## **PLUSmining**

# Analysis of Codelco-SQM's MoU for jointly operating Salar de Atacama

April 2024

#### Juan Carlos Guajardo

Executive Director juan.carlos.guajardo@plusmining.com

#### **Matias Marañon**

Head of Consulting matias.maranon@plusmining.com

#### Fiorella Ulloa

Head of Policy and Regulation fiorella.ulloa@plusmining.com

#### **Antonia Godoy**

Political and Regulatory Analyst antonia.godoy@plusmining.com

#### **Juan Cristobal Ciudad**

Senior Mineral Market & Industry Analyst cristobal.ciudad@plusmining.com

#### **Bastian Del Mauro**

Mineral Market Analyst bastian.delmauro@plusmining.com

#### **Andres Gonzalez**

Head of Mining Industry Analysis andres.gonzalez@plusmining.com

#### **Juan Jose Pardo**

Mining Industry Analyst juan.jose.pardo@plusmining.com

### **Table of Contents**

#### I. Background

- 1. 2018 SQM-Corfo contract
- 2. 2023 National Lithium Strategy

#### II. Codelco-SQM Memorandum of Understanding

- 1. What does the alliance entail?
- 2. Course of action going forward
- 3. Main questions to be resolved
- 4. Reactions

#### III. Financial assessment

- 1. Definition of payments arising from the MoU
- 2. Parameters and assumptions used in DCF Analysis
- 3. Main results
- 4. Comparison with other lithium projects

#### IV. Critical assessment

- 1. Factors that prevented a better outcome
- 2. Feasibility of other alternatives
- 3. What to expect going forward
- 4. Main conclusions

### **Table of Contents**

#### I. Background

- 1. 2018 SQM-Corfo contract
- 2. 2023 National Lithium Strategy

#### II. Codelco-SQM Memorandum of Understanding

- 1. What does the alliance entail?
- Course of action going forward
- 3. Main questions to be resolved
- 4. Reactions

#### III. Financial assessment

- 1. Definition of payments arising from the MoU
- 2. Parameters and assumptions used in DCF Analysis
- 3. Main results
- 4. Comparison with other lithium projects

#### IV. Critical assessment

- 1. Factors that prevented a better outcome
- 2. Feasibility of other alternatives
- 3. What to expect going forward
- 4. Main conclusions



#### Background to the 2018 SQM-Corfo contract: A troubled relationship

#### 2013

Following a contract review by the General Comptroller, Corfo initiates legal actions against SQM citing serious breaches

Corfo files lawsuits asking for the early termination of the contracts and the return of the Salar

2014

2015

The State Defense Council became a party to Corfo's lawsuit Corfo sues for breach of contract, arguing SQM has tried to prevent a competitive tender at the end of the contract

May, 2016

October, 2016

The Environmental
Superintendency sues
for non-compliance
with the Resolution
that allows exploitation

USA's SEC sanctions SQM for MUS\$30 for seriously violating the Foreign Corrupt Practices Act (FCPA)

2017

- Main Corfo accusations against SQM:
  - > Failing to fully pay the leasing rents between 2009 and 2014
  - Concealing information, seeking to prevent a competitive tender in 2030, the date when the current contracts expire
- It is significant to note the **legal battle against SQM began during Piñera's** center-right administration (2010-2014) and it continued even more intensely during Bachelet's center-left administration (2014-2018)



#### **SQM-C**ORFO ARBITRATION PROCESS:

- Given the disputes, there was arbitration process between Corfo and SQM
- The arbitrator called for mandatory conciliation in 2016
- In this conciliation, the arbitrator proposed compensation to Corfo of MUS\$17.1
  - However, this was rejected by Corfo
- Subsequently there was a second mandatory conciliation in October 2017 in which the proposed compensation of MUS\$17.1 was maintained
  - Once again this was rejected by Corfo

#### **CORFO DEMANDS A NEW CONTRACT:**

- In 2017 Corfo demanded a substantial raise in leasing rents
  - > The goal was to reach the same level as the contract Albemarle agreed on in 2016
- Corfo also demanded the exclusion of Julio Ponce Lerou from the Board of Directors of SQM
- While there were significant discussions and resistance from SQM, they finally agreed to Corfo's terms in 2018
  - > Significantly higher leasing rents and new contributions were set
  - The 2030 expiration date is kept in order to begin a tender process



#### Main obligations for SQM's exploitation in Salar de Atacama established in the 2018 contract

Company	Old contract	New contract
Royalty on lithium sales (Corfo leasing rents)	~5.8%* on FOB price	From 6.8% to 40% based on price
Royalty on potassium sales (Corfo leasing rents)	1.5%	From 3% to 20% based on price
Royalty on bischofite sales (Corfo leasing rents)	-	10%
Research and Development (R&D) contribution	-	MUS\$10.8 - 18.9 per year
Indigenous communities' contributions	-	MUS\$10 - 15 per year
Contributions to regional and communal governments	-	1.7% on sales
Prohibition to sell lithium brines	No	Yes
Obligation to sell tangible assets at the Salar at book value to Corfo at the end of the leasing contract on December 31, 2030***	No	Yes
Obligation to sell up to 25% of the annual production capacity to "specialized producers" at preferential prices	No	Yes

- The most substantial modification was a **substantial increase in Corfo leasing** rents to a price-based royalty from 6.8% to 40% on sales
  - In 2022, with prices generally above US\$/t 50,000, the effective rate on sales was close to the upper limit of 40%
- Production limit up to 349,553 t LME, in addition to the 64,816 t LME remaining from the previous production quota
  - ➤ This yields a total of 414,369 t LME, equivalent to 2.2 Mt LCE\*\* until December 31, 2030

<sup>\*</sup>Note 1. 6.8% subject to a discount of about 1% in deductible costs and expenses.

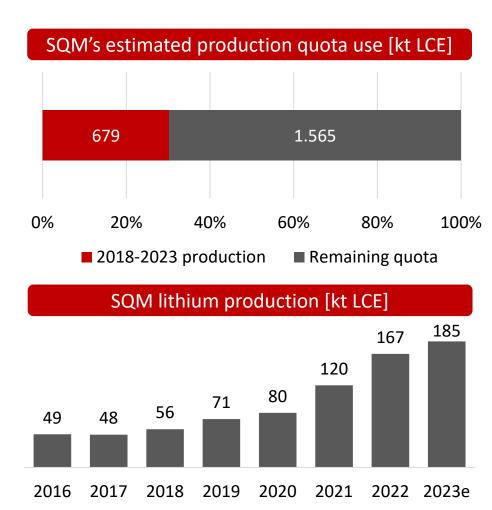
<sup>\*\*</sup>Note 2. 5.323 LME to LCE conversion rate.

