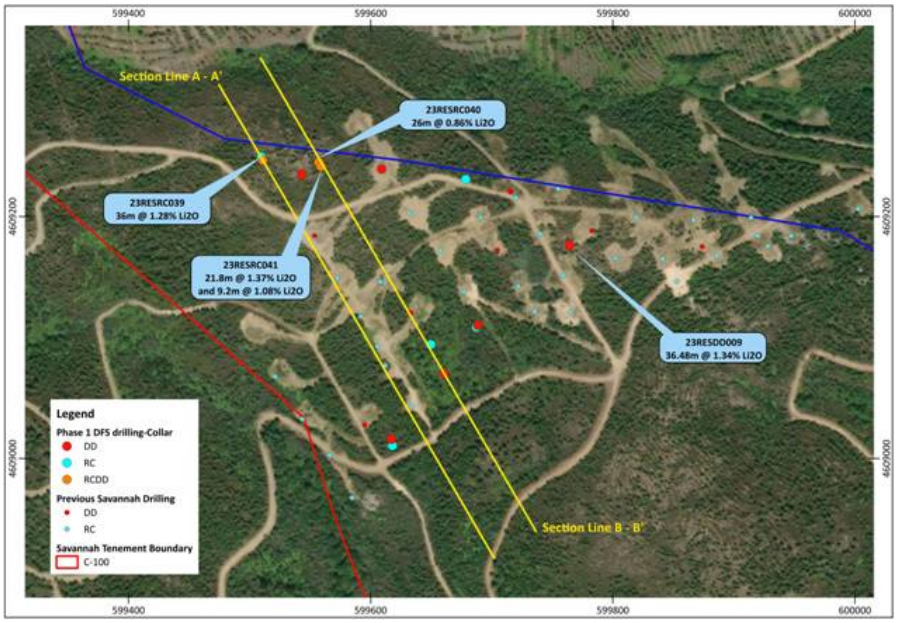
	Mineralization type	Transitional	Primary	Total
Indicated	Tonnes (ton)	52,000	563,000	**614,000**
	Li_2O (%)	1.03	1.03	**1.03**
	Fe_2O_3 (%)	0.97	0.83	**0.84**
Inferred	Tonnes (ton)	100	46,000	**46,000**
	Li_2O (%)	0.89	0.95	**0.95**
	Fe_2O_3 (%)	0.85	0.45	**0.45**
Total	Tonnes (ton)	52,000	609,000	**661,000**
	Li_2O (%)	1.03	1.03	**1.03**
	Fe_2O_3 (%)	0.97	0.80	**0.82**
	Li_2O Tonnes	500	6,300	**6,800**

Source: Savannah Resources, CaixaBI Equity Research

Drilling results from seven diamond drill holes at Reservatório orebody were also received according to the May 2024 announcement, confirming the mineralization at depth and the potential for further resource upgrades. According to the company, the best results received with lithium intersections include:

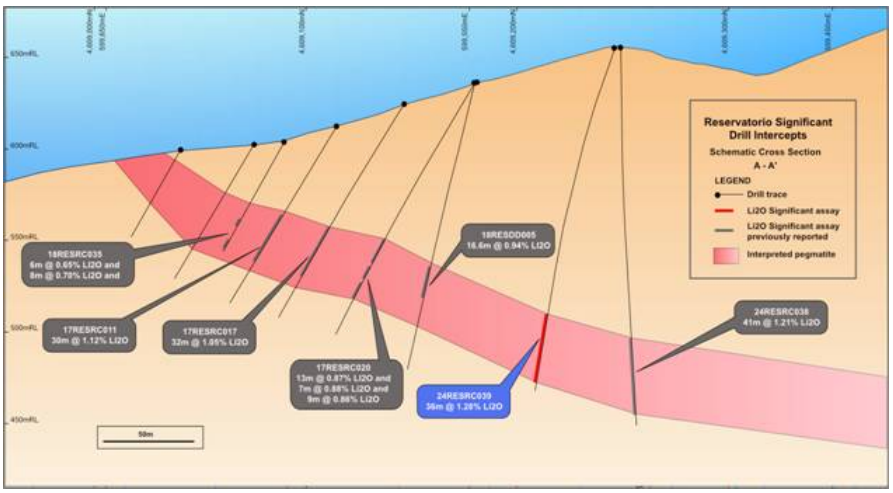
- 36.48m @ 1.34% Li_2O from 31.05m in hole 23RESDD009
- 36m @ 1.28% Li_2O from 151m in hole 23RESRC09
- 26m @ 0.85% Li_2O from 155m in 23RESRC040
- 21.8m @ 1.37% Li_2O from 132.3m plus 9.2m @ 1.08% Li_2O from 157m in hole 23RESRC041

Exhibit 22 Location of Phase 1 drilling at Reservatório with latest significant intercepts



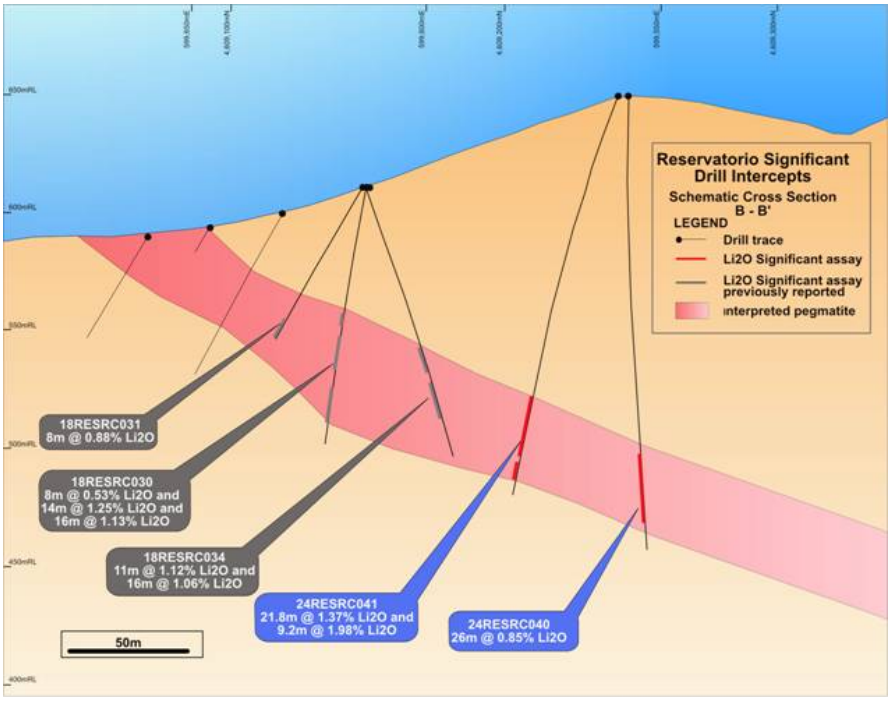
Source: Savannah Resources

Exhibit 23 A-A' cross section of Reservatório showing latest significant assays



Source: Savannah Resources

Exhibit 24 B-B' cross section showing latest significant assays at Reservatório

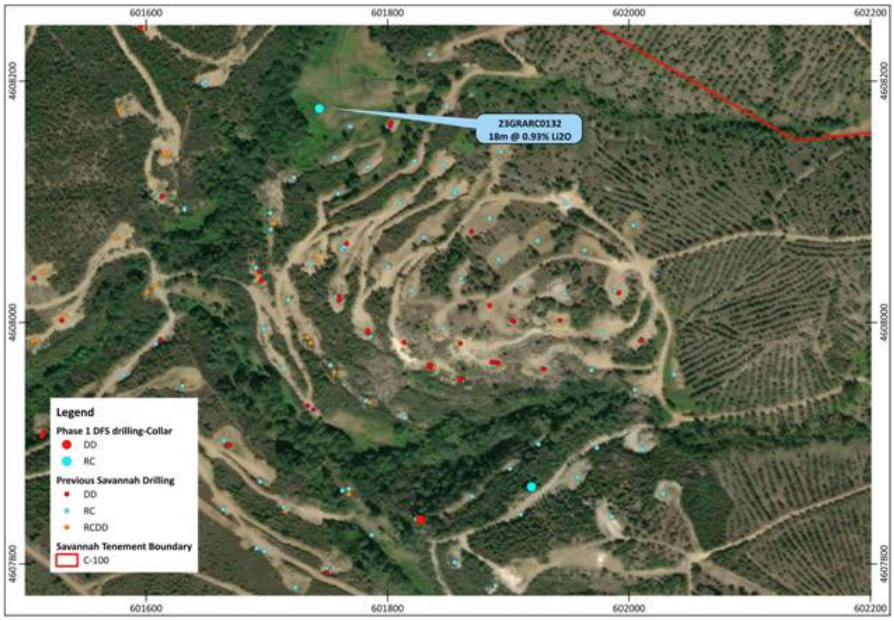


Source: Savannah Resources

In Grandão, results from two reverse circulation holes at the margins of the pegmatite confirmed the continuity of the lithium mineralization to the north, with the best results including:

- 18m @ 0.93% Li_2O from 35m in hole 24GRARC132

Exhibit 25 Grandão drilling map with sites of Phase 1 drilling and significant intercepts



Source: Savannah Resources

According to the company, the second phase of the current drilling program should target Reservatório, Pinheiro and Grandão to further upgrade the resources at these deposits beginning in the third quarter of 2024. The details for the second phase of the program will be finalized once all results from the first phase have been received and reviewed.

In March 2024, Savannah announced broad high-grade zones of lithium mineralization intersected at Pinheiro. These results outline a new high-grade zone of spodumene lithium mineralisation within the pegmatite at the Pinheiro deposit, which has a current JORC (2012) compliant resource of 2.0Mt @ 1.00% Li_2O within the overall Project JORC (2012) compliant resource of 28Mt @ 1.05% Li_2O.

Pinheiro is the first deposit scheduled to be mined when the Project begins production, and the company believes that these new high-grade results point towards the potential for a significant improvement in the Project's early cash flow and overall NPV.

Mine plan

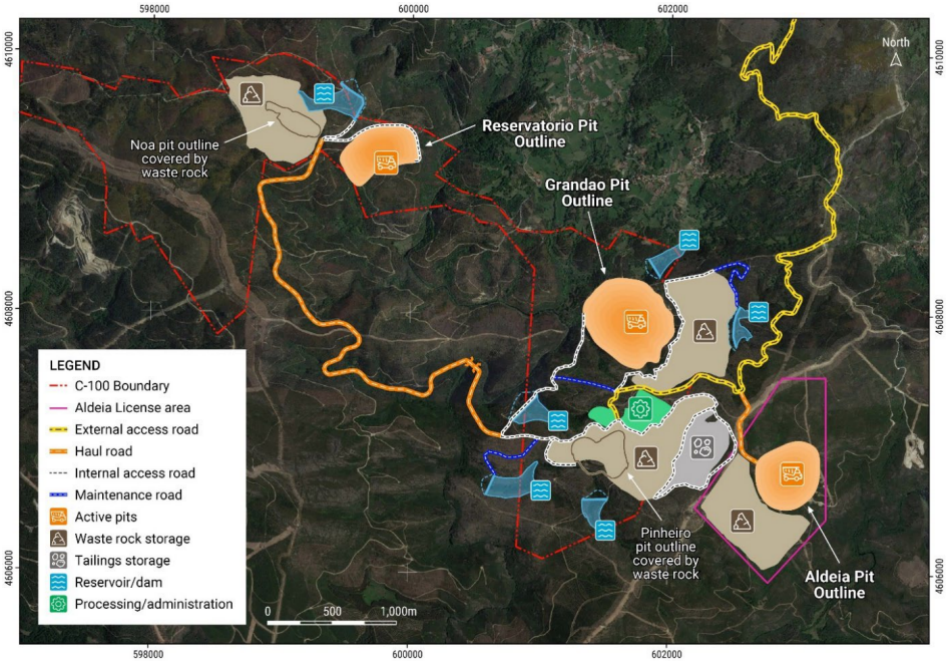
According to the last scoping study reported by Savannah (June 2023), the plan for the Barroso Lithium Project was based on an annual run of mine rate of 1.5 million tonnes of ore with an estimated life of mine (LOM) average head grade of 0.96% Li_2O (diluted), along with an overall strip ratio of 5.9:1 (waste:ore ratio) and a LOM of 14 years. An important note highlighted in the scoping study by the company, is that the study's resulting 20.5 million tonnes mine plan cannot be classified as an ore reserve under JORC (2012). Savannah's first JORC Reserve estimate should be made as part of the ongoing DFS.

The plan foresees the identification of basic pit stages with the intention of deferring stripping requirements over the LOM, given that the mineralization grades are consistent throughout the deposits. This will allow the reduction of costs and the improvement of project economics. Seven pit stages are included in the plan from five deposits:

- Pinheiro (single stage)
- Grandão (two stages)
- Reservatório (two stages)
- NOA (single stage)
- Aldeia (single stage)

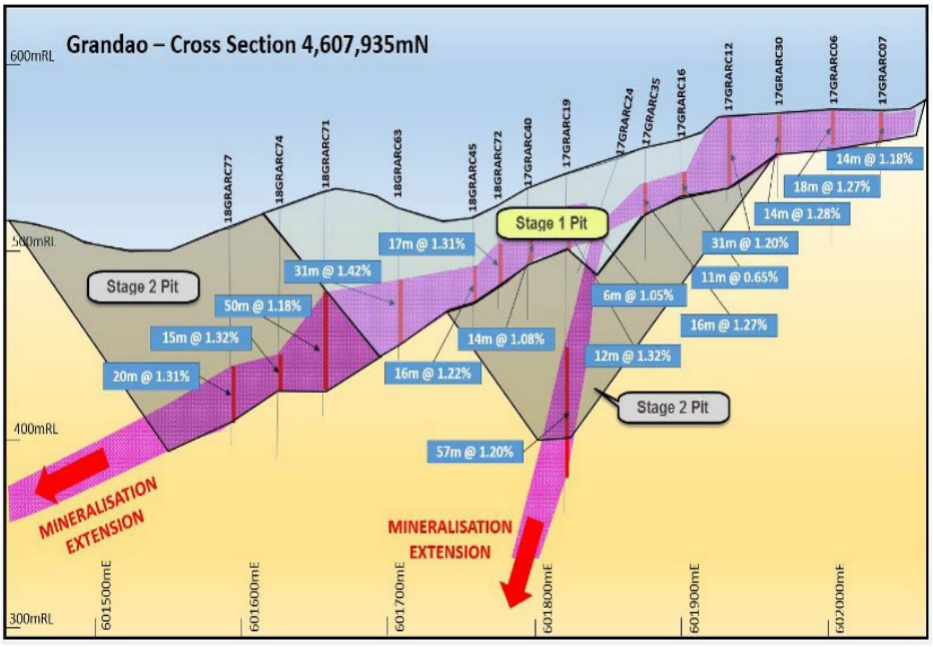
The following exhibits show the conceptual site layout, cross section in Grandão with the conceptual stages 1 and 2 pits and the optimized shell and mine plan, with the modeling of five geological blocks using optimization based on the Lerchs-Grossmann algorithm.

Exhibit 26 Conceptual site layout



Source: Savannah Resources

Exhibit 27 Grandão cross section with conceptual stage 1 and 2 pits



Source: Savannah Resources

Exhibit 28 Conceptual optimized shell and mine plan

Deposit	Stage	Feed	Diluted Li_2O	Stripping	Strip ratio
		Mton	%	Mton	w:o
Pinheiro	1	1.3	0.99	11.2	8.8
Grandão	1	5.2	1.05	34.4	6.7
Grandão	2	5.8	0.78	13.3	2.3
Reservatório	1	2.7	0.93	11.8	4.4
Reservatório	2	1.8	0.96	10.4	5.6
NOA	1	0.5	0.90	2.8	5.4
Aldeia	1	3.1	1.19	36.6	11.7
Total		**20.5**	**0.96**	**120.6**	**5.9**

Source: Savannah Resources, CaixaBI Equity Research

The optimized shells used in the company's scoping plan are based on Measured, Indicated and Inferred Mineral Resource estimates in addition to a smaller amount of Exploration Target. According to the company, appropriate dilution and recovery factors were applied, with the quantities for each type of material shown in the next exhibit.

Exhibit 29 Plant feed inventories by pit and material type

	Measured resource		Indicated resource		Inferred resource		Exploration target				
Deposit	Tonnes	Li_2O	Tonnes	Li_2O	Tonnes	Li_2O	Tonnes	Li_2O	Total	Li_2O	Share
	Million	%	Million	%	Million	%	Million	%	Mton	%	
Pinheiro					1.3	1.00			1.3	0.99	6%
Grandão	6.6	1.05	4.4	0.70					11	0.91	54%
Reservatório			3.5	0.95	0.7	0.93	0.3	0.90	4.5	0.94	23%
NOA			0.3	0.94	0.2	0.84			0.5	0.90	2%
Aldeia			1.6	1.23	1.5	1.15			3.1	1.19	15%
Total	**6.6**	**1.05**	**9.8**	**0.88**	**3.7**	**1.04**	**0.3**	**0.90**	**20.5**	**0.96**	**100%**
Share	**32%**		**48%**		**18%**		**2%**		**100%**		

Source: Savannah Resources, CaixaBI Equity Research

As required by JORC guidelines, the company highlights that the potential quantity and grade of the Exploration Target is conceptual, with still insufficient exploration work to estimate a mineral resource, being uncertain if further exploration will result in the definition of a mineral resource. However, the Exploration Target accounts for just 2% of the resource used in the mine plan reported in the scoping study.

