

*South America's Lithium Triangle and
the Future of the Green Economy*

ARGENTINA

January, 2020

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A new administration with a strong Federal stamp and Active Policy of Integrated Productive Development

Mining: “A key sector for the country development”

(Alberto Fernández, Diciembre 2019)

Integrated vision of inclusive and sustainable development:

- ✓ Local productive chains
- ✓ Endogenous territorial development
- ✓ Innovation and Knowledge Economy

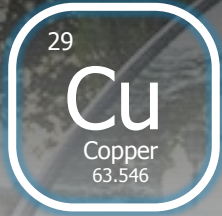
Transition to a Green Industrialization:

- ✓ Electromobility and Renewable Energies
- ✓ Sustainable Development of Natural Resources

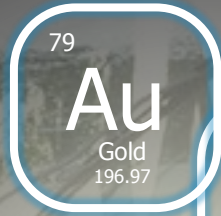
Argentina has the materials for the green energy transition



Mining as a
Federal State
Policy



One of the
largest
portfolios of
copper
projects to be
developed



Top Gold &
Silver mining
companies
operating in
the country



1st Exploration
destination
3rd Producer
3rd World
Lithium Reserve



High
underexplored
Geological
potential

Argentina is a Federal Republic and the resources are of provincial domain

	Federal Government	Provinces
Natural Resources (including mineral deposits)	X	✓
Mining Code	✓	X
Mineral title & permits	X	✓
Mining Investment Law	✓	X
Environmental regulations	✓	✓

The territory consists of:

1 Federal Government

23 Provinces and 1 Autonomous City

+2000 Municipalities



COFEMIN
Consejo Federal Minero
Nation-Province consensus for Mining Policy

Argentina's mining framework: legal aspects



TITLE

- **Belongs to the discoverer.** Must file claim with the Province
- "Free-entry system" Concession for all minerals type (**no restricted minerals**)

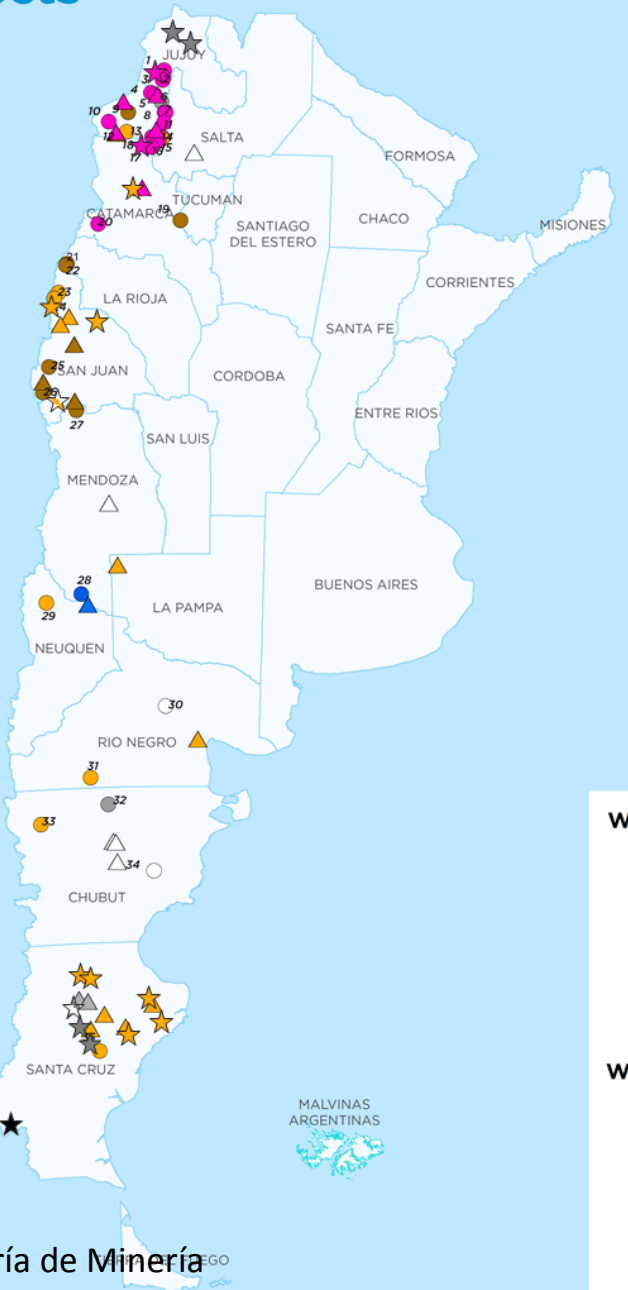
TENURE

- **Simple to maintain:** annual payment and executed investment plan (within 5 years of title)
- Granted in **perpetuity**, provided there is mineable ore and continued mining activity by owner

PERMITS

- **Unified, clear and timely environmental approval process.**
- **Environmental and construction permits** mostly granted and controlled by the **Provinces.**

Advanced projects map



- With CAPEX**
- Copper
 - Lithium
 - Gold
 - Silver
 - Potassium
 - Uranium
- Without CAPEX**
- ▲ Copper
 - ▲ Lithium
 - ▲ Gold
 - ▲ Silver
 - ▲ Potassium
 - △ Uranium

Secretaría de Minería

ARGENTINA. MINING OPERATIONS AND ADVANCED PROJECTS



* Includes 2 ongoing capacity expansions
 ** Includes Lama-Pascua, Potasio Rio Colorado and Pachon which are being re-evaluated