<sup>\*\*\*</sup>Note 3. Lithium processing plant in Antofagasta (Planta Carmen) not included.



#### HOW MUCH LITHIUM PRODUCTION QUOTA DOES SQM HAVE LEFT?

- By December 31, 2022, SQM has about 1.75 Mt LCE left of overall production quota until 2030
- Assuming they produced about 185 kt LCE in 2023, this means they have
   1,565 kt LCE remaining until 2030
  - ➤ This translates into a yearly average production of 224 kt LCE between 2024 and 2030
- Given that SQM plans to raise capacity from 200 kt in Q3 2023 to 210 kt in Q1 2024 and then to 270 kt though a MUS\$ 1,400 investment to optimize Planta Carmen, they would need an additional quota
- If 300 kt LCE are added, that would translate into a yearly average production of 266 kt LCE between 2024 and 2030
  - This output uptake would occur gradually



Ac and the



#### **NATIONAL LITHIUM STRATEGY ANNOUNCEMENT**

- On April 21 2023, Chilean president, Gabriel Boric, in the northern city of Antofagasta, announced the long-awaited National Lithium Strategy
  - > He was accompanied by several Ministers and Codelco Chairman Maximo Pacheco
- Its most significant aspect was the mandate for Codelco to lead discussions with other companies for exploiting Salar de Atacama beyond 2030
  - While SQM was not explicitly mentioned as a partner, it became apparent this was the intention
  - In this partnership, Codelco was to have a 51% controlling interest
  - Codelco also had to secure a state participation before 2030

#### WHAT DID CODELCO DO?

- On May 18 2023, Codelco created two subsidiary companies:
  - Minera Tarar SpA to explore and exploit lithium
  - ➤ Minera Salares de Chile SpA, to consolidate all of Codelco's lithium-related activities
  - In order to come to an agreement with SQM, Codelco was reportedly was advised by Morgan Stanley and JP Morgan

#### WHAT DID CORFO DO?

- Following the announcement, Corfo bestowed Minera Tarar a contract that essentially made Codelco the new tenant between 2031 and 2060
- Corfo also committed with Codelco to authorize a production quota increase of up to 300 kt LCE

#### National Lithium Strategy announcement



### **Table of Contents**

#### I. Background

- 1. 2018 SQM-Corfo contract
- 2. 2023 National Lithium Strategy

#### II. Codelco-SQM Memorandum of Understanding

- 1. What does the alliance entail?
- 2. Course of action going forward
- 3. Main questions to be resolved
- 4. Reactions

#### III. Financial assessment

- 1. Definition of payments arising from the MoU
- 2. Parameters and assumptions used in DCF Analysis
- 3. Main results
- 4. Comparison with other lithium projects

#### IV. Critical assessment

- 1. Factors that prevented a better outcome
- 2. Feasibility of other alternatives
- 3. What to expect going forward
- 4. Main conclusions



What does the alliance entail?

#### WHAT IS IT ABOUT?

- On December 27, 2023, Codelco and SQM announced a MoU planning to create a new company (NewCo)
- The NewCo is to exploit Salar de Atacama from 2025 to 2060 in two phases:
  - > From 2025 to 2030
  - > From 2031 to 2060

#### SALAR FUTURO WILL BE THE CORE OF THE PARTNERSHIP

- Production objective: At least 280-300 kt/y LCE (up from around 185 kt/y in 2023)
- Final definition: Project area, production, use of new technologies and other matters still to be defined in the final agreement to be signed by May 31 (originally it was March 31 but it was subsequently delayed by two months in March)

#### **SUSTAINABILITY CRITERIA**

- It contemplates maximum level of extraction and the reduction of use of industrial water in the Salar de Atacama basin
- Technology: evaporation with water capture, reinjection of brines and the implementation of new technologies that allow
  moving towards the water balance of the Salar de Atacama basin
  - ➤ While the stated goal is to generate greater efficiency and environmental sustainability, there is **no mention of DLE with brine reinjection**, something which was explicitly mentioned in the announcement of the National Lithium Strategy



What does the alliance entail?

#### 2025-2030

- Equal number of board members
  - Each company will appoint half of the board members
  - The chairman will be appointed by Codelco and the vice chairman by SQM
- SQM will have the control of the NewCo
  - Additional 165 kt LCE are be approved by Corfo upon request by Codelco (roughly equivalent to SQM's 2022 production)
  - Up to an extra 135 kt LCE might also be approved by Corfo upon request by Codelco, of which half are to be allocated to Codelco
  - 201 kt LCE are to be paid by SQM to Codelco (roughly equivalent to SQM's 2023 annual capacity)
- SQM will give its Salar de Maricunga concessions to Codelco
- Investment will be financed through debt from financial institutions, without guarantee from its shareholders

#### 2031-2060

- Codelco will have 50%+1 of the NewCo
- Odd number of board members, with Codelco having the majority and control of the NewCo
  - > The chairman will be appointed by Codelco and the vice chairman by SQM
- Investment will be financed first through profit retention and secondly by debt

IN BOTH STAGES, EACH COMPANY WILL HAVE VETO POWER OVER CERTAIN UNSPECIFIED MATTERS



What does the alliance entail?

#### WHAT'S LEFT TO DO ACCORDING TO CODELCO?

- At a Senate hearing held on January 9, Codelco chairman Máximo Pacheco along with Finance Minister Mario Marcel, the Mining Minister Aurora Williams and the head of Corfo José Miguel Benavente explained the MoU
- Later on, January 10, in a meeting at the Mining & Energy Commission of the Chamber of Deputies, Máximo Pacheco outlined several remaining issues:
  - Address the concerns of the CPA, including an indigenous consultation process
  - > Complete the **due diligence** of assets and liabilities of the NewCo
  - Define the shareholders' agreement and bylaws of the NewCo
  - Sign the definitive agreement
  - Submit the NewCo to the **revision of Chile's antitrust agency (FNE)** and possibly some international antitrust agencies

#### Codelco-SQM MoU discussion at the Senate



#### HOWEVER, THERE ARE STILL SEVERAL PENDING QUESTIONS

To be discussed in the following slide...



What does the alliance entail?