Mining schedule

As mentioned earlier in this report, we used the company's operating assumptions presented in the June 2023 scoping study as guidance in order to reach a valuation for Savannah. The mine production timetable is presented in the next exhibits. The scoping study assumes that as the project unfolds further refinements to haul routing plans, waste rock storage management and pit staging should be targeted to take advantage of opportunities to reduce haulage investment and operating costs.

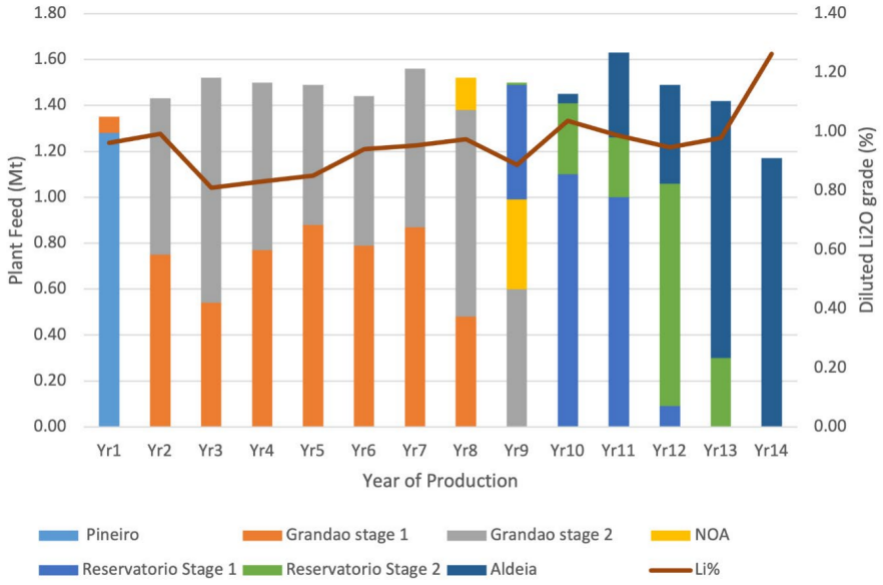
Exhibit 30 Conceptual mine production plan (pre-strip included in Year 1)

Conceptual mine production		Days	Plant feed	Li_2O (diluted)	Mining (waste + peg + plant feed)	Strip ratio	Li_2O
			Mton	%	Mton	(w:o)	kton
Total		**4,953**	**20.5**	**1.0**	**141.0**	**5.9**	**196.6**
Year of production	1	360	1.3	1.0	20.8	14.4	13.4
	2	360	1.4	0.8	16.0	10.2	11.6
	3	360	1.5	0.8	8.8	4.8	12.7
	4	360	1.5	0.9	6.4	3.3	12.8
	5	360	1.5	0.9	5.0	2.3	14.0
	6	360	1.4	1.0	4.8	2.4	13.7
	7	360	1.6	1.0	4.7	2.0	15.1
	8	360	1.5	0.9	4.5	2.0	13.5
	9	360	1.5	1.0	14.2	8.5	15.5
	10	360	1.5	1.0	18.6	11.8	14.3
	11	360	1.6	1.0	15.5	8.5	15.4
	12	360	1.5	1.0	9.6	5.4	14.7
	13	360	1.4	1.1	8.7	5.1	15.6
	14	273	1.2	1.3	3.5	2.0	14.8

Source: Savannah Resources, CaixaBI Equity Research

The same information but by deposit is presented in the next exhibit.

Exhibit 31 Conceptual mine production plan by deposit



Source: Savannah Resources

The Grandão deposit (in both phases) accounts for the major part of production from the second to the eighth years, with Reservatório extending the production curve for the remaining years. Both deposits represent 77% of the anticipated plant feed inventory throughout the LOM.

Mining costs items

The June 2023 scoping study incorporated results from a contract mining model that was developed by Minesure and using the schedules presented in the previous two exhibits. Estimates for the annual operating costs for each major item of plant were estimated from first principles with data provided by major mining fleet suppliers, while labour costs were given by Savannah. Annual operating costs for each machine were calculated and incorporated to the mining schedule to yield a total cost per tonne.

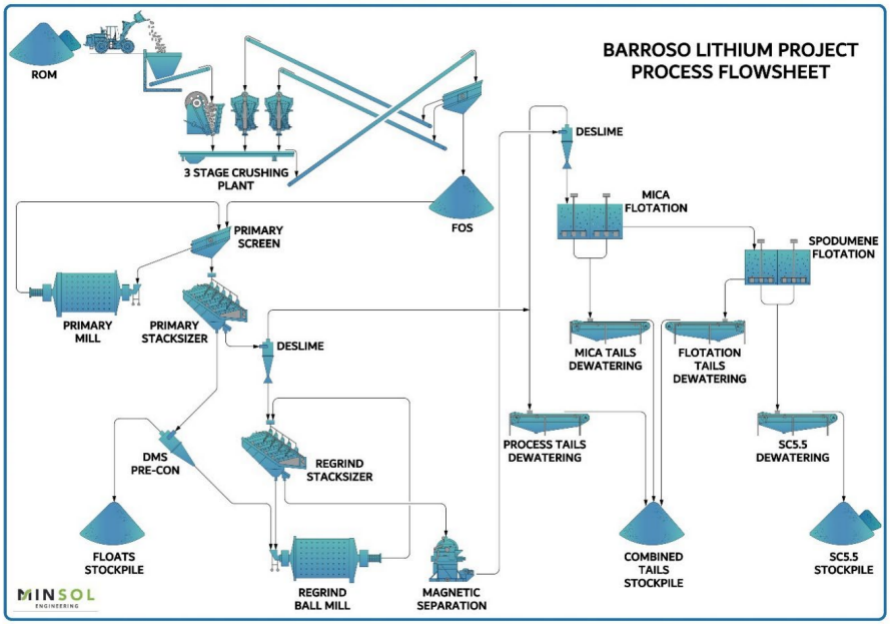
Planned mining works will use excavators matched with dump trucks. The anticipated production rates call for three dozers while only mining at Pinheiro and Grandão, rising to four dozers when Reservatório starts production. In a first phase, only one water cart will be required, increasing to two when mining in Reservatório and NOA starts. Simultaneously, a front-end loader is set to work throughout the project's life as backup and to execute general and clean up works. An allowance was also made for the operation of a service truck, light vehicles and other supporting equipment.

The mobilization of mining equipment to site and the setting up of maintenance facilities is accounted as capital expenditures, as are pre-stripping activity costs. Before the start of mining operations, areas need to be cleared, grubbed, with the topsoil recovered and stored. Given the short pushing distances, a dozer and loader will be required in this stage. As new deposits start to be developed (according to the already presented timetable) or existing ones brought back, additional clearance works need to be executed.

Processing

The flow sheet used to develop the last scoping study (1.5 million tonnes per year DMS[8] and flotation circuit) is supported by metallurgical tests conducted at Nagrom[9] in Perth (Australia) on samples from Pinheiro, Aldeia, Reservatório and Grandão. The overall plant availability is estimated at 85% for the recovery of spodumene into a concentrated product with 5.5% Li_2O, while the Li_2O recovery rate assumed in the scoping study is of 73%. The tails will be thickened and dry stacked in a lined tailings storage facility.

Exhibit 32 Summary diagram of process plant flow sheet



Source: Savannah Resources

[8] Dense Media Separation: process in which particles are separated according to their densities.
[9] Nagrom is Australia's leading privately owned metallurgical and assaying services provider.

Ore processing for the production of concentrates will incorporate the following stages:

Crushing and reclaim: this is a multi-stage circuit in which ore crushing and screening takes place. The ore is crushed to less than 14mm and then discharged onto the fine ore stockpile, where it is reclaimed through a belt feeder into the primary screen.

Primary comminution and classification: the reclaimed material is separated into oversize (+3.35mm) that is fed to the primary mill, and undersize material that is separated again into the DMS pre-treatment stage (+0.85mm). The 0.85mm material is then treated through classification to produce an underflow (+0.18mm) that reports to the secondary mill, and an overflow (-0.18mm) to bypass the secondary mill and be rearranged before undergoing magnetic separation.

DMS: the dense media separation operates as a conventional pump-fed DMS circuit using a low SG (specific gravity) media to act as a pre-concentration stage. The floats that are produced are disposed to the floats stockpile, while the upgrades sinks will report to the regrind mill.

Flotation preparation circuit: a secondary mill will operate in a closed circuit with the secondary mill stack sizers producing a product P80[10] of 0.150mm. The mill discharge suffers magnetic separation and desliming before mica flotation to remove highly magnetic material and ultra-fines.

Mica flotation circuit: the mica[11] flotation feed is conditioned in tanks before going into the mica rougher flotation cells. The rougher concentrate goes into the mica cleaner flotation cells to minimize Li_2O losses in the mica concentrate. This concentrate is collected and fed to the mica thickener, with the mica cleaner tails being combined with the mica rougher tails and undergoing two stages of cyclones to remove mica reagents before entering the spodumene flotation circuit.

Spodumene flotation circuit: this circuit includes a rougher, cleaner and recleaner stage, with tails from each stage fed to the prior stage to improve Li_2O recovery. The area of spodumene flotation uses flotation water recovered from the spodumene tails and concentrate thickeners to minimize the impact of flotation chemicals on other equipment.

Concentrate and tailings dewatering and storage: the spodumene concentrate, ceramic by-products and tailings streams are dewatered through a combination of cyclones, thickeners, belt filters and filter presses prior being dry stacked in a storage area adjacent to the processing plant. The spodumene concentrate and ceramic by-products are transported off-site.

Water circuits: processing uses three water circuits to minimize the impact of flotation reagents on equipment, to allow dry stacked tailings, to reduce the volume of fresh water required to operate the plant and to optimize the environmental impact.

Reagents: the reagents planned to be use are environmentally friendly and also meet European REACH[12] requirements. The reagents include sodium silicate, soda ash, flocculant,

[10] P80 represents the particle size at which 80% of the material is finer (smaller) than that size. This is a critical parameter as it affects efficiency of subsequent processes.
[11] Mica is the name given to a group of silicate minerals that have silicon and oxygen as their two major components.
[12] REACH is a regulation of the European Union, adopted to improve the protection of human health and the environment from the risks that can be posed by chemicals, while enhancing the competitiveness of the EU chemicals industry.

Armeen T[13], and an oleic acid[14] based collector. Storage and delivery of minor reagents such as soda ash, mica collector, coagulant, and frother[15] also have been included in the plan.

Services: the functioning of the processing plant requires the provision of raw water and compressed air.

Exhibit 33 Concentrator production

Parameter	Units	Value
Plant annual treatment rate	tpa	1,500,000
Crushing plant utilization	%	65
Crushing plant throughput	tph	263.4
Process plant utilization	%	85
Process plant throughput	tph	202
Ore feed grade	% Li_2O	0.96
Concentrate grade	% Li_2O	5.5
Li_2O recovery	%	73
Spodumene concentrate (5.5%)	tpa	190,525
Ceramic by-products sold	tpa	400,000
Total tails disposed	tpa	909,475

Includes tails that could be sold as ceramic by-products after further study of the ceramics market

Source: Savannah Resources, CaixaBI Equity Research

Conversion

According to the mineral and chemical composition and MinSol's[16] project experience, the Barroso concentrate is considered of high quality and suitable for conversion through the conventional sulfate route. Conversion tests have been conducted in Europe and Australia to determine:

- Conduct sighter decrepitation tests on samples of spodumene concentrates under a set of conditions (time and temperature);
- Conduct sighter sulfation bake/water leach tests to assess lithium extraction;
- Identify optimal decrepitation conditions for each spodumene mineral concentrate and also differences in reactivity between those mineral concentrates.

At the time of the publishing of the June 2023 scoping study, the most recent conversion test work at the Australian Government's Science and Technology Organization proved good conversion and leach recoveries without requiring further detailed investigations or optimization. Results are shown in the following exhibit.

[13] Armeen T collector is a tallow amine used in the flotation of potash, feldspar, and spodumene and as an anticaking treatment in the load out, storage, and transport of potash salts. It can also be applied as an acid emulsifier in oilfield stimulation.
[14] Oleic acid is a fatty acid that occurs naturally in various animal and vegetable fats and oils. Oleic acid is a commonly used spodumene collector. It can be adsorbed on the surface of spodumene ore particles, making it hydrophobic, and promoting spodumene to combine with air bubbles and float.
[15] A frother is a substance that stabilizes the air bubbles produced during flotation, promoting their persistence and stability. Commonly used frothers in spodumene flotation include isobutanol methyl ether (MIBC) and pine oil.
[16] Western-Australian based resource development consultancy, specialising in the engineering design and project delivery for mineral processing facilities and associated infrastructure. Projects in which the company participated include those of Latin Resources, Talison Lithium, Lynas Rare Earth - Kalgoorlie Facility, Iluka – Eneabba, Global Lithium - Manna SOC Project, Tormin Mineral Sands, Dundas Ilmenite Project, BCI - Mardie Salt Project, and Norton GF - Binduli North Heap Leach Project.

Exhibit 34 Summary of lithium, aluminium and iron extractions

Sample ID	Li_2O (wt%)	Li extraction (%)				Al extraction (%)				Fe extraction (%)			
		Decrepitation conditions				Decrepitation conditions				Decrepitation conditions			
		1050 ºC		1100 ºC	1150 ºC	1050 ºC		1100 ºC	1150 ºC	1050 ºC		1100 ºC	1150 ºC
		60 min	90 min	90 min	90 min	60 min	90 min	90 min	90 min	60 min	90 min	90 min	90 min
4	6.4	98.2	98.4	98.7	99.1	3.7	4.0	4.1	3.8	19.6	21.2	19.6	18.6
5	5.8	96.8	96.7	96.5	97.4	3.8	3.6	3.5	3.6	12.8	13.2	11.6	10.9
6	5.5	96.3	79.7*	95.5	96.7	4.2	2.4	3.5	3.6	13.6	6.6	10.6	12.2
7	5.4	97.1	96.9	97.7	96.9	3.7	3.7	2.8	3.0	13.9	14.9	11.6	14.0
8	5.6	95.7	95.6	95.1	96.1	2.9	3.1	2.7	3.5	10.4	12.0	9.1	11.2

* Determined to be due to incorrect acid addition

Source: Savannah Resources, CaixaBI Equity Research

Infrastructure

The following list includes the infrastructure requirements of the project according to the June 23 scoping study:

Site access road: the upgrade of a 6.6 km road is necessary to provide access to the site for the delivery of supplies and reagents and for the export of spodumene concentrate. Roads will be required for heavy (mine production and tailings management) and light (concentrator operations) vehicles.

Bypass road: a new 17 km public road to bypass local villages and connect to the A24 motorway is needed to minimize interactions between heavy and light vehicles and to reduce the impacts on local villages.

Power: this is required for the mine and concentrator, with the largest consumers being the comminution equipment (crushers, ball mill, among others). The supply of electricity will be done through the high-voltage power lines close to the site to a power transformer that the company will need to license and build. The licensing is done through the Direção-Geral de Energia e Geologia (DGEG[17]) services.

Water: is needed for concentrator operations, with almost all material from the mine subject to some form of wet processing. Most of the water used is recycled within the concentrator, but some fresh water is required to account for the water lost mainly as moisture content in the tailings and concentrate streams. Water will come from the dewatering of the planned pits and from water reservoirs that will be built on the Project's lease area.

Transport and logistics

In the June 2023 scoping study, the company assumed that the product will be sold locally, given the likelihood that downstream processing facilities in Portugal will come online around the same time that Savannah starts operations (around the second half of 2026). With this assumption in mind, the only transportation cost incorporated in the scoping study was the one from the mine to Leixões, Matosinhos (no storage nor ocean freight costs) where the company believes there is capacity to build a lithium refinery.

In the previous scoping study of June 2018, transportation and logistics assumptions were broader and included the transport by road from the mine to a warehouse in Maia (near the city of Porto), the storage cost, the transport from Maia to Leixões and the shipping from Leixões to a set of locations including Dalian and Yantian. The less restrictive set of assumptions of the 2018 scoping study led to an overall transportation cost that is 6.4x higher than the one included in the 2023 scoping study (12.3 USD/ton).

Despite a number of projects for the construction of lithium refineries in Portugal, no final investment decision was made at this point in time. Perhaps the strongest possibilities are

[17] Directorate-General for Energy and Geology.

those of the Aurora joint-venture between Galp and Northvolt and the project from Lifthium (José de Mello Group).

The Aurora 50/50 joint-venture was completed in 2022 and aims to create a lithium processing plant in Portugal, with 35 thousand tonnes per year of lithium hydroxide enough for 50 GWh of battery production (approximately 700 thousand electric vehicles per year). The start of production continues to be estimated to take place in 2026 (the use of green power should be prioritized in this project to minimize the use of natural gas).

In the case of project sponsored by the José de Mello Group, a decision could be taken in mid-2024, after tests being carried out in a pilot plant in Canada have been completed. The strategy is to have at least two plants by 2030 (with a combined 50 thousand tonnes per year capacity of lithium hydroxide) and, possibly, a third already in mind or under development by then.

The partnership agreement signed with AMG, gives strength to the scenario in which the Project's production is sold locally in Europe, thereby supporting Savannah's assumption made in the June 2023 scoping study of lower transportation costs. This scenario is also what we have included in our valuation.

Environment

The revised and optimized site layout submitted to APA in March 2023 and that received a positive conditional DIA in May of that year, was the basis of the June 2023 scoping study and incorporates the following environmental considerations:

Water

- The Barroso project will source all of its water needs onsite, with water predominantly collected in the mining areas and from surface sources. There will be no need for water to be abstracted from the Covas River.
- The project will have a closed water system, with water resources stored, treated and recycled onsite.

Infrastructure

- There is a new road layout that allows all project-related traffic to avoid local villages and towns, connecting directly to the A24 motorway and that requires one new bridge (onsite) to reduce impact on local rivers and riverbank ecosystems. Offsite project-related traffic will be restricted to weekdays only.
- According to the company, this revised layout reduces environmental, visual impacts, but also noise and light emissions by moving site infrastructures, such as the processing plant, further from watercourses and local communities and by keeping development heights below the relevant ridge lines.

Ecology

- The water management plan and the level of water consumption lead to a minimal impact on rivers and the aquatic ecosystem, as confirmed by APA through the issuance of the DIA.
- According to independent studies, there are no packs of Iberian wolves within the project area, with measures to protect wildlife put into place.
- The updated project layout foresees a reduced impact on oak groves and meadows.
- Revegetation works will use native species and other suitable plants with good pollination features.

Noise and ground vibrations

- The company is committed to operate "well below" legal limits for noise and ground vibrations, with onsite truck movement, and mining and blasting, not allowed overnight.

Air quality

- Dust was identified as the most significant risk impacting air quality, with the company planning to mitigate it by treating unpaved roads with water and using fog cannons when haul trucks tip loads at the processing plant.

Processing plant waste (tailings) storage facility (TSF)

- Inert tailings will be produced by the plant that will be stored separately to waste rocks in a stable dry stack structure. The project will not use traditional wet tailings dam.
- In addition, the TSF will be built on a waterproof lining and located at safe distance from the Covas River. The TSF will be revegetated progressively over the life of the project.

Waste rock storage facilities

- Waste rock from the mining areas (inert material) will be stored in one temporary and three permanent structures, separated from the plant's tailings and away from water courses. The rock from the temporary facility will be used in rehabilitation and landscaping, with permanent waste rock formations contoured into the existing landscape and revegetated.

Landscape and rehabilitation

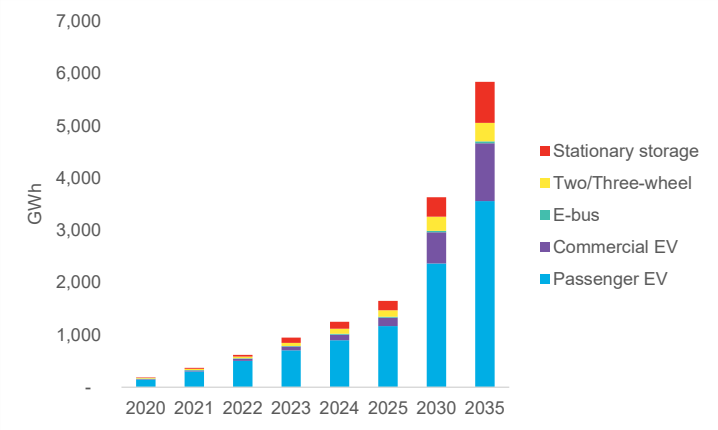
- According to the plan, the rehabilitation of the project is guaranteed, being a requirement of the environmental license. The company is required to lodge a rehabilitation bond (cash) with the government before any work can start.
- Given the phased nature of the project, rehabilitation can start during the operating phase including three out of four mining areas.
- The backfilling or partial backfilling and landscaping of mining areas will happen once ore extraction ends.
- Impacted areas, including all mining areas, tailings and permanent waste rock storage facilities, and infrastructures (e.g. processing plant and water storage) will be rehabilitated, landscaped and revegetated with native species. The impacted water courses will be reinstated as far as possible, and the land made available for alternative use such as agriculture or tourism.
- Landscape recovery of affected areas targets the recovery of the levels of biodiversity in the area and integrate into the surrounding landscape.

Lithium market context

- Demand for lithium-ion batteries

Global demand for lithium-ion batteries is anticipated to expand substantially up to 2035, according to BNEF forecasts, rising from **619 GWh in 2022 to 5,844 GWh** (almost 19% growth per year). The largest contributor in terms of the rate of growth should come from commercial electric vehicles, stationary storage and two/three-wheel vehicles. The **passenger EV segment should continue to account for the bulk of demand**, but lose weight given growth rates slightly below the sector (c. 16%). Passenger EV accounted for 81% of demand for lithium-ion batteries in 2022, and is expected to represent 61% in 2035. Two different trends are anticipated within the passenger and commercial EV markets: (i) Plug-in Hybrid Electric Vehicles (PHEV) reduce their weight in passenger EV (from 8.4% in 2022 to 0.1% in 2035), while Battery Electric Vehicles (BEV) take on the lost ground, and (ii) in the commercial EV market, PHEV increase their share from 0.7% to 13.7%.

Exhibit 35 Demand for lithium-ion batteries



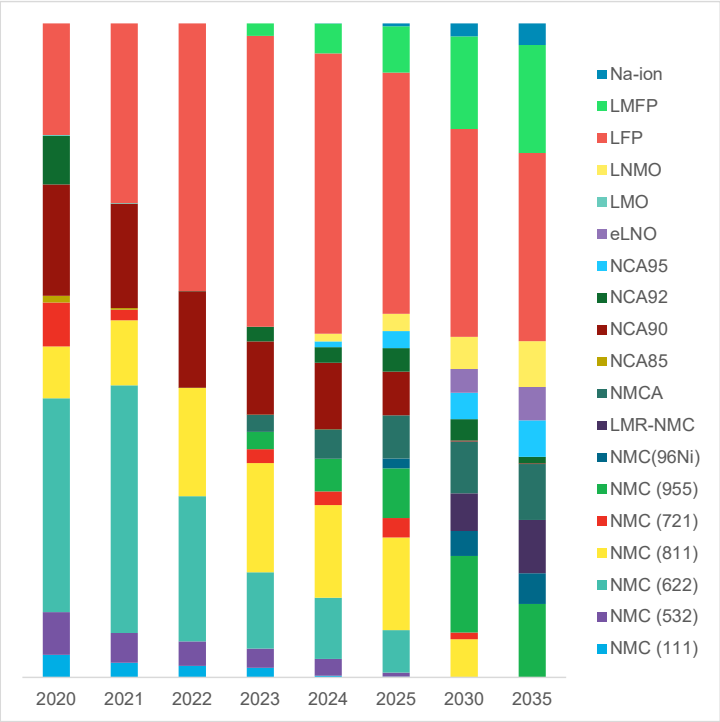
Source: CaixaBI Equity Research (based on BNEF forecasts)

In terms of the chemistry mix, **lithium iron phosphate (LFP) batteries are anticipated to account for the largest share of the total (29%) in 2035**, but with a more diluted market as other chemistries gain traction. According to BNEF, the second chemistry in terms of weight in the mix forecasted for 2035 is lithium manganese iron phosphate (LMFP) with 17% and the third NMC (955)[18]. Overall, the trend is a shift from cobalt into nickel and other more abundant and cheaper elements.

China accounts for 38% of the global demand for lithium-ion batteries in the passenger EV segment forecasted for 2035, less than the 52% in 2022 as other geographies start to expand their electric fleets. In 2035, LFP batteries should account for 29% of the country's passenger EV market, followed by LMFP with 22%. **Europe is expected to account for 19%** of the global battery market for passenger EV (25% in 2022), with the **United States at 25%** (15% in 2022). Again, **LFP batteries are expected to be the top chemistry in both Europe and the United States in 2035**.

[18] Lithium nickel manganese cobalt oxide, with 90% nickel, 5% manganese and 5% cobalt.

Exhibit 36 Global chemistry mix of lithium-ion batteries (passenger EV)

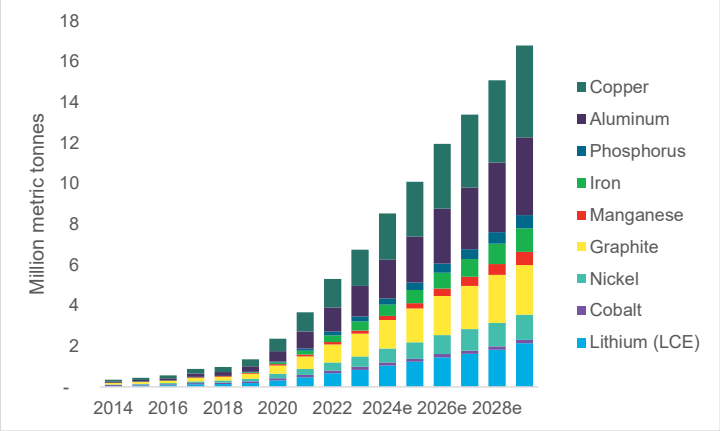


Source: CaixaBI Equity Research (based on BNEF forecasts)

- Material demand

Demand for metals that are incorporated in cells and packs will, consequently, also increase, with the breakdown of the expansion dependent on the path taken in terms of cathode chemistry. Just looking at the incorporation requirements from the anticipated increase in battery production, **BNEF forecasts a double digit annual growth for all metals except cobalt until the end of the decade**. The demand for lithium is expected to increase by 18% per year until 2030, 4% for cobalt, 16% for nickel, and 28% for manganese, just to mention a few.

Exhibit 37 Material demand for lithium-ion batteries



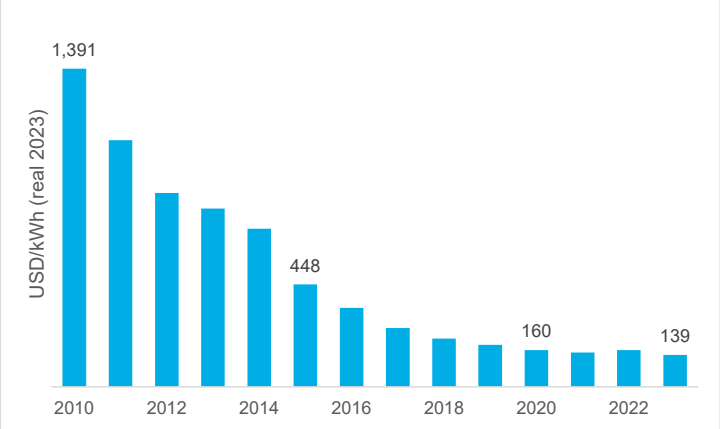
Source: CaixaBI Equity Research (based on BNEF forecasts)

Recycling and reuse of battery packs should also play a major contribution in helping to balance supply/demand for metals and act as a price buffer on possible volatility caused by constrains and/or bottlenecks in terms of metal supply.

- Battery prices

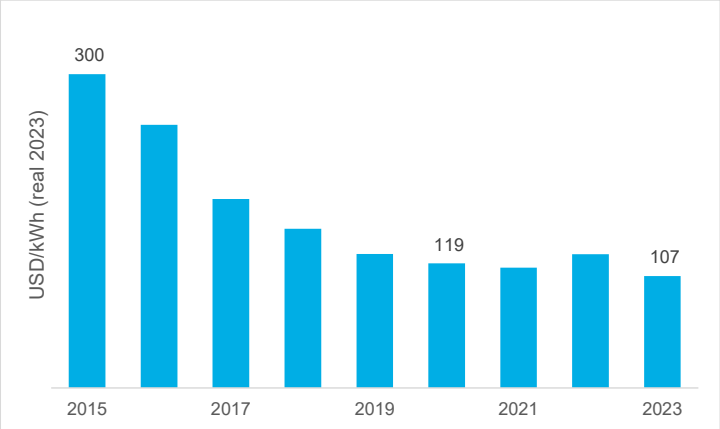
Battery pack prices in 2023 were just 10% of those in 2010, declining in all years (except in 2022) by an annual average growth rate of 16%. According to BNEF, the average battery pack price in 2023 reached 139 USD/kWh, a decrease of 14% against 2022. Looking at the cell component only, the decline in price was less pronounced (11% between 2015 and 2023 vs. 16% in pack prices in the same period), leading to an increase of the weight of the cell price in the overall pack.

Exhibit 38 Battery pack prices



Source: CaixaBI Equity Research (based on BNEF forecasts)

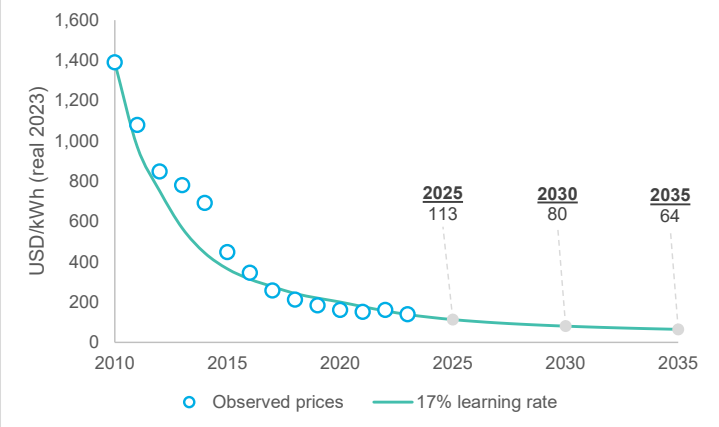
Exhibit 39 Battery cell prices



Source: CaixaBI Equity Research (based on BNEF forecasts)

According to BNEF forecasts, **battery pack prices are expected to continue the declining trend observed until now for the next ten years, by an average of 6% per year** (assuming a learning rate of 17%). The reduction follows the expected expansion of electric vehicle penetration in the same period.

Exhibit 40 Battery pack price curve forecast

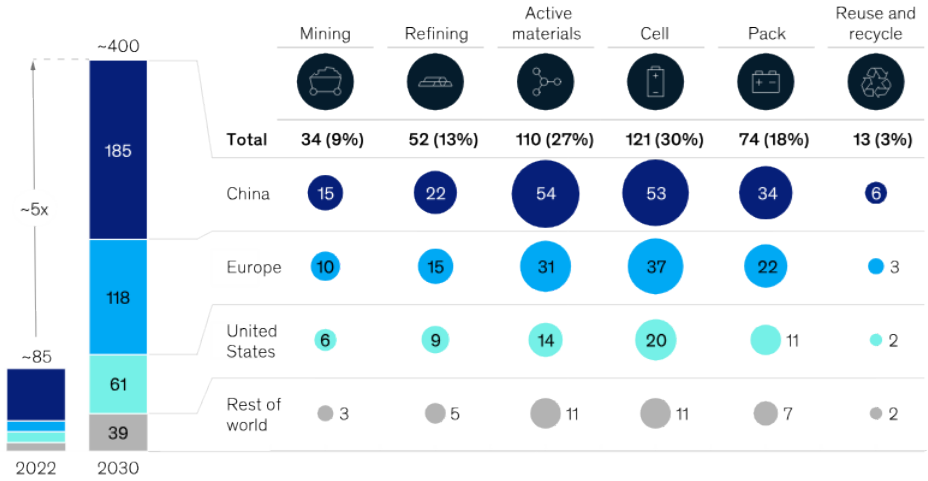


Source: CaixaBI Equity Research (based on BNEF forecasts)

- Value chain revenues

According to McKinsey Battery Insights[19], **revenues across the lithium-ion battery value chain should increase 5x from USD 85b in 2022 to more than USD 400b in 2030**. Active materials and cell manufacturing can have the largest revenue pools. In terms of growth prospects, revenues in recycling are anticipated to expand by more than 3x in the decade, taking advantage of the fact that more batteries reach their end-of-life.

Exhibit 41 Revenue distribution across the value chain (USDb)



Source: McKinsey Battery Insights (2022)

[19] https://www.mckinsey.com/industries/automotive-and-assembly/our-insights/battery-2030-resilient-sustainable-and-circular#/

- ESG concerns

Still according to McKinsey, there is a set of challenges that the global battery value chain faces, namely in terms of ESG.

Environmental: in this dimension, the main issue is the potential negative impacts of extraction and refining of raw materials (biodiversity loss, land degradation, water contamination, among others). Unregulated battery disposal can also lead to a significant risk of toxic pollution.

Social: potential harmful consequences of operations, across the battery chain, to local communities is also of concern (labour law violations, indigenous rights, among other considerations).