#### MAIN QUESTIONS STILL PENDING FROM THE MOU

- Beyond the issues outlined by Máximo Pacheco, there are several pressing questions arising from the MoU itself
  - Use of DLE with brine reinjection technologies?
    - The MoU fails to explicitly mention the use of DLE for exploitation, be it total or partial
    - SQM's recent acquisition of a 20% interest in French DLE company Adionics for MUS\$20.3 coupled with reported trials of at least four other technologies suggests they do seriously intend to eventually use DLE
  - > Will the definitive agreement involve any sort of promotion of downstream value chain investment?
    - It was not mentioned in the MoU but it's been a highly discussed topic at a national level for the lithium industry
  - Salar de Atacama profits to be distributed to the Treasury?
    - While Codelco has already stated it plans to allocate them to the Treasury (as it currently does with its copper profits), it is still a matter to be formally resolved in written form
  - ➤ How, with whom and when does Codelco plan to materialize the Salar de Maricunga project?
    - Codelco has previously signaled it intends to tender half of the area, with Codelco retaining operational control
  - > Definitive application of the mining royalty to lithium in Salar de Atacama?
    - Currently there is a judiciary discussion between SQM and the Chilean Tax Agency (SII) on whether it applies to lithium given that the
      royalty explicitly applies to concessible substances and lithium is classified as non-concessible since 1979
    - However, the SII states that the Salar de Atacama concessions are concessible since they were created prior to 1979
  - Production from potassium and bischofite?
    - Not possible using only DLE

A STATE OF THE STA



What does the alliance entail?

#### THE IMPORTANCE OF POTASSIUM

- While potassium has taken a secondary role in public discussion, it is one of SQM's most profitable business lines
- In 2022, SQM produced 984 kt of potassium chloride and sulfate from Salar de Atacama, selling nearly half (480 kt) for MUS\$437.2
- SQM also uses potassium chloride to produce potassium nitrate
  - > It does this by mixing potassium chloride with sodium nitrate
- All things considered, SQM's potassium sales reached close to MUS\$900 in 2022
  - While this is far from a small amount, it has not been much discussed at all

#### WHAT DOES THE MOU SAY ON POTASSIUM?

- The NewCo will exploit all products derived from the concessions at Salar de Atacama
  - In practice, this means that potassium profits will be totally appropriated by SQM between 2025 and 2030 and proportionally between 2031 and 2060
  - > Potassium products will be sold under an offtake agreement at market price
- So **potassium production will continue**, although at a smaller scale for two reasons:
  - SQM's authorized brine extraction will be reduced to 822 l/s from 2028 onwards, which would yield about 550-600 kt/y
  - The expected partial use of DLE will not allow for potassium recovery

SQM's Potassium sales				
Potassium chloride (KCI) and Potassium sulfate (K2SO4)	2020	2021	2022	2023
Production volume [kt]	1475.6	1407.5	984.0	ND
Sales volume [kt]	726.7	893.2	480.5	543.1
Revenue [MUS\$]	209.3	416.6	437.2	279.1
Potassium Nitrate and Sodium Potassium Nitrate				
Production volume [kt]	635.8	679.1	550.9	ND
Sales volume [kt]	575.2	643.6	477.4	443.5

Source: Plusmining, 2024; SQM's Annual Reports.



What does the alliance entail?

#### **REACTIONS AT A POLITICAL LEVEL**

- Political reactions have been mixed, even across politicians of different ideological orientations
- So far skepticism and criticism has been mainly driven by:
  - > Exclusively negotiating with SQM instead of opting for a public and open tender process
  - > The fact that SQM has been subject to heavy scrutiny due to past public scandals, including illegally financing political parties, and its privatization during the '80s under a dictatorship
  - > The question of why it directly negotiated with a single company instead of opting for a bidding process
- Whether the MoU truly benefited the Chilean state in economic terms
  - > While the agreement brings more benefits to the Treasury than the current situation, it could potentially have been even more
- Whether the production quota increase to 300 kt LCE was formulated with proper concern to the sustainability of the Salar de Atacama
  - > The concerns of the local indigenous communities fuels this question even more
- Nevertheless, the agreement has also found support among politicians of the entire political spectrum
  - ➤ Right-wing politicians tend to underscore the value of public-private partnerships
  - They see this JV as a way to finally unlock Chile's lithium potential
  - Among some representatives of the government's coalition, It was initially shown as a key achievement that could cement president Boric's legacy

It's an alliance that will bring more benefits to the state

Source: Plusmining, 2024; Cadem, 2024.



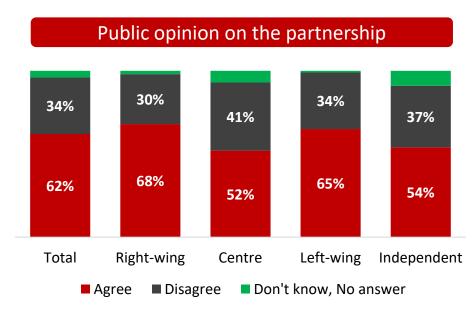
What does the alliance entail?

#### **REACTIONS AT A SOCIAL LEVEL: GENERAL CITIZENSHIP**

- SQM is a company which has historically been under heavy public scrutiny, particularly from the left, due to several reasons:
  - It was partially privatized during the Pinochet dictatorship in favor of Pinochet's son in law, Julio Ponce Lerou, raising questions about its legitimacy
  - > It illegally financed political parties across the political spectrum, unleashing a widely discussed public scandal in 2015
  - > It has been criticized by indigenous communities and environmental groups due to environmental concerns
- Therefore, to achieve social and political acceptance from any government deal involving SQM was potentially challenging

#### **N**ATIONAL SURVEY ON THE PARTNERSHIP

- According to a Cadem survey conducted in the first week of January, 66% of Chileans who knew about the negotiations supported the partnership
- Interestingly, this support is nearly equal across right-wing and left-wing
   Chileans
  - While the partnership has received criticism, the fact that it has the backing of Boric and his Frente Amplio left-wing coalition has probably induced the left to be generally supportive of the deal
- Chileans who identify themselves in the center or independent and much less supportive of the partnership but still back it by 52-54%



The state of the s

Source: Plusmining, 2024; Cadem, 2024.



What does the alliance entail?

#### **REACTIONS AT A SOCIAL LEVEL: INDIGENOUS COMMUNITIES**

- The Council of Atacameño Peoples (CPA), which groups 18 communities of the Salar de Atacama basin area (>5,000 people) harshly questioned the alliance
  - > Toconao, in close proximity to the Salar, was one of the most critical communities
  - They are protected by the **Indigenous Peoples Law 19.235** of 1993, which safeguards indigenous lands, with special consideration for Aymara and Atacameño peoples
- They claim they were not informed; being told that no agreement had been reached days before the MoU announcement
- They raise two concerns about the MoU:
  - The **environmental impact** from raising production to 300 kt LCE until 2060
  - They claim **Codelco is not a reliable company** given the environmental damage it caused in Alto del Loa and local communities
- During the second week of January they blocked the access roads to the Salar, forcing SQM to temporarily paralyze their operations
  - This blockage lasted for a few days and SQM's operations resumed by the end of the week which are now resumed
- They demanded an indigenous consultation process
  - Codelco has already stated they will carry out such a process
  - However, this is still an ongoing matter and there is a significant risk that the communities could judicialize the deal

### CPA's largest communities Salar Brinkerboff Río Grande Catarpe San Pedro de Atacama Solor **Toconao Talabre** L.Chaxa L.Barros Negros Camar Salar de Atacamia Socaire Peine Tilomonte



What does the alliance entail?