Governance: possible conflicts of interest within the value chain, and the need to guarantee that businesses are run on high ethical standards.

Exhibit 42 ESG issues across the value chain

Source: McKinsey Battery Insights (2022)

- Trends among battery manufacturers

In parallel to ESG concerns, there are also economic challenges to the battery industry, namely given the volatile nature of raw material prices (and energy), regulatory incentives and taxation. Alongside these points of concerns there are other possible headwinds, such as supply chain bottlenecks, the inherent uncertainty of technological developments, product acceptance and labour qualification. One strategy to try to prevent bottlenecks or shortages of equipment/materials or labour that could potentially cap business expansion is to **vertically integrate and/or accommodate long-term relationships across the chain**.

In fact, battery manufacturers have been investing not only in production capacity, but also is upstream supply chains. **A wider presence throughout the supply chain allows for a stronger control over availability, quality and carbon footprint**. The largest battery manufacturers (e.g. CATL, BYD, LG, SK On, Samsung and others) have been establishing this wider reach through direct investments and partnerships. Long-term contracts are also an important tool to achieve these objectives.

Solutions for energy storage systems are the second largest demand segment after passenger EVs. Battery manufacturers increasingly tend to view this segment independently from mobility solutions.

Chinese battery manufacturers mostly target Chinese automakers in direct investment and/or joint ventures. But larger Chinese manufacturers are also expanding beyond the domestic market.

Exhibit 43 Battery manufacturer's relations with automakers

Automaker		Joint ventures						Investment / In-house
		CATL	BYD	LG ES	SK On	Samsung	Other	
Europe	Daimler						EVE	Farasis / ACC
	Volkswagen						Northvolt	Gotion / PowerCo
	Stellantis			X	X	X	ACC	Gotion
North America	GM			X		X		
	Ford			X	X			CATL
	Tesla						Panasonic	Tesla
South Korea / Japan	Hyundai			X	X			
	Renault / Nissan / Mitsubishi						AESC	Verkor
	Toyota						Panasonic	
	Honda			X				
China	Geely	X		X			Sunwoda /	Forenergy
	BYD							BYD
	SAIC	X					REPT	
	BAIC				X			CATL
	FAW	X						
	Dongfeng	X					Sunwoda	
	GAC	X						GAC

Source: CaixaBI Equity Research (based on BNEF data)

Exhibit 44 Battery manufacturer's relations with raw material and recycling partners

Battery maker	Raw materials			Recycling
Value chain	Nickel	Cobalt	Lithium	Repurposing / Recycling
CATL	GEM / North American Nickel	CMOC	Tyeeli	Brunp
BYD	BYD / GEM		BYD / SQM / Chengxi	BYD / China Tower / Itochu
LE ES	Queensland Pacific Metals / Australian Mines	Electra / Avalon / Snow	Sigma / SQM / Yahua	Li-Cycle / Huayou Cobalt
Samsung	Metals X	Samsung / Samsung C&T	Samsung / Samsung C&T	Samsung SDI / SungEel Hitech
SK On	GEM	Glencore	Lake / Global Lithium	SK ecoplant / SungEel Hitech / TES
Panasonic	BHP / FPX		Schlumberger / Ioneer	Redwood Materials

Source: CaixaBI Equity Research (based on BNEF data)

Exhibit 45 Battery manufacturer's relations with components partners

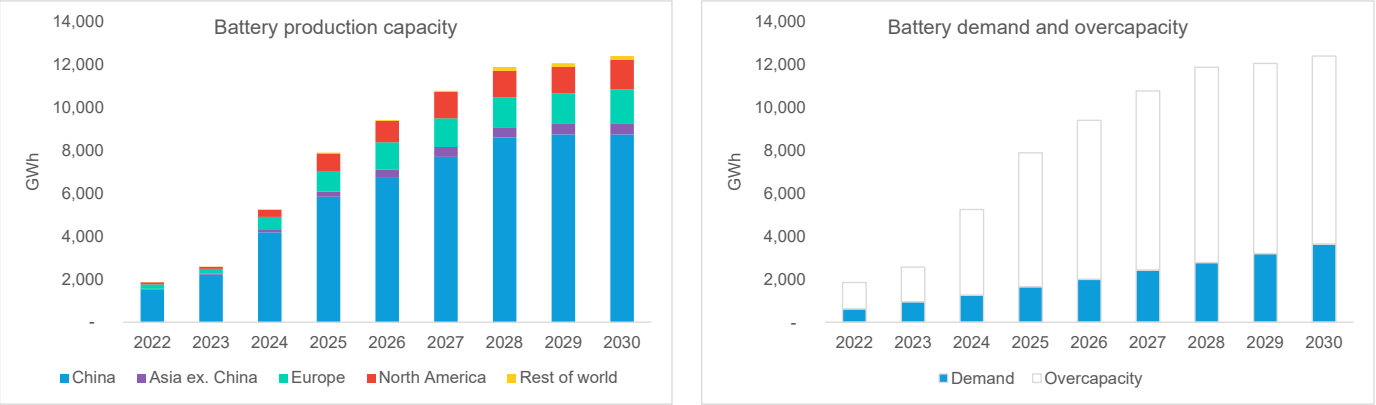
Battery maker	Components					
Value chain	Precursor	Cathode	Anode	Separator	Electrolyte / Additives	Current collector
CATL	Brunp	ZEC / Fulin / Dynanonic / Hunan Yuneng	Shangtaitech / Kaijin / Putailai	Putailai / Senior / SEM	Yonta / Tinci	Putailai
BYD	Gotion / MCC	BYD / Dynanonic / Hunan Yuneng	BYD / BTR	Sinoma / Senior / SEM	DFD / Capchem / BYD	
LE ES	Huayou Cobalt	Huayou Cobalt / Umicore / LG Chem	Novonix / Putalai / BTR	LG Chem / SEM / Toray	Capchem	Solus
Samsung	GEM / GNGR / Huayou Cobalt	GEM / GNGR / Samsung SDI / EcoPro / Posco	Putailai / Posco / Mitsubishi Chemical	Asahi Kasei / SEM	Capchem / Mitsubishi Chemical	
SK On	GEM / EcoPro	Easpring	Urbix	SK On	Kunlunchem	SK On
Panasonic	Fangyuan	Xiamen Tungsten / Easpring	Putalai / BTR	SEM	Capchem	

Source: CaixaBI Equity Research (based on BNEF data)

- Battery manufacturing: tracking China

According to BNEF data, battery production from China alone in 2023 was enough to meet global demand, with the country representing 86% of the global installed capacity. Forecasts show an increase in overcapacity of battery manufacturing against global demand throughout this decade. **China should continue to represent the largest source of supply**, far above the next competing countries, expanding by an average annual growth rate of 24% from 2022 to 2030. Asia, except China, is expected to grow by 37% p.a. in the same period, Europe 29%, North America 41% and the rest of the world 155%. At the end of the decade, China is forecasted to have 71% of global capacity, Europe 13% and North America 11%.

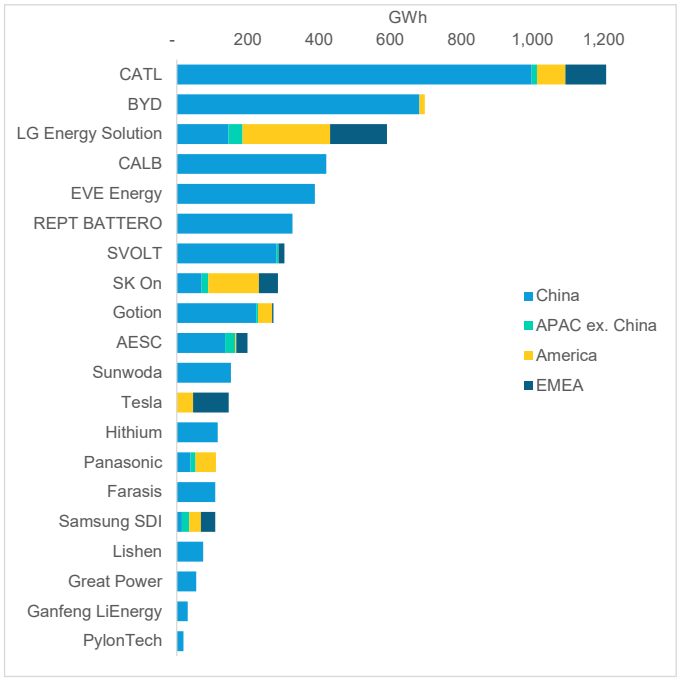
Exhibit 46 Battery production capacity and demand forecasts

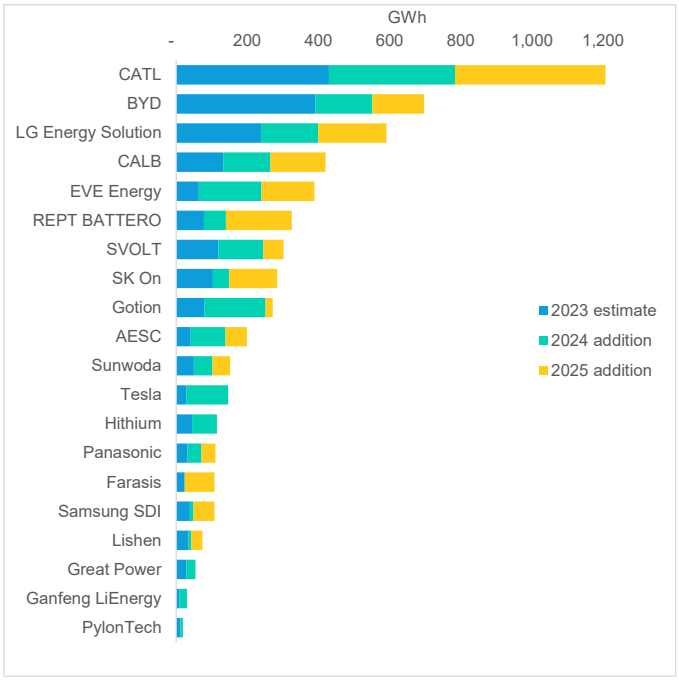


Source: CaixaBI Equity Research (based on BNEF data)

Still, a significant proportion of planned new capacity may eventually fail to come online, with projects cancelled or simply delayed. The risk of lower utilization rates are also a factor to consider going forward, that could narrow the gap between supply and demand, as are possible bottlenecks in terms of raw material availability. But even with a material cut in the planned capacity increases, a material oversupply is expected in the next years, with the potential to decrease prices and squeeze margins. This would increase entry barriers to new players, but would also serve as a positive feedback loop to higher EV penetration rates in the future.

Exhibit 47 Battery production capacity by 2025: selected companies





Source: CaixaBI Equity Research (based on BNEF data)

China is expected to continue to harbour most of the global battery manufacturing capacity, but other geographies are increasingly gaining weight. **North America and Europe are also playing catch up with China**, benefiting from increasingly important political/regulatory support to enhance domestic production/security of supply in these two regions.

- Cathode chemistry pathways

Cell chemistry is one of the decisive factors impacting **cycle life**, **energy density** and **charging rate**. It is a challenging balancing act to fine tune these parameters to optimize battery performance according to each different applications. The industry has been evolving in terms of cathode chemistry, incorporating cost concerns, but also security of supply and ESG concerns, without compromising performance.

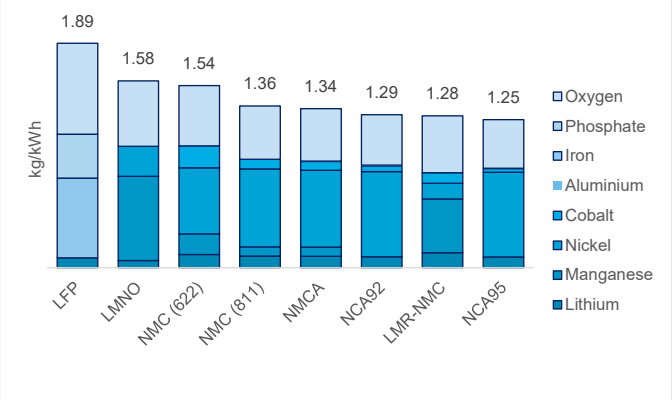
Chemistries such as NMC111 (nickel manganese cobalt oxide) and NCA80 (nickel cobalt aluminium oxide) are gradually being replaced given their high cost, while LMO (lithium manganese oxide) is also getting out of use due to its low energy density. On the other hand, chemistries such as LFP (lithium iron phosphate), NMC and NCA are the current mainstream options for passenger vehicles. Areas of research encompass chemistries such as LMFP (lithium manganese iron phosphate), high voltage NMC622 and ultra-high-content nickel NMC.

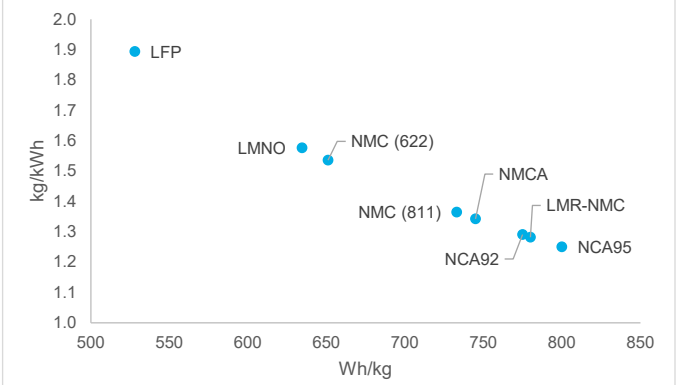
Exhibit 48 Cathode chemistry pathways

Category	Retiring	Current use			R&D direction		Leading players
LFP		LFP	Fast-charge LFP		LMFP		CATL, BYD, Gotion
NMC	NMC111	NMC532	NMC622	NMC811	High-voltage NMC622	NMC8+	CATL, SVOLT
NCA	NCA80	NCA90-92	NMCA		NCA95+		Tesla, Panasonic, Samsung
LMO	LMO				Spinel LMNO	Li-Mn-rich cathodes	AESC, Farasis

Source: CaixaBI Equity Research (based on BNEF data)

Exhibit 49 Mass per energy unit of different chemistries





Source: CaixaBI Equity Research (based on BNEF data)

A typical 66 kWh (NMC cathode) EV battery pack has close to 29 kg of nickel (16% of total battery weight), 10 kg of manganese (5.4% of total), 8 kg of cobalt (4.3%) and 6 kg of lithium (3.2%), all of which incorporated in the cathode. Other materials include graphite in the anode (28% of the total weight), aluminium (19%), copper (10%) and steel (10%) (Iacò, 2023). Of this set of materials, **lithium and cobalt present more challenges in terms of supply security**, mainly because most of global production is concentrated in just a few countries.

Lithium

Global lithium mine production reached c. 180 thousand metric tonnes in 2023 (excluding US production[20]), according to the US Geological Survey (USGS), a 23% increase over the previous year. The lion's share of production came from Australia, which accounted for 48% of global output in 2023, followed by Chile (24%) and China (18%). Still according to the USGS, measured and indicated global lithium resources increased substantially due to continuing exploration, reaching to c. 105 million tonnes.

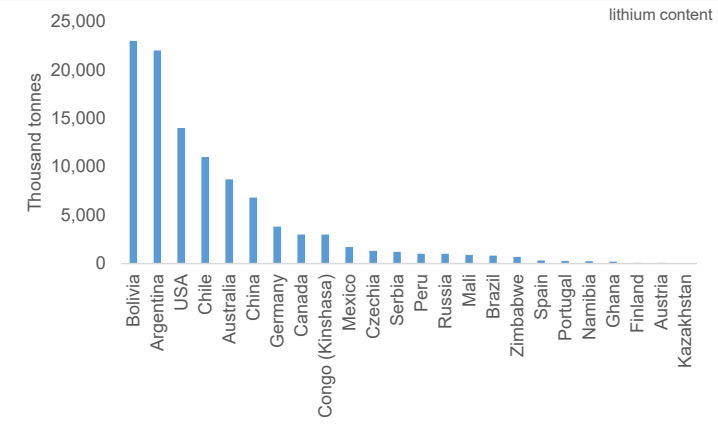
[20] US production was withheld to avoid disclosing company proprietary data (USGS).

Exhibit 50 World mine production and reserves (lithium)

Country *lithium content*	Mine production (tons) 2022	 2023	Reserves (tons)
Australia	74,700	86,000	6,200,000
Chile	38,000	44,000	9,300,000
China	22,600	33,000	3,000,000
Argentina	6,590	9,600	3,600,000
Brazil	2,630	4,900	390,000
Canada	520	3,400	930,000
Zimbabwe	1,030	3,400	310,000
Portugal	380	380	60,000
Other			2,800,000
Total	146,000	180,000	28,000,000

Source: USGS, CaixaBI Equity Research

Exhibit 51 Global measured and indicated lithium resources



Source: USGS, CaixaBI Equity Research

Global lithium production is mostly located in Australia (**hard rock**) and South America (**brine**), namely from the so called "Lithium Triangle", which includes Chile, Bolivia and Argentina. The top three producers (Australia, Chile and China) accounted for nearly 90% of global output in 2023, maintaining the weight experienced in the previous year.