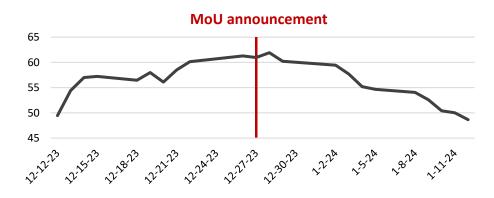
#### REACTIONS AT A FINANCIAL LEVEL: STOCK PRICE

- SQM share price increased by a modest 1.5% in the NYSE the day after the announcement
- However, compared to the previous two weeks, the share price jumped by a significant 25%
- This hike has led Chile's antitrust agency (FNE) to conduct an investigation on whether there was use of classified information

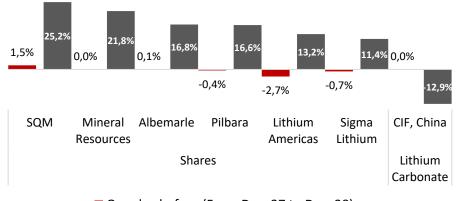
#### **COMPARISON WITH OTHER LITHIUM STOCKS**

- While **SQM** is not a pure lithium company (~25% of its revenue comes from other products), a comparison with other lithium companies can be made
- As seen in the chart, lithium stock prices of some of the largest operating companies jumped between 11% and 22% in the two weeks prior to the MoU announcement
  - ➤ It's not apparent why this occurred given that the lithium carbonate (CIF, China) priced decreased by 13% during this period
  - ➤ This leads to hypothesize that, even if there was use of classified information, the 25% hike in SQM's stock price was mostly explained by global market factors rather than the MoU itself

#### SQM share price evolution [US\$/share]



### SQM share price variation compared to other lithium companies [%]



- One day before (From Dec. 27 to Dec. 28)
- Two weeks before (From Dec. 12 to Dec. 28)



What does the alliance entail?

#### REACTIONS AT A FINANCIAL LEVEL: INVESTMENT BANKS AND RATING AGENCIES

- JPMorgan
  - While it is as a good MoU for SQM vs. what was priced in, it is "not a stellar deal"
  - > SQM could have waited for the next administration to renegotiate for a better outcome
  - With Codelco taking over after 2030, the NewCo "should be much more politically sensitive in the long run"
  - > SQM is set to become a minority shareholder and this should warrant a discount versus a privately run asset
- Credicorp Capital, Scotiabank, BTGPactual and LarrainVial
  - > It is **good news for SQM** investors given that it **takes away the uncertainty** beyond 2030 and secures production until 2060
  - > For SQM this scenario is significantly better than the scenario without an agreement
  - > A worrying factor for SQM, however, is that they will become a minority partner
  - Most coincided in that SQM's share price should increase
- Feller Rate and S&P Global
  - While they valued the MoU for Codelco and SQM, it is not enough to warrant a rating uptake for either company
  - > The impact on cash flows during the 2025-2030 will not be significant for either company
- Moody's
  - They valued the MoU as it reduces uncertainty for SQM
  - > They warn that Codelco's control could be influenced by the government's strategy, which could differ from SQM's objectives

### **Table of Contents**

- I. Background
  - 1. 2018 SQM-Corfo contract
  - 2. 2023 National Lithium Strategy
- II. Codelco-SQM Memorandum of Understanding
  - 1. What does the alliance entail?
  - Course of action going forward
  - 3. Main questions to be resolved
  - 4. Reactions

#### III. Financial assessment

- 1. Definition of payments arising from the MoU
- 2. Parameters and assumptions used in DCF Analysis
- 3. Main results
- 4. Comparison with other lithium projects

#### IV. Critical assessment

- 1. Factors that prevented a better outcome
- 2. Feasibility of other alternatives
- 3. What to expect going forward
- 4. Main conclusions



#### PLUSMINING'S FINANCIAL EVALUATION (1/6)

- Before jumping into the calculations, it is important to define what does SQM actually pay for the right to exploit during 2031-2060
- According to the MoU, Codelco is entitled to part of the production during the 2025-2030 period:
  - 201 kt (i.e., 33.5 kt/y between 2025-2030)
  - ➤ Half of up to 135 kt LCE between 2029 and 2030 (i.e., 33.75 kt/y between 2029-2030), if this additional quota is reached
- This adds up to a maximum of 268.5 kt LCE
- However, given that SQM is receiving an additional quota up to 300 kt LCE during this 2025-2030 period, it can be argued that SQM is in fact paying Codelco with this new quota to be requested by Codelco itself and keeping the remaining 31.5 kt LCE for itself
- Secondly, SQM is contributing its Salar de Maricunga concessions:
  - In November 2023, Codelco paid MUS\$244 for acquiring Lithium Power International (LPI) which had 2,453 ha in the Salar, 1,125 (46%) of which belonged to the Old Mining Code (therefore, are concessible)
  - Given that SQM owns 4,696 ha in the Salar, it can be proportionally assessed that Codelco would be willing to pay up to MUS\$467 for SQM's concessions

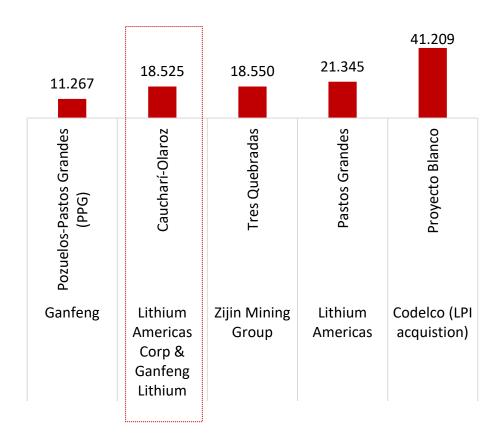
However, given that these are New Mining Code concessions, their value has been downgraded to 75% of LPI's (MUS\$375)



#### PLUSMINING'S FINANCIAL EVALUATION (2/6)

- Finally, SQM is also contributing with all assets needed for the operation
- According to the latest book value, they reach BUS\$1.8
  - ➤ However, the **book value might underestimate** the real value, especially the plants which, as per the 2018 contract, were not ordered to be transferred back to Corfo at book value if Corfo so wished
- Another valuation alternative is to use the Capex intensity of recent lithium brine projects
  - As shown in the figure, it can vary significantly based on the project considered
  - For this purpose, the Caucharí-Olaroz's Capex Intensity of US\$/t 18,525 was used since it is a project that was recently materialized
    - With this Capex Intensity, overall valuation yields BUS\$3.7
- The weighted average of both figures was used, yielding BUS\$2.9
  - ➤ For this estimation, the individual Capex estimates of LPI's Salar Blanco brine project was used, considering extraction wells, evaporation pools, salt removal plants and lithium carbonate plant

#### Capex Intensity in lithium brine projects [US\$/t]





#### PLUSMINING'S FINANCIAL EVALUATION (3/6)

A Discounted Cash Flow (DCF) analysis is carried out for all parties involved

#### MAIN FINANCIAL PARAMETERS AND ASSUMPTIONS

- Standard 10% annual discount rate for both SQM and Codelco
- The entirety of the additional 300 kt LCE to be produced during 2025-2030 is reached
  - Codelco receives its 201 kt LCE in equal yearly amounts (i.e. 33.5 kt LCE/y)
  - Codelco receives half of 134 kt LCE in 2029 and 2029 (i.e. 33.75 kt LCE/t)
- BUS\$3 total investment in Salar Futuro paid during 2025-2030 paid entirely with a long-term debt
  - A 5% annual interest rate was used
  - Capital was assumed to be paid during the last three years of the NewCo contract (2058-2060)
- No new investments are considered beyond Salar Futuro
- SQM profit withdrawal reaches 75% each year
  - Remaining profits are withheld until 2058-2060

#### MAIN OPERATIONAL ASSUMPTIONS

- Yearly production of the NewCo reaches 220 kt LCE in 2025 and grows progressively to 300 kt LCE by 2030
- Yearly production reaches 300 kt LCE from 2030 onwards
- Long-term price of US\$/t 20,000 and operating cost of US\$/t 4,800 without DLE and US\$/t 6,000 with partial DLE

#### Main parameters & assumptions

Variable	Value
Estimated value of properties, plants and equipment [BUS\$]	2.9
SQM's concessions in Salar de Maricunga [MUS\$]	350
Extra production 2025-2030 [kt LCE]	300
Yearly production 2030-2060 [kt LCE]	300
Discount rate [%]	10%
Salar Futuro investment [MUS\$]	3,000
Long term interest rate [%]	5%
Long-term price [US\$/t]	20,000
Operating cost [US\$/t]	4,800
Operating cost with partial DLE use[US\$/t]	6,000



#### PLUSMINING'S FINANCIAL EVALUATION (4/6)

- Based on the previous assumptions, the following results were reached:
  - SQM's stakeholders final estimated profit reaches US\$/t 6,442 and US\$/t 5,301 during 2025-2030 and 2031-2060 respectively
  - Codelco's final estimated profit reaches US\$/t **3,066 and US\$/t 2,513** during 2025-2030 and 2031-2060 respectively
- The difference between both companies' final profits is mainly due to fiscal taxes:
  - Codelco is subject to a 40% additional tax on public companies
- The difference between both periods is due to interest payments and higher estimated costs
  - Interest payments emanate from the BUS\$3 financial debt to fund Salar Futuro
  - Higher costs are due to the expected increase from expected partial DLE use

#### SQM's and Codelco final estimated profit [US\$/t]

Variable	SQM 2025-2030	Codelco 2025-2030	SQM 2031-2060	Codelco 2031-2060
Price	\$20,000	\$20,000	\$20,000	\$20,000
Operating cost	-\$4,800	-\$4,800	-\$6,000	-\$6,000
Corfo lease	-\$5,372	-\$5,372	-\$5,372	-\$5,372
Regional & communal governments	-\$340	-\$340	-\$340	-\$340
Indigenous communities (CPA) + R&D	-\$91	-\$91	-\$91	-\$91
Operating Margin	47%	47%	41%	41%
Mining Royalty*	-\$585	-\$585	-\$450	-\$450
Debt Interest			-\$500	-\$500
Profit before CIT	\$8,811	\$8,811	\$7,247	\$7,247
CIT	-\$2,221	-\$2,221	-\$1,835	-\$1,835
Profit after taxes	\$6,590	\$6,590	\$5,412	\$5,412
WHT / State Company Tax	-\$149	-\$3,525	-\$111	-\$2,899
Profit per ton [US\$/t]	\$6,442	\$3,066	\$5,301	\$2,513

\*Note: Assuming it will still be paid.



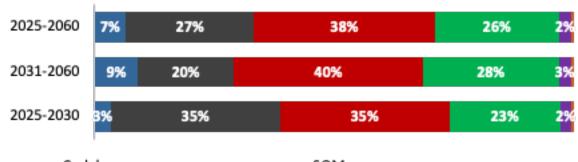
#### PLUSMINING'S FINANCIAL EVALUATION (5/6)

- Total 2025-2030 cash flows reach BUS\$17.0
  - > SQM keeps 27% of the total
  - ➤ The State (incl. Codelco) keeps 73%
- 2031-2060: BUS\$21.7
  - > SQM keeps 20% of the total
  - ➤ The State keeps 79%
- 2025-2060: BUS\$38.8
  - > SQM keeps 35% of the total
  - > The State keeps 65%
- In all cases, under current norms, the CPA will keep about 0.6% of the total
- 2031-2032 possible "production valley" (if there is no SQM operational continuity)
  - > SQM: BUS\$0.8
  - State: BUS\$3.2

#### **SQM's NET PRESENT VALUE**

- SQM overall present value from 2025-2060 reaches BUS\$5.2
- The present value of its payment to Codelco reaches BUS\$2.4
  - Overall, its NPV reaches BUS\$2.9
  - IRR reaches 17%

### Allocation of the present value of the NewCo

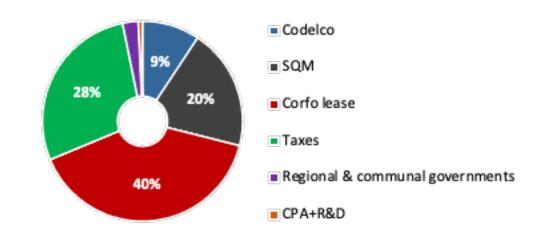


And the state of t



■ Regional & communal governments ■ CPA+R&D

Present value of possible "production valley" in 2031-2032





#### PLUSMINING'S FINANCIAL EVALUATION (6/6)

- The MoU will increase the government's capture of SQM's lithium rents
  - This is partially due to increase production but also do a greater capture of rents by controlling half of the property
- Plusmining's financial assessment is that SQM's NPV reaches BU\$\$2.9 covering the 2025-2060 period
  - This equals around 0.8% of Chile's 2023 GDP
  - > This is based on a conservative long-term price of US\$/t 20,000
    - Naturally, if a higher long-term price estimate is used, the more SQM's NPV grows