The top lithium producing companies are SQM (Chile), representing 20% of global production of lithium chemicals in 2022, followed by Albemarle (US) with 16%, Tianqi (China) with 7%, Jiangxi Gafeng Lithium (China) with 6%, Allkem (Australia) with 4% and Livent (US) with 3% (Distribution of lithium production worldwide in 2022, by company).[21]

Lithium triangle in the Andes, South America
https://www.economist.com/the-americas/2017/06/15/a-battle-for-supremacy-in-the-lithium-triangle

[21] Allkem and Livent merged to create Arcadium Lithium (merger completed at the start of 2024).

Exhibit 52 Largest lithium mines

	Project	Country	Company	Production Kton (LCE)
1	Greenbushes	Australia	Albemarle	155.8
2	Salar de Atacama	Chile	SQM	135.4
3	Mount Marion	Australia	Mineral Resources	64.0
4	Pilgangoora	Australia	Pilbara Minerals	56.1
5	Salar de Atacama	Chile	Albemarle	32.9
6	Salar del Hombre Muerto	Argentina	Livent	32.8
7	Mount Cattlin	Australia	Allkem	26.8
8	Bikita	Zimbabwe	Bikita Minerals	26.6
9	Salar de Uyuni	Bolivia	YLB	14.0
10	Salar de Olaroz	Argentina	Allkem	13.8

Source: Mining Technology, CaixaBI Equity Research

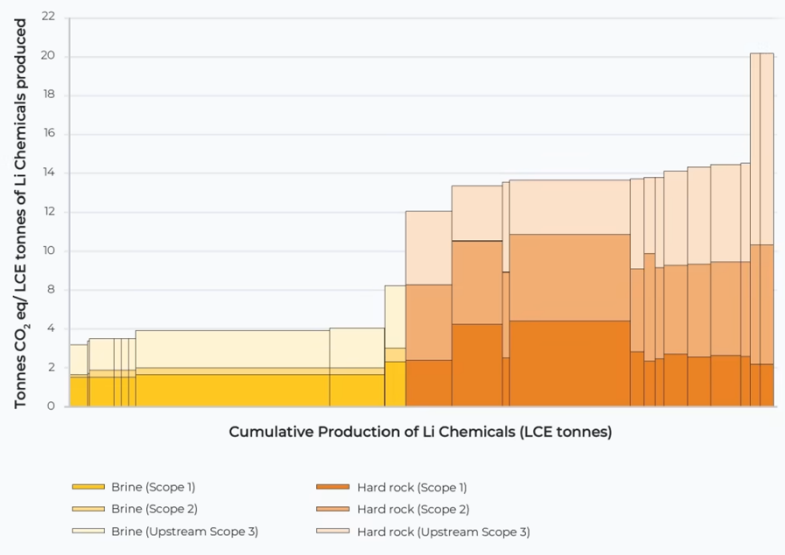
Hard rock sources of lithium account for c. 60% of global mined lithium, and should continue to represent the major part of supply in the next years[22]. According to (Bogossian, Hard Rock Lithium Deposits, 2021), *"Lithium from hard rock deposits is incorporated in minerals hosted in pegmatite intrusions. Pegmatites are coarse-grained intrusive rocks that are formed during the final stages of the crystallization of a magma. Lithium-Cesium-Tantalum (LCT) pegmatites, a compositionally defined subset of pegmatites, make up 25% of the world's lithium production, most of the world's tantalum production, and all of the world's cesium production. Lithium in LCT pegmatites commonly occurs as spodumene, but it is also present in other lithium-bearing minerals such as petalite and lepidolite.* ***Hard rock lithium deposits are evenly distributed around the globe, but lithium production from this deposit type is concentrated in a few places*** *including Australia, Canada, and China"*.

(Bogossian, Brine Lithium Deposits, 2021), continues *"Lithium-bearing* ***brines*** *are deposits of saline groundwater enriched in dissolved lithium that form in a closed-basin system. The saline accumulations that characterize brine deposits* ***are common in nature, but only a few places in the world have the geological settings and arid climate that allow economic extraction of lithium****. Geologic conditions for lithium brine deposits include closed basins and heat flow from hot springs or young volcanoes. The three main types of lithium brine deposits are continental, geothermal, and oil field"*.

Processing hard rock is more energy intensive than brine, which can lead to higher carbon emissions depending on the energy grid profile of the country where the mine is located.

[22] https://source.benchmarkminerals.com/article/hard-rock-vs-brine-how-do-their-carbon-curves-compare

Exhibit 53 Carbon intensity curve (top 20 lithium chemical producers)

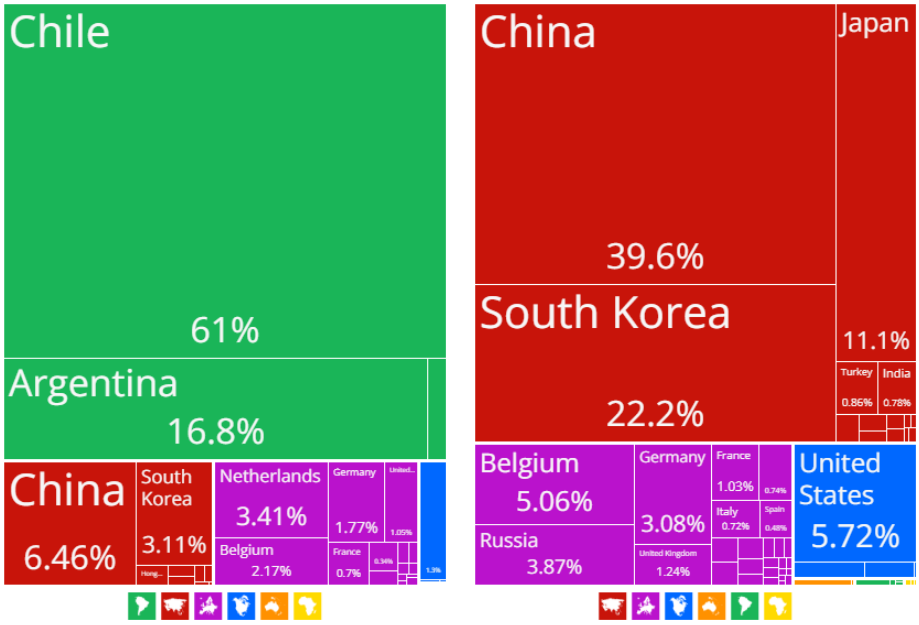


Source: Benchmark Lithium Global LCA

Still according to (Bogossian, Hard Rock Lithium Deposits, 2021), ***"lithium carbonate** and **lithium hydroxide**, the two main lithium materials currently traded on markets, have different selling prices according to regional markets. In recent years, **lithium hydroxide has become the preferred battery-grade material, as lithium hydroxide battery cathodes have better storage capacity and longer life cycles**. However, the default unit for measuring lithium reserves, resources, and production (including lithium hydroxide) is based on a metric ton of **lithium carbonate equivalent (LCE)**. This is because lithium carbonate was traditionally used in batteries, and because lithium carbonate is the first chemical extracted in the lithium mining production chain. It is important to note this, because one metric ton of lithium content is not the same as one metric ton of lithium hydroxide, which is also different from one metric ton of LCE".*

The latest available figures for global **lithium carbonate** (HS6-283691) trade refer to 2021, when global trade was valued at USD 1.47b. The largest exporter was Chile (USD 896m), with China being the top importer (USD 583m). Lithium carbonate was the 1,727th most traded product in 2021, with exports increasing by 48.6% from 2020. These trade figures do not capture spodumene concentrate supply, which flows predominantly from Australia to China.

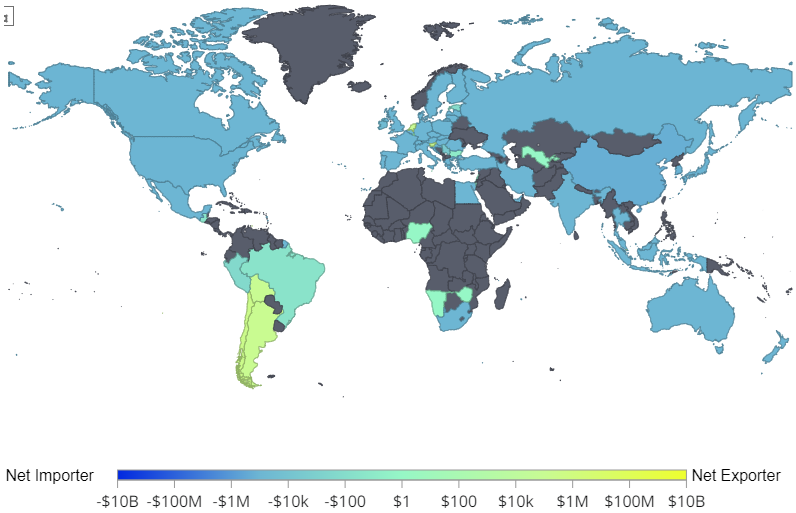
Exhibit 54 Exporters and importers of lithium carbonate (2021)



Source: OEC (adapted)

The following exhibit show which countries export or import more of lithium carbonates. Each country has a colour based on the difference in exports and imports during 2021.

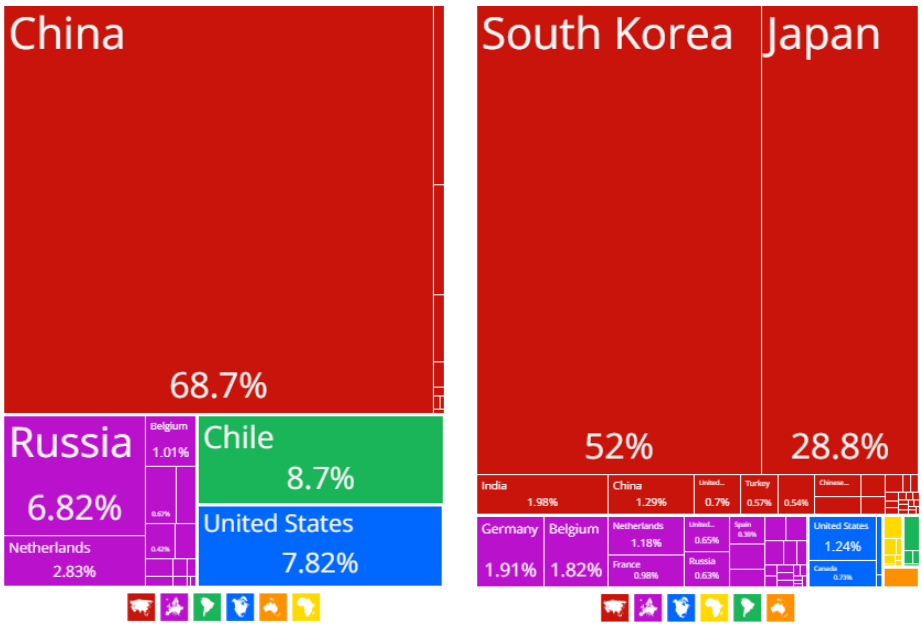
Exhibit 55 Net trade in lithium carbonates (2021)



Source: OEC (adapted)

The latest available figures for global **lithium oxide and hydroxide** (HS6-282520) trade refer to 2021, when global trade was valued at USD 1.2b. The largest exporter was China (USD 826m), with South Korea being the top importer (USD 625m). Lithium oxide and hydroxide was the 1,926th most traded product in 2021, with exports increasing by 40% from 2020.

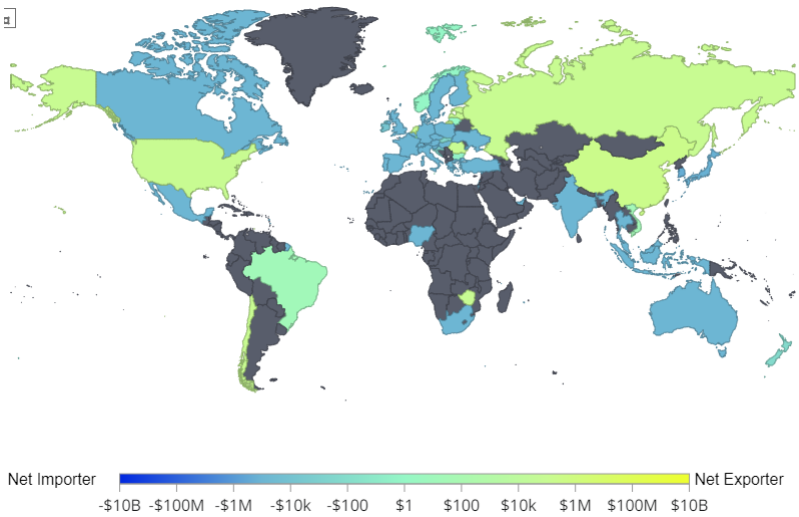
Exhibit 56 Exporters and importers of lithium oxide and hydroxide (2021)



Source: OEC (adapted)

The following exhibit show which countries export or import more of lithium oxide and hydroxide. Each country has a colour based on the difference in exports and imports in 2021.

Exhibit 57 Net trade in lithium oxide and hydroxide (2021)



Source: OEC (adapted)

Supply risks

The US Department of Energy (DoE) understands as "**critical material**" (as defined by the Energy Act of 2020) (What Are Critical Materials and Critical Minerals?, 2023):

- Any non-fuel mineral, element, substance, or material that the Secretary of Energy determines: (i) has a high risk of supply chain disruption; and (ii) serves an essential function in one or more energy technologies, including technologies that produce, transmit, store, and conserve energy; or
- A critical mineral, as defined by the Secretary of the Interior.

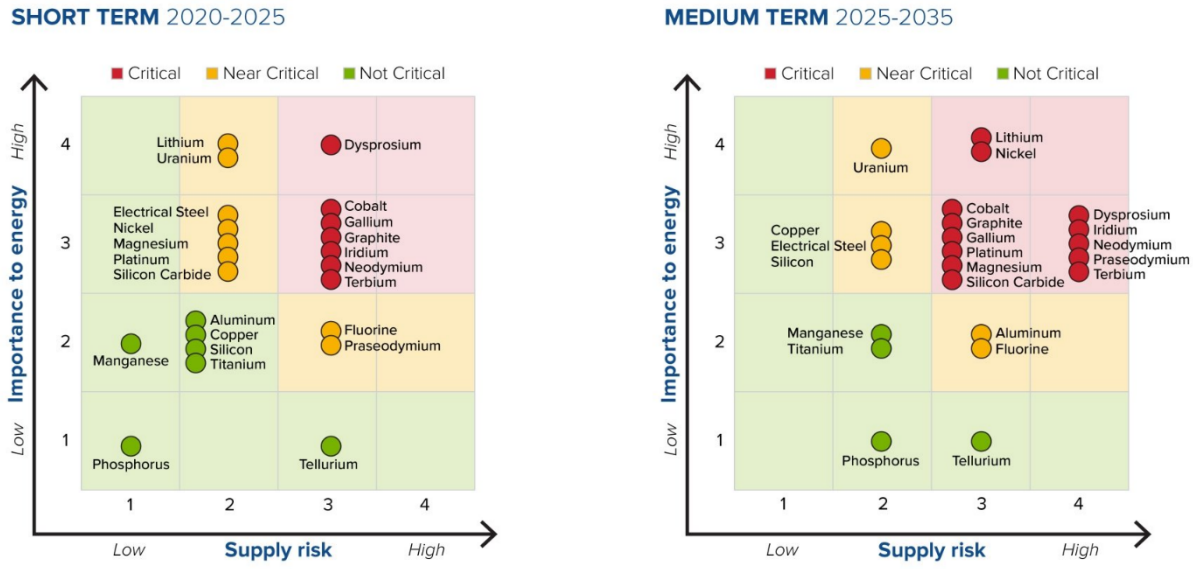
Likewise, a "**critical mineral**" is defined as:

- Any mineral, element, substance, or material designated as critical by the Secretary of the Interior, acting through the director of the U.S. Geological Survey.

The DoE's Final 2023 Critical Materials List includes critical materials for energy, but also minerals included in 2022 by the Secretary of the Interior. The eighteen critical materials for energy include cobalt, lithium, natural graphite and nickel. In parallel, the list of critical minerals include cobalt, graphite, lithium, manganese and nickel.

The following exhibit show the short and medium term criticality matrices, which combine assessments about supply risk and importance to energy.

Exhibit 58 Raw materials criticality matrices



Source: US Department of Energy

The European Union's list of Critical Raw Materials was updated in 2023, and also includes several of the materials mentioned earlier. More precisely, the list includes 34 raw materials or group of raw materials identified as critical, encompassing cobalt, lithium and natural graphite.

Exhibit 59 European Union's 2023 Critical Raw Materials

Aluminium/Bauxite	Coking coal	Lithium	Phosphorus
Antimony	Feldspar	LREE	Scandium
Arsenic	Fluorspar	Magnesium	Silicon metal
Baryte	Gallium	Manganese	Strontium
Beryllium	Germanium	Natural graphite	Tantalum
Bismuth	Hafnium	Niobium	Titanium metal
Boron/Borate	Helium	PGM	Tungsten
Cobalt	HREE	Phosphate rock	Vanadium
		Copper*	Nickel*

*Copper and nickel do not meet the CRM thresholds, but are included as Strategic Raw Materials

Source: European Union, CaixaBI Equity Research

Lithium was included in the Critical Raw Materials (CRM) list since the 2020 report, with 13 remaining in the list since 2011 (o.w. cobalt and natural graphite). A more detailed analysis (as provided in the CRM) of raw materials that are important in the manufacturing of batteries is showed in the next exhibit. Critical materials are considered those with a supply risk (SR) above or equal to 1.0 and economic importance (EI) above or equal to 2.8.

Exhibit 60 CRM analysis on raw materials used in batteries (2023 vs 2020)

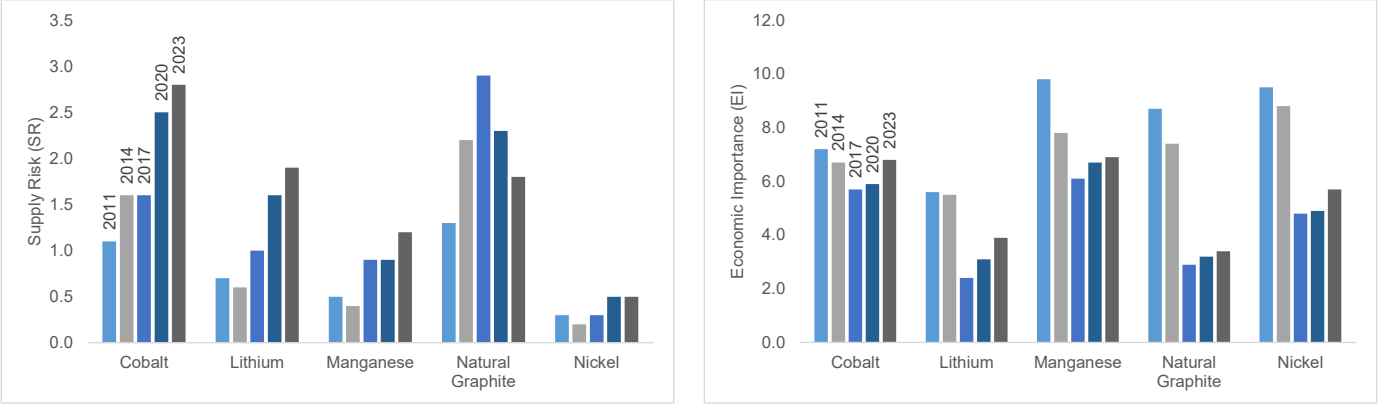
Raw material	Changes in SR and EI from 2020 to 2023	Reason for the change
Cobalt	SR: 2.5 to 2.6	SR slightly increased compared to the 2020 assessment, as the EU supply data for extraction stage have been disregarded. Trade data for 81052000 Cobalt mattes and other intermediate products of cobalt metallurgy; unwrought cobalt; cobalt powders are confidential since 2015 and mask major imports from DRC.
	EI: 5.8 to 6.8	EI increased due to changes in the value-added of NACE Rev. 2 sectors. Batteries still represent only 3% of use over the reference period.
Lithium	SR: 1.6 to 1.9	SR at the processing stage increased slightly due to more precise information on the processing data at global level.
	EI: 3.1 to 3.9	EI increased due to changes in the value-added of NACE Rev. 2 sectors and reallocation of uses shares towards batteries and lubricating greases.
Manganese	SR: 0.9 to 1.2	SR increased over the threshold at the extraction stage due to decreased domestic supply and increased import reliance.
	EI: 6.7 to 6.9	Results are similar to the previous assessment.
Natural graphite	SR: 2.3 to 1.8	The SR has decreased mainly due to diversification of both the global and the EU supply.
	EI: 3.2 to 3.4	Results are similar to the previous assessment. More precise allocation to NACE-2 (2-digit) sectors.
Nickel	SR: 0.5 to 0.5	Results are similar to the previous assessment.
	EI: 4.9 to 5.7	EI increased due to relative higher increase of the VA and more precise allocation to the NACE-2 (2-digit) sectors.

SR: Supply Risk
EI: Economic Importance

Source: European Union, CaixaBI Equity Research

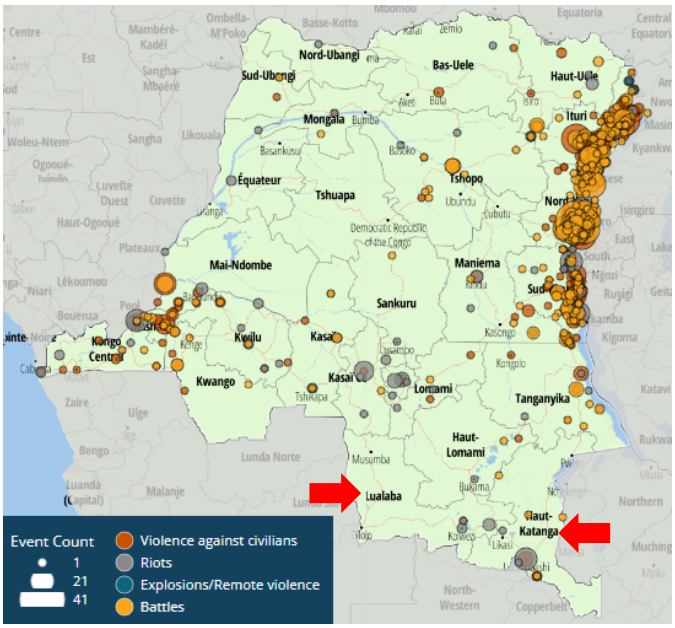
Continuing focusing on those raw materials more impactful in battery manufacturing, the next exhibit also looks at the 2023 assessment but compares it with previous reports.

Exhibit 61 CRM comparison with previous assessments



Source: European Union, CaixaBI Equity Research

Geographic concentration of key raw materials is central to assess potential risks to the manufacturing supply chain of batteries. As noted by (Igogo, Sandor, Mayyas, & Engel-Cox, 2019), **the cobalt supply chain seems to be relatively less secure than lithium**. The Democratic Republic of Congo (DRC) is, by far, home for the largest production and reserves of cobalt.



Political violence events 2023, *Source: ACLED*

The **African Copperbelt** that traverses the DRC and Zambia is the source of most of the cobalt that makes possible the global manufacturing of lithium-ion batteries. As mentioned earlier, cobalt production is mostly a by-product of copper and nickel extraction.

The African Copperbelt is estimated to have 5 billion tonnes of ore containing 3.3% copper (approximately 185 million tonnes of copper) (Crundwell, du Preez, & Knights, 2020). The Copperbelt crosses the southern DRC provinces of Haut-Katanga and Lualaba.

According to ACLED[23] data, the DRC had 2,080 political violence events in 2023, namely in the Eastern border with Uganda and Rwanda (map above). According to the same source, more than 2,690 fatalities were reported in 2023 from violence targeting civilians. As shown in the map above (red arrows), despite not being in the core of political violence, the provinces of Haut-Katanga and Lualaba did experienced episodes of civil unrest. The US State Department has a Level 3 travel advisory rating (Reconsider Travel), the second highest risk level, due to crime and civil unrest.

[23] Armed Conflict Location and Event Data Project

In addition to geographic concentration, given that most of cobalt production is a by-product of copper extraction, **events that affect the market for copper (such as price fluctuations) can have an impact on cobalt output**.

Chinese dominance in terms of its presence in cobalt extraction (through stakes in mining ventures and funding projects), but also in terms of cobalt refining capacity, is also a factor to consider when assessing geopolitical risk. The importance given by Chinese actors to cobalt extraction and refining derives from China's leading role in the manufacturing of electric vehicles and lithium-ion batteries.

In what concerns lithium, Australia is the largest producer and source of one of the most important reserve bases, but China (again) plays a pivotal role in terms of refining, owning c. 47% of global lithium carbonate refinery capacity (Igogo, Sandor, Mayyas, & Engel-Cox, 2019). Unlike Chile and Argentina, which process most of their mined lithium (from brine), Australia exports most of its lithium ore (spodumene) production to China where it underwent beneficiation and refining into lithium carbonate.

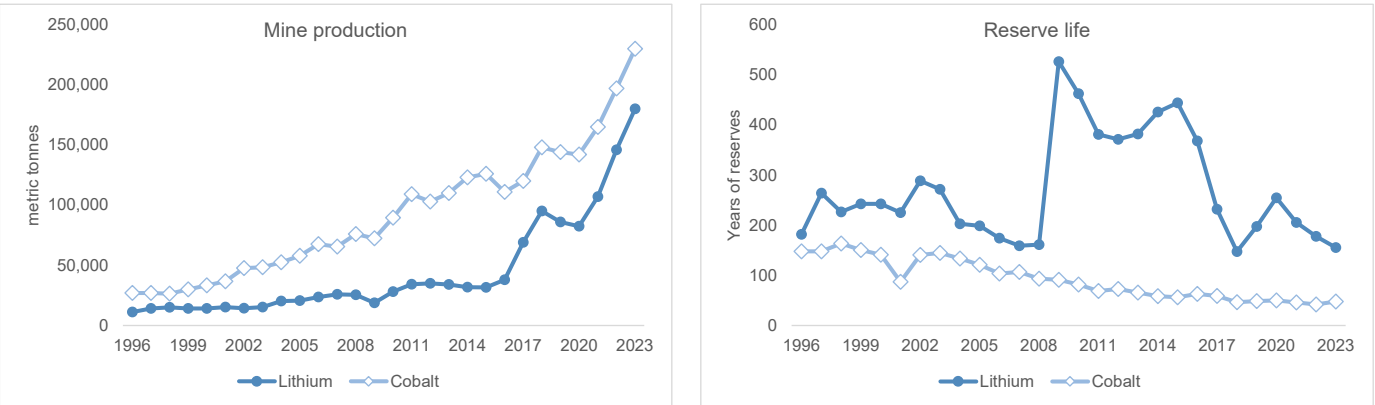
A final word to graphite (the dominant material in the anode), where the issue of security of supply is also relevant given China's dominance in terms of global production. These concerns were, in a way, materialized with restrictions imposed by China on graphite exports.

The current dependence of critical raw materials from countries that have relevant, or even significant, sovereign risk, has prompt the European Union and the United States (as previously seen) to identify and engage in policies that aim to increase the security of supply of a set of critical raw materials. This goal is directly aligned to the development of lithium mining operations located in Europe, such as Barroso.

Reserve evolution of lithium and cobalt

The development of the electric vehicle market, with the consequent increase in demand for lithium-ion batteries and electrode materials, was the most important driving force behind the expansion of lithium and cobalt demand. The next exhibit depicts the evolution through the last decades of lithium and cobalt mine production and estimated reserve life. As can be seen, the downward trend in terms of reserve lifespan demands two possible outcomes (not exclusive): (i) further increases in production and (ii) need to develop alternative electrode materials, which (as seen) is already underway, in order to guarantee supply chain security in battery manufacturing.

Exhibit 62 Lithium and cobalt production and reserve life



Source: USGS, CaixaBI Equity Research

ESG Focus

Management plans to adopt the appropriate aspects of the Sustainability Accounting Standards Board (SASB) framework to support the objectives, metrics and thresholds of the company's operations. The following issues should be prioritized initially:

Exhibit 63 SASB priorities

Environment	Green House Gas Emissions
	Air Quality
	Energy Management
	Water & Wastewater Management
	Waste & Hazardous Materials Management
	Ecological Impacts
Social Capital	Human Rights & Community Relations
	Labour Practices
	Employee Health & Safety
Governance	Business Ethics

Source: Savannah Resources

The exhibit below presents the summary of protection measures and commitments made at the Barroso Lithium Project.

Exhibit 64 Environmental protection at Barroso

Consideration	Previous & Recent activities/ commitments	Future activities/commitments
Air quality management	• Baseline monitoring of local air quality completed • Annual monitoring of local air quality, during exploitation works on the NOA pit	• Constant monitoring of local air quality during operating phase and real-time reporting of data to stakeholders • Dust suppression through regular dowsing of site roads from water trucks and use of 'fog cannons' at plant delivery point • Future air quality to benefit from targeted reductions to Scope 1 & 2 emissions to net zero and additional reductions to Scope 3 emissions • Comprehensive action plan prepared to deal with any air pollution incidents
Biodiversity	• Baseline monitoring of local flora and fauna completed plus 2 seasonal flora and fauna surveys completed for RECAPE phase of environmental licencing process • Survey of local land use completed • Annual monitoring for the Iberian Wolf completed	• Rehabilitation and revegetation of impacted areas on the Project beginning during operating phase using native species of plants • Ongoing monitoring of key land and aquatic fauna in the area, including the Iberian Wolf
Carbon abatement	• 3rd party Scope 1-3 emissions assessment completed in 2019. Scope 1 & 2 emissions inventory estimate revised and restated in 2022 (see below) • Commitment to move towards net zero Scope 1&2 emissions during operating phase and target additional Scope 3 reductions announced in 2021 • Decarbonisation strategy initiated in March 2022 with study led by the Portuguese environmental consultant, ECOPROGRESSO. First phase of study concluded (announced in Feb 2023):	• Decarbonisation studies to be continued. Next steps to include: o More detailed analysis of the options available for 100% renewable energy provision as part of the Definitive Feasibility Study on the Project. A number of viable options are available to secure 100% renewable energy supply to the Project including regional solar and wind generation, on market purchase, via direct Power Purchase Agreements, or a combination of these o Studies with a number of mining equipment OEMs to determine a site-specific solution for a transition to a battery operated mining fleet and associated charging infrastructure

Consideration	Previous & Recent activities/ commitments	Future activities/commitments
	○ Confirmation that battery powered electric mining equipment will provide the most effective and flexible means to reduce Scope 1 emissions at the Project to zero. Scope 1 emissions represent 68% of the Scope 1 and 2 total ○ The estimate of Scope 2 baseline emissions was reduced by 54% from the original 2019 forecast, based on the potential for a reduction in the estimated power requirement of the Project's plant and a 41% reduction in the emissions associated with Portugal's grid power between 2019 and 2021 • Signed a Memorandum of Understanding ('MoU') with ABB, the global technology leader as the first of the decarbonisation 'specialist' appointments. Under the MoU, ABB will: ○ Apply its industrial automation and electrification expertise to develop and co-ordinate an extensive suite of production control and process solutions for the Project ○ Work with ECOPROGRESSO and its partners to provide engineering support for the Barroso Lithium Project Definitive Feasibility Study	• Execution of study findings to deliver on the defined emissions targets through final project design, ongoing optimisation during production
Land rehabilitation	• Ongoing rehabilitation of areas impacted by previous exploration activities (drill pads and access routes) • Annual monitoring ongoing of the small exploitation works on the NOA deposit	• Continue with rehabilitation of previous exploration sites • Progressive and comprehensive rehabilitation during and after operating phase using native species to revegetate impacted areas

Consideration	Previous & Recent activities/ commitments	Future activities/commitments
Noise & light abatement	• Baseline noise studies completed • Annual monitoring ongoing of the small exploitation works on the NOA deposit • Processing plant location selected to reduce light and noise impact on local communities • Time limited, regulated blasting schedule included in project plan • No mining activities at night	• Execute project design and plans at the relevant time with commitment to operate at or below the night time legal noise limits during both day and night (with the exception of blasting) • Constant monitoring of noise levels during operating phase and real-time reporting of data to stakeholders and the environmental regulator • Noise levels may be further reduced by the introduction of zero-emission mining fleet and other equipment
Transport management	• Inclusion of new access roads in the project design to mitigate impact on local communities and minimise use of local roads • Truck movements during the operating phase restricted to weekdays only and set times during the day	• Execute access road plan, avoiding project traffic passing through local villages and towns • Evaluate use of low/zero emission road trucks as part of decarbonisation strategy
Visual impact abatement	• Visual impact proactively considered in project design (e.g., processing plant location, road layout)	• Refine and finalise project design through the environmental licencing and DFS processes • Execute final Project design
Waste management	• Waste to be minimised through sale of feldspar-quartz product • Processing plant waste (tailings) to be dried and stacked to avoid risks associated with wet storage in traditional tailings dam • Waste rock stored in temporary storage facilities to be used to fill closed pits as part of rehabilitation programme • Beginning in the operating phase, permanent waste storage areas to be contoured into existing topography and progressively re-vegetated	• Refine and finalise the project design through the environmental licencing and DFS processes • Execute final project design • Comprehensive action plan prepared to deal with any potential pollution incidents