#### A COUPLE OF CONSIDERATIONS NOT INCLUDED IN THE FINANCIAL EVALUATION

- SQM becoming a minority shareholder should warrant a discount in their 2031-2060 DCF
  - This is even more so with **Codelco taking over**, given their lack of experience in lithium and the risk that it becomes more sensitive to political cycles
  - The fact that Codelco was publicly mandated by president Boric himself to exploit Salar de Atacama already suggests it is **highly influenced by government policy**
  - SQM having veto power over certain matters might mitigate this risk to an extent
- The NewCo run by Codelco during 2031-2060 could become less efficient
  - > As a result, Opex and Capex could raise, thus yielding lower cash flows for both

#### Main DCF results [2025-2060]

Variable	Value
SQM's NPV from MoU [BUS\$]	2.9
SQM's IRR from MoU [%]	17
SQM's NPV (benefit – payment) [BUS\$]	2.9
SQM's NPV from MoU [as % of Chile's 2023 GDP]	0.8
Codelco's DCF [BUS\$]	2.5
State's overall DCF [BUS\$]	28.1
Total lost value due to a possible "production valley" in 2031-2032 [BUS\$]	4.0



#### DID SQM PAY TOO LITTLE? (1/2)

Comparison with recent acquisitions/offers of advanced lithium projects worldwide						
Seller	Liontown	Codelco	Lithea	Neo Lithium Corp.	Lithium Power Int.*	Millennial Lithium**
Buyer	Albemarle	SQM	Ganfeng	Zijin Mining	Codelco	Lithium Americas
Asset	Kathleen Valley	Salar de Atacma	PPG	Tres Quebradas	Maricunga*	Pastos Grandes
Country	Australia	Chile	Argentina	Argentina	Chile	Argentina
Li carbonate/hydroxide price used in evaluation	29,401	25,000	16,000	12,110	24,683	13,050
Attributable post tax NPV [BUS\$]	7.01	7.2	1.22	0.864	1.10	0.729
Discount rate [%]	8%	10%	ND	10%	10%	10%
Post tax IRR [%]	56%	26%	30%	39.5%	29%	24.2%
LOM [years]	23	30	40	50	20	41
Acquisition announcement	Sep, 2023	Dec, 2023	Jul, 2022	Oct, 2021	Nov, 2023	Nov, 2021
Study date	Nov, 2021	Jan, 2024	Jul, 2022	Nov, 2021	Jan, 2022	Jul, 2019
Percent acquired of the asset	100%	50%	100%	100%	100%	100%
Offer [BUS\$]	4.16	2.5	0.96	0.72	0.244	0.40

- One way of assessing whether SQM paid enough is to compare its NPV to the price paid/offered for the acquisition of at least 50% of the asset
  - Acquisition offers of advanced lithium projects worldwide over the last two years were used
  - > To this extent, NPV displayed in each project' Technical Report and companies' announcements were used
  - As shown in the table, five recent cases were used for this comparison
- However, it should be noted these comparisons are not straightforward given that they are subject to the parameters used and corporate's plans
  - > Long term price and discount rates in particular can have a significant effect on the NPV
  - > Companies that acquire the asset might have special plans or synergies with other assets they already own or plan to acquire in the future

<sup>\*</sup>Note 1. The project did not have a CEOL, a key permit for developing lithium projects in Chile.

<sup>\*\*</sup>Note 2. In 2024 Lithium Americas announced the sale of 15% of the project to Ganfeng for MUS\$70

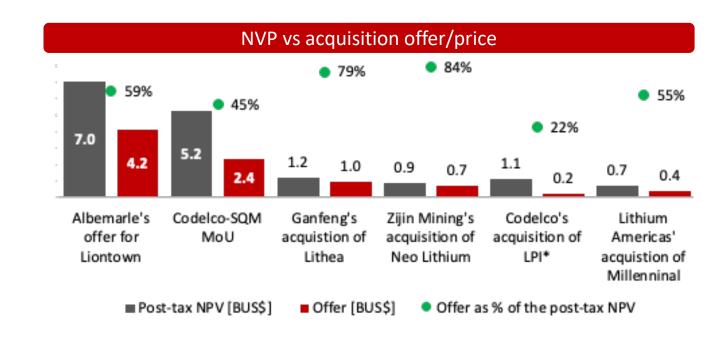


#### DID SQM PAY TOO LITTLE? (2/2)

- As shown in the figure, SQM is paying 45% of the total DCF expected to receive from the MoU
- In Q3 2023 Albemarle offered BUS\$4.2 for Liontown's Kathleen Valley, which NPV was BUS\$7.0
  - Thus it offered 59% of its NPV
- Ganfeng paid MUS\$962 for Lithea's PPG, whose NPV was MUS\$1,218
  - Thus it offered 79% of its NPV
  - This case is interesting because both values were provided by Ganfeng so it can be assumed the same evaluating parameters were used
- Zijin and Lithium Americas paid 84% and 55% for Neo Litihum's Tres Quebradas and Millennial Lithium's Pastos Grandes respectively

#### Codelco only paid 22% of the NPV of LPI's Salar Blanco project

➤ This relatively low value might be explained by LPI not having a CEOL to allow full exploitation (even though it had some pre 1979 concessions)



The same than

COMPARED TO OTHER OFFERS, SQM DOES APPEAR TO BE **PAYING A RELATIVELY LITTLE FOR WHAT IS BY FAR THE BEST LITHIUM BRINE DEPOSIT IN THE WORLD** 

HOW CAN THIS BE EXPLAINED THIS?

One factor is that these companies are offering to acquire a **controlling interest** in each project, unlike **SQM**'s case

HOWEVER, THERE ARE OTHER FACTORS TO BE DISCUSSED UP NEXT

### **Table of Contents**

#### I. Background

- 1. 2018 SQM-Corfo contract
- 2. 2023 National Lithium Strategy

#### II. Codelco-SQM Memorandum of Understanding

- 1. What does the alliance entail?
- Course of action going forward
- Main questions to be resolved
- 4. Reactions

#### III. Financial assessment

- 1. Definition of payments arising from the MoU
- 2. Parameters and assumptions used in DCF Analysis
- 3. Main results
- 4. Comparison with other lithium projects

#### IV. Critical assessment

- 1. Factors that prevented a better outcome
- 2. Feasibility of other alternatives
- 3. What to expect going forward
- 4. Main conclusions



#### FACTORS THAT CONSPIRED AGAINST A POSSIBLY BETTER PUBLIC FINANCIAL OUTCOME (1/3)

- (1) The 2031-2032 "production valley":
  - Ensuring the continuity of production after 2030 is not a seamless task, and SQM has made this clear
  - > SQM would have likely frozen Salar Futuro and other investment plans to increase production
  - > SQM would have stopped filling in the ponds by 2030, which is estimated to take between 1.5 and 2.0 years to refill
  - > This would have resulted in a production loss of around BUS\$4.0-5.4 during the 2031-2032 period
- It could be argued that if SQM would have wanted to bid in a tender process, they should have been forced to maintain the ponds full
  - > This would have avoided the "valley" although it would have also introduced some complexities:
    - As assessed by Codelco, the new actor would have had to conduct their own hydrogeological studies, prepare an EIA, carry out an indigenous consultation process, and obtain other sectorial permits without disrupting SQM's operations, which would have not been feasible to complete before 2030

AL AMERICA

- The new actor would have had to acquire SQM's Carmen Chemical Plant in Antofagasta or build a new one as the 2018 contract does not mandate SQM to transfer the chemical plant at book value to Corfo, unlike the case of the assets in the Salar de Atacama
- However, given the strong public interest, efforts necessary to achieve the above two points would have likely been enormous
- On March 11 Codelco chairman Máximo Pacheco argued that a valley would have meant an environmental cost since SQM would have stopped monitoring the salt flat



#### FACTORS THAT CONSPIRED AGAINST A POSSIBLY BETTER PUBLIC FINANCIAL OUTCOME (2/3)

- The possibility that SQM, as a lessor, would have kept the ponds full by 2030 would suppose a principle of goodwill between the parties
  - Also, had the 2018 contract mandated SQM to keep the ponds full, this would not have been an issue today
- The use of DLE and brine reinjection technologies could shorten or even cancel the time of this production valley
  - The MoU does not explicitly mention the use of DLE at any point
- While it is not clear to what extent DLE technologies will be used, it is likely that it will only be partially used
  - This is because the NewCo intends to continue extracting potassium, which is not possible with DLE
- It can be argued that an opening a tender process with DLE with brine reinjection could have speed up the development of new technologies allowing to exploit Salar de Atacama in a more environmentally friendly fashion
- (2) The government was pressed to show a "quick win":
  - > Following a complex path for materializing reforms, the government was likely pressed to show a "quick win"
  - ➤ Enabling Codelco to capture lithium rents as soon as 2025 might have driven the government to negotiate directly with SQM instead of opting to bid with other companies which could have only began producing in 2031 at the earliest
  - ➤ The MoU also attests to the government's willingness to create public-private alliances, especially after facing continuous suspicions of being biased against private investment
  - However, while the news were positively received by the general public, it received mixed reactions at the political level, including the government's own ruling coalition



#### FACTORS THAT CONSPIRED AGAINST A POSSIBLY BETTER PUBLIC FINANCIAL OUTCOME (3/3)

- (3) Lost leverage factor:
  - From the moment President Boric instructed Codelco to reach an agreement with SQM, Codelco lost some leverage
    - If SQM knows that Codelco must reach an agreement specifically with them (and not with others), they naturally gain bargaining **power** since they know Codelco has to come to an agreement

ALCOHOLD TO

32

- There was still space for Codelco not to come to an agreement, but this might have reflected badly on Codelco's negotiating team
- (4) Politization of lithium:
  - Lithium is a hotly debated political topic in Chile due to several factors
    - Lithium being declared as non-concessible in 1979 has heavily curtailed exploration and exploitation
    - Lithium being increasingly perceived as a critical material worldwide has only increased the political debate
  - The main local actor, SQM, has been under heavy scrutiny
  - > As a result, past attempts to allow exploitation in other salt flats have not worked out
    - In 2012 a CEOL for 100 kt LME\* was awarded to SQM but it was then revoked following a complaint by rival bidder Li Energy SpA
    - In 2022 a CEOL with five quotas of 80 kt Li each were awarded to BYD and Grupo Errázuriz but they were also cancelled
    - The only awarded CEOL still standing is Codelco's in 2018 for Salar de Maricunga
- (5) Possible geopolitical risk:
  - If the government had opened a tender process, a Chinese company might have won it raising a geopolitical risk stemming from the US
  - However, it could be argued this could have been partially managed with a tender process that takes that risk into account

\*Note: LME refers to Lithium Metal Equivalent.



#### WERE THERE OTHER POTENTIALLY BETTER ALTERNATIVES? (1/3)

- While there could have been other alternatives, it is important to note that directly negotiating with SQM was the plan all along
- However, there were still other **two alternatives**, an open tender process and allow Corfo to renegotiate

#### FIRST ALTERNATIVE: AN OPEN TENDER PROCESS

- It could have potentially yielded a higher public outcome
- It would have likely enjoyed more legitimacy on the long-run
- It is worth noting that this was also the explicit plan of Corfo when it was renegotiated its contract with SQM back in 2018
- Why was it not considered by the government?
  - > The government likely assessed that a tender process would have been complex and with preliminarily a higher risk of not being materialized

A STATE OF THE STA

- As previously mentioned, lithium is a highly politicized issue and two CEOL tender attempts in 2012 and 2022 failed
- > It would likely have extended into the next administration, preventing president Boric from personally sealing the deal
  - For better or for worse, this deal is possibly the most consequential achievement of the current administration so far
- > There could have been a "production valley" in 2031-2032, which would have resulted in no benefits
  - This was raised by SQM, but it seems strange considering the principle of good faith that should guide the relationship between the
    owner and the tenant, especially on the eve of a contract renewal where the owner seeks to maximize value.
  - It might have been resolved or mitigated with a proper tender process or mandating the use of DLE with brine reinjection technologies, which are still being trialed.

While these challenges are significant, it can be argued that the remaining seven years could be enough time to resolve them



#### WERE THERE OTHER POTENTIALLY BETTER ALTERNATIVES? (2/3)

Besides an open tender process, a second alternative was to allow Corfo to directly renegotiate its contract with SQM...