Consideration	Previous & Recent activities/ commitments	Future activities/commitments
Water management	• Continued baseline monitoring of local water courses, including surface and underground chemical analysis • 3rd party estimate of annual water requirement for operating phase completed • Project to be self-sufficient for water usage through on-site water harvesting, and storage, wastewater recycling and recovery of water from concentrate and waste products • Lithium recovery process based on use of REACH registered chemicals with low environmental toxicity; will operate at near neutral pH • Hydrogeological study, including drilling, initiated as part of the RECAPE phase of the environmental licencing process • Water quantity monitoring on the Covas river both upstream and downstream of the Project area	• Refine and finalise project design through the environmental licencing and DFS processes • Execute final project design • Constant monitoring of local water quantity and quality both upstream and downstream of the Project area during and post operating phase and real-time reporting of data to stakeholder • Comprehensive action plan prepared to deal with any potential pollution incidents
Vibrations management	• Monitoring of vibration, during blasting works at the NOA pit	• Vibration levels to be well below legal limits during operating phase • Constant monitoring of vibrations during operating phase and real-time reporting of data to stakeholders • Comprehensive action plan prepared in case the vibrations results exceed what was expected

Source: Savannah Resources

Exhibit 65 Social and government interaction and commitments (Barroso Project)

Consideration	Previous & Recent activities/ commitments	Future activities
Community engagement	• Additional Information centre opened in Boticas town (2 in total) • Initial phase of Social Impact Assessment completed by Community Insights Group, incorporating interviews with community members and resulting in a 'Social Issues Scoping Report' which accompanied Savannah's revised EIA submission to APA • Completion of around 400 interviews with local residents for the next phase of the Social Impact Assessment • Communication also maintained with local communities through a range of meetings , drop-ins and activities at the Information Centres, and publications of community newspapers (September and December 2023) • Land acquisition programme continued • Produced a comprehensive series of Information sheets for stakeholders highlighting the key design points and socio-economic programs within the revised EIA	• Completion of the Social Impact Assessment as part of the RECAPE process and to support finalisation of Stakeholder Engagement Plan to complement future phases of the Project • Refine and finalise the Benefit Sharing and Good Neighbour Plans • Continue with land acquisition programme
Community support	• Sponsorship of local cultural and sporting events & teams • Donations to local firefighting service (forest fire mitigation) • Repairs made to local housing stock • Incorporation of a foundation as part of the Benefit Share Plan which will invest in community focused programmes	• Continue with current financial and resource support for local events, teams and groups; continue with support for local residents in need • Refine and finalise the Benefit Sharing and Good Neighbour Plans

Consideration	Previous & Recent activities/ commitments	Future activities
Government engagement	Engagement/Meetings held have included: European Commission/European Parliament: • EC Executive Vice President, Maroš Šefčovič • MEP Carlos Zorrinho (Pt) • MEP Cláudia Monteiro de Aguiar (Pt) • MEP Paulo Rangel (Pt) • DG Grow Head of Unit, Peter Handley Portugal: • Portuguese Minister of Economy and Maritime Affairs • Portuguese Minister of Environment and Energy Transition • Portuguese Minister for Infrastructure • Portuguese Secretary of State for Energy • Environmental regulator (APA) • Institute for Nature Conservation and Forests • The Northern Portugal Regional Coordination and Development Commission (CCDR-N) • The Directorate-General for Energy and Geology (DGEG) • Mayor of Boticas • Mayors of Dornelas parish, Covas do Barroso parish, Ribeira de Pena • Portuguese Ambassador to UK Australia: • Australian Ambassador to Portugal (visit to Boticas Information Centre) UK: • British Ambassador to Portugal USA: • US trade delegations at US Embassy, Portugal • Office of Foreign Investment and National Security, U.S. Department of Energy	• Continue and increase engagement with key national government ministers & departments, and local administrators • Maintain contact with British, US, Australian and other relevant Embassies in Portugal • Maintain contact with European Commission & relevant EU bodies (see Membership section in Governance box below)

Consideration	Previous & Recent activities/ commitments	Future activities
Health & Safety	• Continued to prioritise high standards of Health & Safety and updated the related policies • Zero Health & Safety incidents or loss time injuries reported in 2023 (2022: 0)	• Maintain priority focus on Health & Safety and associated staff training
Local business engagement	• Became member of Mais Boticas (local Chamber of Commerce) • Preference given to local suppliers of goods & services	• Maintain and increase engagement with local suppliers of goods and services • Maintain and increase engagement with suppliers of goods and services across Portugal
Other stakeholder engagement	• Attendance at relevant government and trade events in Portugal and elsewhere in Europe • Active engagement with national and international press and media resulting in significant coverage of Savannah and the Barroso Lithium Project in Portugal and across Europe • Public consultation phases of EIA completed (April-July 2021, March-April 2023) including public 'in-person' meetings arranged by environmental regulator (2021) • Met with the Food and Agriculture Organisation of the United Nations	• Maintain presence at relevant government and industry events in Portugal, UK and across Europe • Public relations campaigns across multiple media channels in Portugal and beyond to highlight importance of domestic battery raw material supply in Europe and Savannah's responsible approach to its own lithium operation
Staff	• 24 members of staff as at February 2024 with 70:30 male:female demographic with 14% from minority ethnic groups; currently 42% of project staff are from the local community	• Add to the existing team across the range of disciplines required to develop the Project • Project expected to generate approximately 350 direct jobs during the operating phase, and around 2,000 indirect and induced jobs • Continue to seek opportunities to recruit from the local population and within Portugal
Other activities	• Sponsorship of FST Lisboa, the Lisbon University student electric vehicle racing team	• Evaluate other sponsorship and support opportunities with relevant groups

Source: Savannah Resources

Exhibit 66 Governance highlights

Consideration	Recent activities	Future activities
Board Composition	• Annual evaluation of the Board's performance implemented • Appointment of five[1] new Non-Executive directors during 2022 and 2023 including Bruce Griffin and Mohamed Sulaiman in 2023. Retirement from the Board of Imad Kamal Abdul Redha Sultan • Bruce Griffin adds to the Board's mining sector knowledge with over 20 years' experience in mining finance and also holds a number of executive and NED positions in the industry • Mohammed Sulaiman acts as the Board's representative of Savannah's largest shareholder, the Al Marjan group, and has over 20 years of experience in Strategy, investment management and board level roles	• Appointment of Directors to meet needs identified by the Nomination Committee • Ongoing annual board performance review
Environmental & Social Management System	• Finalised Corporate ESMS, aligned with internationally recognised ESG standards	
ESG Reporting	• Completion of ESG questionnaires for institutional investors	• Adopt relevant international specific ESG standard and commence reporting to relevant standard

Source: Savannah Resources

Savannah Resources: Summary tables

PROFIT & LOSS (GBPm)	12/2021	12/2022	12/2023	12/2024e	12/2025e	12/2026e
Sales	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
Cost of Sales & Operating Costs	-3.5	-2.7	-3.6	-3.5	-3.5	-3.5
Non Recurrent Expenses/Income	0.0	0.0	0.0	0.0	0.0	0.0
EBITDA	**-3.5**	**-2.7**	**-3.6**	**-3.5**	**-3.5**	**-3.5**
EBITDA (adj.)*	**-3.5**	**-2.7**	**-3.6**	**-3.5**	**-3.5**	**-3.5**
Depreciation	0.0	0.0	0.0	0.0	0.0	0.0
EBITA	**-3.5**	**-2.7**	**-3.6**	**-3.5**	**-3.5**	**-3.5**
EBITA (adj)*	**-3.5**	**-2.7**	**-3.6**	**-3.5**	**-3.5**	**-3.5**
Amortisations and Write Downs	0.0	0.0	0.0	0.0	0.0	0.0
EBIT	**-3.5**	**-2.7**	**-3.6**	**-3.5**	**-3.5**	**-3.5**
EBIT (adj.)*	**-3.5**	**-2.7**	**-3.6**	**-3.5**	**-3.5**	**-3.5**
Net Financial Interest	0.0	0.0	0.1	0.0	0.0	-11.6
Other Financials	0.2	0.7	-0.2	0.0	0.0	0.0
Associates	0.0	0.0	0.0	0.0	0.0	0.0
Other Non Recurrent Items	0.1	-0.0	-0.0	0.0	0.0	0.0
Earnings Before Tax (EBT)	**-3.3**	**-2.0**	**-3.7**	**-3.5**	**-3.5**	**-15.0**
Tax	0.0	0.0	0.0	0.0	0.0	0.0
Tax rate	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*
Discontinued Operations	0.0	-0.2	-0.2	0.0	0.0	0.0
Minorities	0.0	0.0	0.0	0.0	0.0	0.0
Net Profit (reported)	**-3.3**	**-2.2**	**-3.9**	**-3.5**	**-3.5**	**-15.0**
Net Profit (adj.)	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**

CASH FLOW (GBPm)	12/2021	12/2022	12/2023	12/2024e	12/2025e	12/2026e
Cash Flow from Operations before change in NWC	-3.5	-2.7	-3.5	-3.5	-3.5	-15.0
Change in Net Working Capital	0.0	-0.2	1.0	-1.6	0.0	0.0
Cash Flow from Operations	**-3.5**	**-2.9**	**-2.4**	**-5.0**	**-3.5**	**-15.0**
Capex	0.0	0.0	0.0	-8.0	-8.0	-235.9
Net Financial Investments	0.0	0.0	0.0	0.0	0.0	0.0
Free Cash Flow	**-3.5**	**-2.9**	**-2.4**	**-13.0**	**-11.5**	**-250.9**
Dividends	0.0	0.0	0.0	0.0	0.0	0.0
Other (incl. Capital Increase & share buy backs)	9.8	-2.9	4.9	16.0	8.0	70.8
Change in Net Financial Debt	**6.3**	**-5.8**	**2.5**	**3.0**	**-3.5**	**-180.2**
NOPLAT	-3.5	-2.7	-3.6	-3.5	-3.5	-3.5

BALANCE SHEET & OTHER ITEMS (GBPm)	12/2021	12/2022	12/2023	12/2024e	12/2025e	12/2026e
Net Tangible Assets	0.7	1.6	1.7	9.7	17.7	254
Net Intangible Assets (incl.Goodwill)	14.1	16.5	18.4	18.4	18.4	18.4
Right-of-Use Assets (Lease Assets)	0.0	0.0	0.1	0.1	0.1	0.1
Net Financial Assets & Other	0.1	0.5	0.5	0.5	0.5	0.5
Total Fixed Assets	**14.9**	**18.6**	**20.6**	**28.6**	**36.6**	**273**
Inventories	0.0	0.0	0.0	0.0	0.0	0.0
Trade receivables	1.0	0.6	0.4	0.0	0.0	0.0
Other current assets	0.1	0.0	0.0	0.0	0.0	0.0
Cash (-)	-13.0	-7.2	-9.7	-12.7	-12.7	-12.7
Total Current Assets	**14.0**	**7.8**	**10.2**	**12.7**	**12.7**	**12.7**
Total Assets	**28.9**	**26.4**	**30.8**	**41.3**	**49.3**	**285.2**
Shareholders Equity	27.2	25.3	27.9	40.5	45.0	101
Minority	0.0	0.0	0.0	0.0	0.0	0.0
Total Equity	**27.2**	**25.3**	**27.9**	**40.5**	**45.0**	**101**
Long term interest bearing debt	0.0	0.0	0.0	0.0	3.5	184
Provisions	0.0	0.0	0.0	0.0	0.0	0.0
Lease Liabilities	0.0	0.0	0.1	0.1	0.1	0.1
Other long term liabilities	0.0	0.0	0.0	0.0	0.0	0.0
Total Long Term Liabilities	**0.0**	**0.0**	**0.1**	**0.1**	**3.5**	**184**
Short term interest bearing debt	0.0	0.0	0.0	0.0	0.0	0.0
Trade payables	1.7	1.1	2.0	0.0	0.0	0.0
Other current liabilities	0.0	0.0	0.8	0.8	0.8	0.8
Total Current Liabilities	**1.7**	**1.1**	**2.8**	**0.8**	**0.8**	**0.8**
Total Liabilities and Shareholders' Equity	**28.9**	**26.4**	**30.8**	**41.3**	**49.3**	**285.2**
Net Capital Employed	**14.2**	**18.1**	**18.3**	**27.8**	**35.8**	**271.7**
Net Working Capital	**-0.7**	**-0.5**	**-1.6**	**0.0**	**0.0**	**0.0**

GROWTH & MARGINS	12/2021	12/2022	12/2023	12/2024e	12/2025e	12/2026e
EBITDA (adj.)* growth		***n.m.***	***n.m.***	***n.m.***	***0.0%***	***0.0%***
EBITA (adj.) growth*		*n.m.*	*n.m.*	*n.m.*	*0.0%*	*0.0%*
*EBIT (adj)*growth*		*n.m.*	*n.m.*	*n.m.*	*0.0%*	*0.0%*

Savannah Resources: Summary tables

GROWTH & MARGINS	12/2021	12/2022	12/2023	12/2024e	12/2025e	12/2026e
Net Profit growth						
EPS adj. growth						
DPS adj. growth						
EBITDA (adj) margin*	*n.m.*	*n.m.*	*n.m.*	*n.m.*	*n.m.*	*n.m.*
EBITA (adj) margin*	*n.m.*	*n.m.*	*n.m.*	*n.m.*	*n.m.*	*n.m.*
EBIT (adj) margin*	*n.m.*	*n.m.*	*n.m.*	*n.m.*	*n.m.*	*n.m.*

RATIOS	12/2021	12/2022	12/2023	12/2024e	12/2025e	12/2026e
Net Debt/Equity	-0.5	-0.3	-0.3	-0.3	-0.2	1.7
Net Debt/EBITDA	3.7	2.6	2.7	3.6	2.6	-49.2
Interest cover (EBITDA/Fin.interest)	n.m.	78.9	33.0	high	high	n.m.
Capex/D&A	n.m.	n.m.	n.m.	n.m.	n.m.	n.m.
Capex/Sales	ns	ns	ns	ns	ns	ns
NWC/Sales	n.m.	n.m.	n.m.	n.m.	n.m.	n.m.
ROE (average)		0.0%	0.0%	0.0%	0.0%	0.0%
ROCE (adj.)	-25.0%	-15.5%	-19.3%	-12.4%	-9.6%	-1.3%
WACC	8.0%	8.0%	8.0%	8.0%	8.0%	8.0%
ROCE (adj.)/WACC	-3.1	-1.9	-2.4	-1.5	-1.2	-0.2

PER SHARE DATA (GBp)***	12/2021	12/2022	12/2023	12/2024e	12/2025e	12/2026e
Average diluted number of shares	1689.0	1689.0	1830.2	2172.8	2352.5	3942.9
EPS (reported)	0.00	0.00	0.00	0.00	0.00	0.00
EPS (adj.)	0.00	0.00	0.00	0.00	0.00	0.00
BVPS	0.02	0.01	0.02	0.02	0.02	0.03
DPS	0.00	0.00	0.00	0.00	0.00	0.00

VALUATION	12/2021	12/2022	12/2023	12/2024e	12/2025e	12/2026e
EV/Sales	n.m.	n.m.	n.m.	n.m.	n.m.	n.m.
EV/EBITDA	n.m.	n.m.	n.m.	n.m.	n.m.	n.m.
EV/EBITDA (adj.)*	**n.m.**	**n.m.**	**n.m.**	**n.m.**	**n.m.**	**n.m.**
EV/EBITA	-17.2	-11.5	-7.9	-21.2	-24.3	-94.4
EV/EBITA (adj.)*	**-17.2**	**-11.5**	**-7.9**	**-21.2**	**-24.3**	**-94.4**
EV/EBIT	n.m.	n.m.	n.m.	n.m.	n.m.	n.m.
EV/EBIT (adj.)*	**n.m.**	**n.m.**	**n.m.**	**n.m.**	**n.m.**	**n.m.**
P/E (adj.)	**n.m.**	**n.m.**	**n.m.**	**n.m.**	**n.m.**	**n.m.**
P/BV	n.m.	n.m.	n.m.	n.m.	n.m.	n.m.
Total Yield Ratio	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
EV/CE	4.3	1.8	1.5	2.6	2.3	1.2
OpFCF yield	-4.8%	-7.4%	-6.3%	-15.0%	-12.2%	-159.1%
OpFCF/EV	-5.8%	-9.2%	-8.5%	-17.7%	-13.6%	-76.5%
Payout ratio	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Dividend yield (gross)	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%

EV AND MKT CAP (GBPm)	12/2021	12/2022	12/2023	12/2024e	12/2025e	12/2026e
Price (GBp) **	4.35	2.30	2.10	4.00	4.00	4.00
Outstanding number of shares for main stock	1689.0	1689.0	1830.2	2172.8	2352.5	3942.9
Total Market Cap	**73.5**	**38.8**	**38.4**	**86.9**	**94.1**	**157.7**
Gross Financial Debt (+)	0.0	0.0	0.0	0.0	3.5	183.6
Cash & Marketable Securities (-)	-13.0	-7.2	-9.7	-12.7	-12.7	-12.7
Net Financial Debt	**-13.0**	**-7.2**	**-9.7**	**-12.7**	**-9.2**	**171.0**
Lease Liabilities (+)	0.0	0.0	0.1	0.1	0.1	0.1
Net Debt	**-13.0**	**-7.2**	**-9.7**	**-12.6**	**-9.1**	**171.0**
Other EV components	**-0.1**	**-0.5**	**-0.5**	**-0.5**	**-0.5**	**-0.5**
Enterprise Value (EV adj.)	**60.4**	**31.1**	**28.2**	**73.8**	**84.4**	**328.2**

Source: Company, Caixa-Banco de Investimento estimates.