#### SECOND ALTERNATIVE: ALLOW CORFO TO RENEGOTIATE

- In this scenario, Corfo would have been allowed to renegotiate its leasing contract with SQM looking to further increase lease revenues
  - However, it is doubtful that it could have yielded a potentially higher public benefit than the first alternative (tender process)
- It would have had the advantage of directly involving Corfo in the matter, the public agency that knows the most about lithium
- Given the knowledge Corfo has, it would have been in a better position to outline further obligations
  - Namely, it could have also outlined the use of DLE with brine reinjection or downstream promotion
- It would have also been a safe option, as it would have allowed the current holder to continue operating
- Why was it not considered by the government?
  - > This alternative was **never seriously discussed** at all in the public debate
  - > The Codelco-SQM appears to be ideologically guided by a resource nationalist sentiment
  - For some political sectors, having a state-owned company that controlled production was a **minimum condition** that ensured keeping the future issue of state ownership in the operation of natural resources open, in this case, lithium



#### WERE THERE OTHER POTENTIALLY BETTER ALTERNATIVES? (3/3)

- As shown in the table, a tender process could have potentially yielded higher benefits, but it was likely perceived to be riskier
- Many of the risks, however, are self-inflicted, stemming from the uncertainties surrounding lithium in Chile
- Some of these risks could have been mitigated or even crossed out completely with a proper tender process
- In a nutshell, the government appears to have opted for the more conservative approach of negotiating with the current holder rather than tendering for potentially higher benefits at a higher risk
- What about allowing Corfo to renegotiate with SQM?
  - This neglects having state-control, a guiding principle for the current administration
  - This ensures keeping the future issue of state ownership of lithium open
  - > As such, this alternative was never truly considered

Comparison of the two discussed alternatives vs. the chosen mechanism of Codelco-SQM negotiations, as it was likely assessed by Codelco and the government

Attribute	Open Tender Process	Corfo-SQM renegotiation
State-control	Yes	No
Capture of lithium rents	Potentially higher	Similar or slightly higher
Chance of securing the deal in the current administration	Lower	Similar
Long-term legitimacy	Higher	Same
Risk of the process not working out?	Higher	Same
Risk of a production valley?	Higher	Same
Geopolitical risk?	Higher	Same



#### WHAT TO EXPECT IN THE SHORT TERM?

- While the MoU outlined March 31 as the expected date for a definitive and binding agreement, it was subsequently delayed to May 31
  - Codelco is currently carrying out a due diligence process reviewing all contributions and technical matters pertaining to the NewCo
    - They are reportedly being advised by Carey
- From then onwards, it will need to be go through a series of steps, including:
  - Corfo's contract modification for SQM's quota expansion and new leasing contract for Codelco's Tarar subsidiary
  - Carrying out an Indigenous Consultation Process for both contracts
  - > Obtain the ratification from the Comptroller's Office for both contracts
  - > Secure the approval from the Chilean Nuclear Energy Commission, which authorizes lithium exploitation and commercialization
  - > Secure the approval of national and international antitrust agencies
- Máximo Pacheco expects everything to be completed by December 2024

#### MAIN ISSUES TO BE RESOLVED

- Settling the differences with the CPA in particular will be a highly significant consequential task for carrying out this agreement
  - > There is a sizeable risk that communities may judicialize the process, which could delay or even prevent the creation of the NewCo

 As previously outlined, there are still several pending issues to be resolved, such as the expected partial use of DLE with brine reinjection, and capture of byproducts, mainly potassium



#### WHAT TO EXPECT IN THE LONG TERM?

- The materialization of the NewCo will surely awaken several operational and logistical questions for Codelco
  - > Codelco will have to learn along the way, with SQM in the driver's seat during the first six years
  - > The board members that Codelco appoints will play a crucial role
  - ➤ The implementation of new working mechanisms, such as **DLE coupled with reinjection** will likely be a significant operational challenge
  - > The relationship with the indigenous communities will remain a factor to be closely looked it, especially considering their distrust of Codelco

#### IS THERE A RISK THAT A FULL-SCALE NATIONALIZATION COULD EVENTUALLY HAPPEN?

- While the current government coalition and other political sectors are backing the deal, some sectors could eventually support a full-scale nationalization —in the sense of operational control in the hands of state-owned companies—later on
- Nevertheless, It can well be argued that the political objective is to fuel the discussion on whether natural resources should be exploited by the state or by private entities

Keeping this issue open is paramount for some political ideologies



#### **MAIN CONCLUSIONS**

- Codelco-SQM's MoU has raised eyebrows in Chile's political class, with some celebrating the agreement and others disapproving it
  - > This is both for negotiating with SQM, a company historically under scrutiny, but also for the financial conveniency to the Treasury

Aller of the Control of the Control

- > Since it does not maximize the value of the resource for the State, it raises questions about its legitimacy
- Compared to recent lithium asset purchases, SQM does appear to be paying relatively little for an extra 30 years of lithium extraction in
  what is by far the world's best lithium brine deposit
- This undervaluation was caused by several self-inflicted risks and uncertainties surrounding SQM and lithium in general:
  - ➤ One of the main issues was the "**production valley**" in 2031-2032, which would have been caused by SQM not keeping the ponds full had they not been allowed to continue operating beyond the end of their contract in 2030
    - Not including this as requisite in the SQM-Corfo 2018 contract was exploited by SQM in the negotiations with Codelco
    - It favored the more conservative approach of negotiating with the current holder rather than tendering for potentially higher benefits at a higher risk
  - > The political aspiration of a state company like Codelco becoming a partner in lithium production as soon as 2025
    - However, for this purpose SQM will be essentially paying Codelco with a new quota to be requested by Codelco
  - Another important issue is the politization and resource-nationalism surrounding lithium, which has significant costs in terms of investment not just for SQM but for other interested parties as well
    - It makes it extremely difficult for Chile to have competitive and open tender processes in the lithium industry

It raises concerns about the legitimacy of virtually any deal

## **PLUSmining**

# Analysis of Codelco-SQM's MoU for jointly operating Salar de Atacama

**April 2024** 

#### Juan Carlos Guajardo

Executive Director juan.carlos.guajardo@plusmining.com

#### **Matias Marañon**

Head of Consulting matias.maranon@plusmining.com

#### Fiorella Ulloa

Head of Policy and Regulation fiorella.ulloa@plusmining.com

#### **Antonia Godoy**

Political and Regulatory Analyst antonia.godoy@plusmining.com

#### **Juan Cristobal Ciudad**

Senior Mineral Market & Industry Analyst cristobal.ciudad@plusmining.com

#### **Bastian Del Mauro**

Mineral Market Analyst bastian.delmauro@plusmining.com

#### **Andres Gonzalez**

Head of Mining Industry Analysis andres.gonzalez@plusmining.com

#### **Juan Jose Pardo**

Mining Industry Analyst juan.jose.pardo@plusmining.com