Notes

** Where EBITDA (adj.) or EBITA (adj)= EBITDA (or EBITA) -/+ Non Recurrent Expenses/Income and where EBIT (adj)= EBIT-/+ Non Recurrent Expenses/Income - PPA amortisation*

***Price (in local currency): Fiscal year end price for Historical Years and Current Price for current and forecasted years*

****EPS (adj.) diluted= Net Profit (adj.)/Avg DIL. Ord. (+ Ord. equivalent) Shs. EPS (reported) = Net Profit reported/Avg DIL. Ord. (+ Ord. equivalent) Shs.*

Sector: Basic Resources/General Mining

Company Description: Savannah Resources is the sole owner of the Barroso Lithium Project, in northern Portugal. The project contains the most significant spodumene lithium resource in Western Europe.

European Coverage of the Members of ESN 1/2

Automobiles & Parts	Mem(*)
Brembo	BAK
Cie Automotive	GVC
Ferrari	BAK
Forvia	CIC
Gestamp	GVC
Landi Renzo	BAK
Michelin	CIC
Opmobility	CIC
Pirelli & C.	BAK
Renault	CIC
Sogefi	BAK
Stellantis	BAK
Valeo	CIC
Banks	**Mem(*)**
Banco Sabadell	GVC
Banco Santander	GVC
Bankinter	GVC
Bbva	GVC
Bnp Paribas	CIC
Caixabank	GVC
Credem	BAK
Credit Agricole Sa	CIC
Intesa Sanpaolo	BAK
Societe Generale	CIC
Unicaja Banco	GVC
Basic Resources	**Mem(*)**
Acerinox	GVC
Altri	CBI
Arcelormittal	GVC
Ence	GVC
The Navigator Company	CBI
Tubacex	GVC
Chemicals	**Mem(*)**
Air Liquide	CIC
Arkema	CIC
Consumer Products & Svcs	**Mem(*)**
Abeo	CIC
Beneteau	CIC
Capelli	CIC
De Longhi	BAK
Dexelance	BAK
Fila	BAK
Geox	BAK
Givaudan	CIC
Groupe Seb	CIC
Hermes Intl.	CIC
Hexaom	CIC
Interparfums	CIC
Kaufman & Broad	IAC
Kering	CIC
L'Oreal	CIC
Lvmh	CIC
Maisons Du Monde	CIC
Ovs	BAK
Piaggio	BAK
Richemont	CIC
Smcp	CIC
Swatch Group	CIC
Technogym	BAK
Trigano	CIC
Ubisoft	CIC
Energy	**Mem(*)**
Arverne Group	CIC
Eni	BAK
Galp Energia	CBI
Gas Plus	BAK
Gtt	CIC
Maire	BAK
Maurel Et Prom	CIC
Plc	BAK
Repsol	GVC
Rubis	CIC
Saipem	BAK
Technip Energies	CIC
Tecnicas Reunidas	GVC
Tenaris	BAK
Totalenergies	CIC
Vallourec	CIC
Viridien	CIC
Fin. Serv. Holdings	**Mem(*)**
Cir	BAK
Corp. Financiera Alba	GVC
Eurazeo	CIC
First Capital	BAK
Gbl	CIC
Peugeot Invest	CIC
Tip Tamburi Investment Partners	BAK
Wendel	CIC
Fin. Serv. Industrials	**Mem(*)**
Dovalue	BAK
Euronext	CIC
Nexi	BAK
Tinexta	BAK
Financial Services Banks	**Mem(*)**
Amundi	CIC
Anima	BAK
Azimut	BAK
Banca Generali	BAK
Banca Ifis	BAK
Banca Mediolanum	BAK
Banca Sistema	BAK
Bff Bank	BAK
Dws	CIC
Finecobank	BAK
Generalfinance	BAK
Illimity Bank	BAK
Mediobanca	BAK
Poste Italiane	BAK
Food & Beverage	**Mem(*)**
Ab Inbev	CIC
Advini	CIC
Bonduelle	CIC
Campari	BAK
Carlsberg As-B	CIC
Danone	CIC
Diageo	CIC
Ebro Foods	GVC
Fleury Michon	CIC
Heineken	CIC
Italian Wine Brands	BAK
Lanson-Bcc	CIC
Laurent Perrier	CIC
Ldc	CIC
Lindt & Sprüngli	CIC
Nestle	CIC
Orsero	BAK
Pernod Ricard	CIC
Remy Cointreau	CIC
Tipiak	CIC
Viscofan	GVC
Vranken	CIC
Healthcare	**Mem(*)**
Amplifon	BAK
Atrys Health	GVC
Biomerieux	CIC
Diasorin	BAK
El.En.	BAK
Essilorluxottica	CIC
Eurofins	CIC
Fine Foods	BAK
Genfit	CIC
Guerbet	CIC
Imd	BAK
Ipsen	CIC
Prim Sa	GVC
Recordati	BAK
Sanofi	CIC
Sartorius Stedim	CIC
Vetoquinol	CIC
Virbac	CIC
Vytrus Biotech	GVC
Industrial Goods & Services	**Mem(*)**
Airbus Se	CIC
Alstom	CIC
Antin Infrastructure	CIC
Applus	GVC
Arteche	GVC
Avio	BAK
Biesse	BAK
Bollore	CIC
Bureau Veritas	CIC
Caf	GVC
Catenon	GVC
Cellnex Telecom	GVC
Cembre	BAK
Chargeurs	CIC
Clasquin	IAC
Cnh Industrial	BAK
Corticeira Amorim	CBI
Ctt	CBI
Danieli	BAK
Dassault Aviation	CIC
Datalogic	BAK
De Nora	BAK
Desa	GVC
Edenred	CIC
Elecnor	GVC
Elis	CIC
Enav	BAK
Enogia	CIC
Exel Industries	CIC
Fincantieri	BAK
Getlink	CIC
Global Dominion	GVC
Haulotte Group	CIC
Interpump	BAK
Legrand	CIC
Leonardo	BAK
Lisi	CIC
Logista	GVC
Magis	BAK
Manitou	CIC
Nbi Bearings Europe	GVC
Nexans	CIC
Nicolas Correa	GVC
Osai	BAK
Prosegur	GVC
Prosegur Cash	GVC
Prysmian	BAK
Rexel	CIC
Saes	BAK
Safran	CIC
Salcef	BAK
Schneider Electric Se	CIC
Sgs	CIC
Talgo	GVC
Teleperformance	CIC
Thales	CIC
Tikehau Capital	CIC
Verallia	CIC
Vidrala	GVC
Zignago Vetro	BAK
Insurance	**Mem(*)**
Axa	CIC
Catalana Occidente	GVC
Generali	BAK
Linea Directa Aseguradora	GVC
Mapfre	GVC
Revo Insurance	BAK
Materials, Construction	**Mem(*)**
Abp Nocivelli	BAK
Acs	GVC
Aena	GVC

20 June 2024

European Coverage of the Members of ESN 2/2

Ariston Holding	BAK	Unilever	CIC	I Grandi Viaggi	BAK
Buzzi	BAK	Winfarm	CIC	Ibersol	CBI
Cementir	BAK	**Real Estate**	**Mem(*)**	Int. Airlines Group	GVC
Cementos Molins	GVC	Igd	BAK	Lottomatica Group	BAK
Clerhp Estructuras	GVC	Inmobiliaria Colonial	GVC	Melia Hotels International	GVC
Crh	CIC	Inversa Prime	GVC	Nh Hotel Group	GVC
Eiffage	CIC	Ktesios Socimi	GVC	Pluxee	CIC
Fcc	GVC	Lar España	GVC	Sicily By Car	BAK
Ferrovial	GVC	Merlin Properties	GVC	Sodexo	CIC
Fluidra	GVC	Realia	GVC	**Utilities**	**Mem(*)**
Groupe Adp	CIC	**Retail**	**Mem(*)**	A2A	BAK
Groupe Poujoulat	CIC	Aramis Group	CIC	Acciona	GVC
Heidelberg Materials	CIC	Burberry	CIC	Acciona Energia	GVC
Herige	CIC	Fnac Darty	CIC	Acea	BAK
Holcim	CIC	Inditex	GVC	Audax	GVC
Imerys	CIC	Unieuro	BAK	Derichebourg	CIC
Mota Engil	CBI	**Technology**	**Mem(*)**	Edp	CBI
Obras con Huarte Lain	GVC	Agile Content	GVC	Enagas	GVC
Sacyr	GVC	Almawave	BAK	Encavis Ag	CIC
Saint-Gobain	CIC	Alten	CIC	Endesa	GVC
Sergeferrari Group	CIC	Amadeus	GVC	Enel	BAK
Sika	CIC	Atos	CIC	Engie	CIC
Spie	CIC	Axway Software	CIC	Erg	BAK
Tarkett	CIC	Capgemini	CIC	Greenvolt	CBI
Thermador Groupe	CIC	Dassault Systemes	CIC	Hera	BAK
Vicat	CIC	Digital Value	BAK	Holaluz	GVC
Vinci	CIC	Gigas Hosting	GVC	Iberdrola	GVC
Webuild	BAK	Gpi	BAK	Iren	BAK
Media	**Mem(*)**	Indra Sistemas	GVC	Italgas	BAK
Arnoldo Mondadori Editore	BAK	Izertis	GVC	Naturgy	GVC
Atresmedia	GVC	Lleida.Net	GVC	Neoen	CIC
Believe	CIC	Neurones	CIC	Redeia	GVC
Deezer	CIC	Ovhcloud	CIC	Ren	CBI
Digital Bros	BAK	Sopra Steria Group	CIC	Seche Environnement	CIC
Fill Up Media	CIC	Spindox	BAK	Snam	BAK
Gl Events	CIC	Stmicroelectronics	BAK	Solaria	GVC
Il Sole 24 Ore	BAK	Technoprobe	BAK	Terna	BAK
Ipsos	CIC	Tier1 Technology	GVC	Veolia	CIC
Jcdecaux	CIC	Visiativ	CIC	Voltalia	CIC
Lagardere	CIC	Vogo	CIC		
Mb	CIC	Worldline	CIC		
Miogroup	GVC	**Telecommunications**	**Mem(*)**		
Nrj Group	CIC	Bouygues	CIC		
Prisa	GVC	Nos	CBI		
Publicis	CIC	Orange	CIC		
Tf1	CIC	Parlem Telecom	GVC		
Universal Music Group	CIC	Telefonica	GVC		
Vivendi	CIC	Unidata	BAK		
Voceto	GVC	**Travel & Leisure**	**Mem(*)**		
P.Care, Drug & Grocery St.	**Mem(*)**	Accor	CIC		
Bic	CIC	Compagnie Des Alpes	CIC		
Carrefour	CIC	Edreams Odigeo	GVC		
Casino	CIC	Elior	CIC		
Jeronimo Martins	CBI	Fdj	CIC		
Marr	BAK	Groupe Partouche	IAC		
Sonae	CBI	Hunyers	CIC		

20 June 2024

LEGEND:	BAK: Banca Akros	CIC: CIC Market Solutions	CBI: Caixa-Banco de Investimento	GVC: GVC Gaesco Valores

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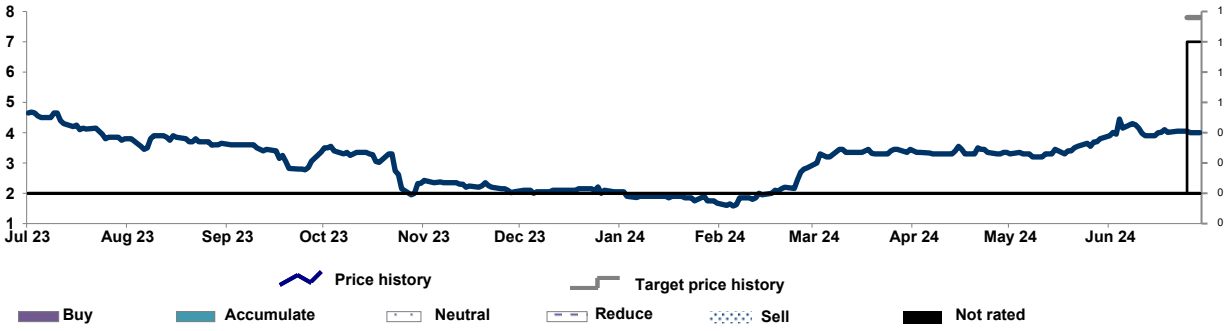
Recommendation history for SAVANNAH RESOURCES

Date	Recommendation	Target price	Price at change date
11-Jul-24	Buy	7.80	4.05

Source: Factset & ESN, price data adjusted for stock splits.
This chart shows Caixa-Banco de Investimento continuing coverage of this stock; the current analyst may or may not have covered it over the entire period.
Current analyst: Carlos Jesus (since 16/07/2024)



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The company or companies covered in this report had knowledge of the changes in the fair-value, recommendation included in this report? No.

This report was initiated in May 2024 and was concluded (produced) on the date and time mentioned on the ESN Recommendation System page and was published immediately afterwards.

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Accumulate: the stock is expected to generate a total return of 5% to 15% during the next 12-month time horizon;
Neutral: the stock is expected to generate a total return of -5% to +5% during the next 12-month time horizon;
Reduce: the stock is expected to generate a total return of -5 to -15% during the next 12-month time horizon;
Sell: the stock is expected to generate a total return below -15% during the next 12-month time horizon;
Rating Suspended: the rating is suspended due to a capital operation (take-over bid, SPO, …) where the issuer or a related party of the issuer is or could be involved or to a change of analyst covering the stock;
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Caixa Banco de Investimento, Investment ratings

	Companies Covered	Investment Banking Clients
	Recommendation during last 12 months (Article 6, number 3 of the Commission Delegated Regulation 2016/958 from EU) (% of Total)	Recommendation during last 12 months (Article 6, number 3 of the Commission Delegated Regulation 2016/958 from EU)
	Until Jun-24	Until Jun-24
Buy	78%	78%
Accumulate	3%	3%
Neutral	5%	5%
Reduce	0%	0%
Sell	0%	0%
Under revision / not rated / rating suspended	13%	13%
% of Total		100%

Source: CaixaBI

ESN Recommendation System

The ESN Recommendation System is **Absolute**. It means that each stock is rated based on **total return**, measured by the upside/downside potential (including dividends and capital reimbursement) over a **12-month time horizon**. The final responsible of the recommendation of a listed company is the analyst who covers that company. The recommendation and the target price set by an analyst on one stock are correlated but not totally, because an analyst may include in its recommendation also qualitative elements as market volatility, earning momentum, short term news flow, possible M&A scenarios and other subjective elements.

The ESN spectrum of recommendations (or ratings) for each stock comprises 5 categories: **Buy (B), Accumulate (A), Neutral (N), Reduce (R) and Sell (S)**.

Furthermore, in specific cases and for a limited period of time, the analysts are allowed to rate the stocks as **Rating Suspended (RS)** or **Not Rated (NR)**, as explained below.

Meaning of each recommendation or rating:

- **Buy**: the stock is expected to generate total return of **over 15%** during the next 12 months
- **Accumulate:** the stock is expected to generate total return of **5% to 15%** during the next 12 months
- **Neutral**: the stock is expected to generate total return of **-5% to +5%** during the next 12 months
- **Reduce**: the stock is expected to generate total return of **-5% to -15%** during the next 12 months
- **Sell**: the stock is expected to generate total return **under -15%** during the next 12 months
- **Rating Suspended**: the rating is suspended due to: a) a capital operation (take-over bid, SPO, etc.) where a Member of ESN is or could be involved with the issuer or a related party of the issuer; b) a change of analyst covering the stock; c) the rating of a stock is under review by the Analyst.
- **Not Rated**: there is no rating for a stock when there is a termination of coverage of the stocks or a company being floated (IPO) by a Member of ESN or a related party of the Member.

Note: a certain flexibility on the limits of total return bands is permitted especially during higher phases of volatility on the markets

Caixa Banco de Investimento Ratings Breakdown

Recommendation	Nr.of stocks covered	%
Buy	13	93%
Accumulate	0	0%
Neutral	1	7%
Reduce	0	0%
Sell	0	0%

of which Sponsored Research

Recommendation	Nr.of stocks covered	%
Buy	1	100%
Accumulate	0	0%
Neutral	0	0%
Reduce	0	0%
Sell	0	0%

ESN Ratings Breakdown

Recommendation	Nr.of stocks covered	%
Buy	234	67%
Accumulate	23	7%
Neutral	85	24%
Reduce	1	0%
Sell	4	1%

of which Sponsored Research

Recommendation	Nr.of stocks covered	%
Buy	36	82%
Accumulate	1	2%
Neutral	7	16%
Reduce	0	0%
Sell	0	0%

For full ESN Recommendation and Target price history (in the last 12 months), please see ESN Website Link

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