18 ADVANCED PROJECTS



Ident. Res. **93 Mt LCE**
CAPEX **5,400 M USD**

Pot. additional production
LCE 334.000 kt/y

2 MINES both expanding

2 CONSTRUCTION

10 PEA TO DFS

6 ADV. EXPL.

Cauchari Olaroz, Jujuy

11 ADVANCED PROJECTS



Ident. Res. **65 Mt Cu**
CAPEX **16,255 M USD**

Pot. additional production
Cu 1,203 kt/y
Au 767 Koz/y
Ag 16.4 M oz/y
Mo 13 kt/y

5 PFSB TO DFS

2 PEA

4 ADV. EXPL.

Agua Rica, Catamarca

13 ADVANCED PROJECTS



Ident. Res. **14.3 Moz Au**
CAPEX **1,696 M USD**

Pot. additional production
Au 481 koz/y
Ag 13.3 Moz/y

8* MINES

2 CONSTRUCTION

4 PEA TO DFS

7 ADV. EXPL.

Lindero, Salta

*1 of them are maintenance

5 ADVANCED PROJECTS



Ident. Res. **4,530 Moz Ag**
CAPEX **1,390 M USD**
Pot. additional production
Ag 28 Moz/y
Au 42 koz/y

5* MINES

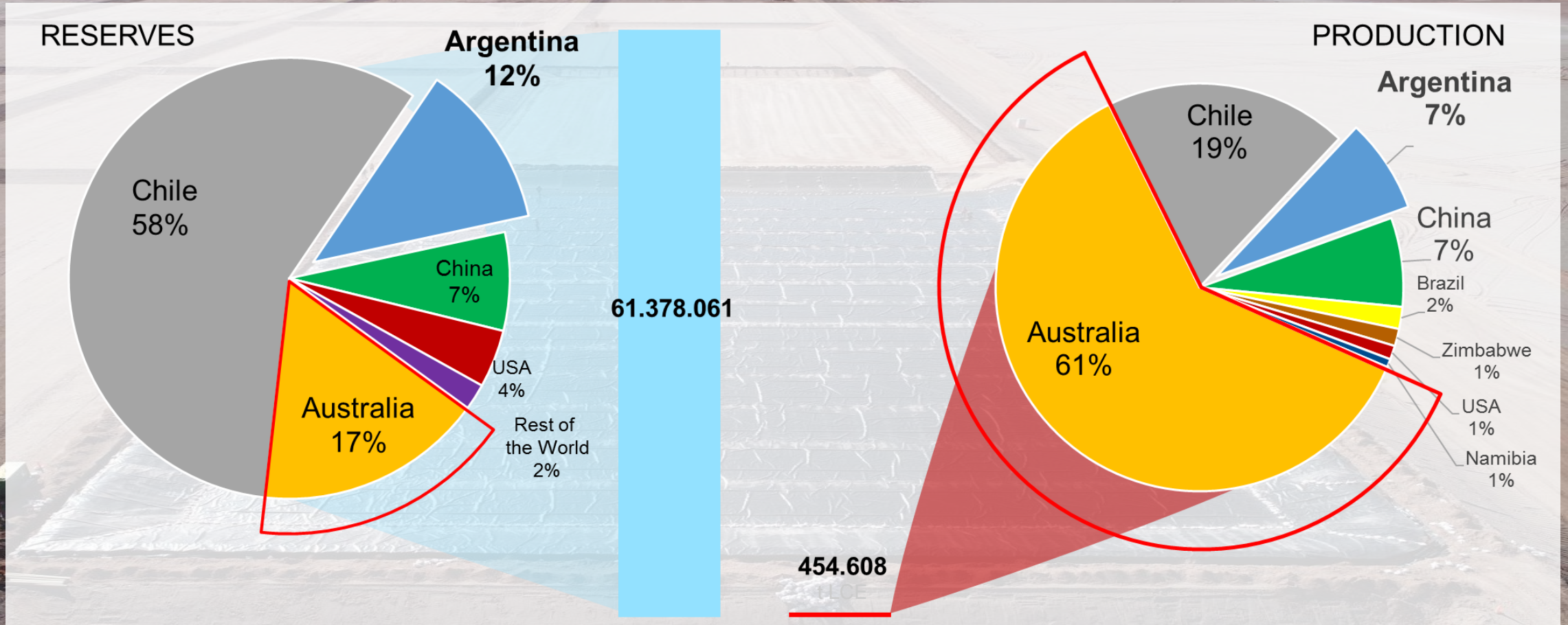
3 PEA

2 ADV. EXPL.

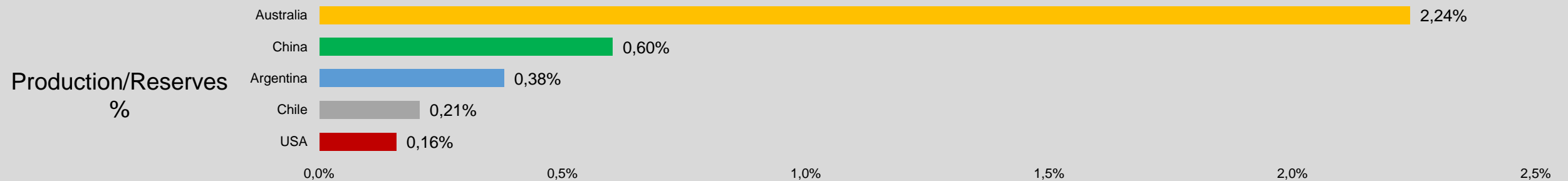
Manantial Espejo, Santa Cruz

*1 of them are maintenance

To have reserves does not guarantee production or market



FUENTE: USGS, SNL y Reportes de Compañías

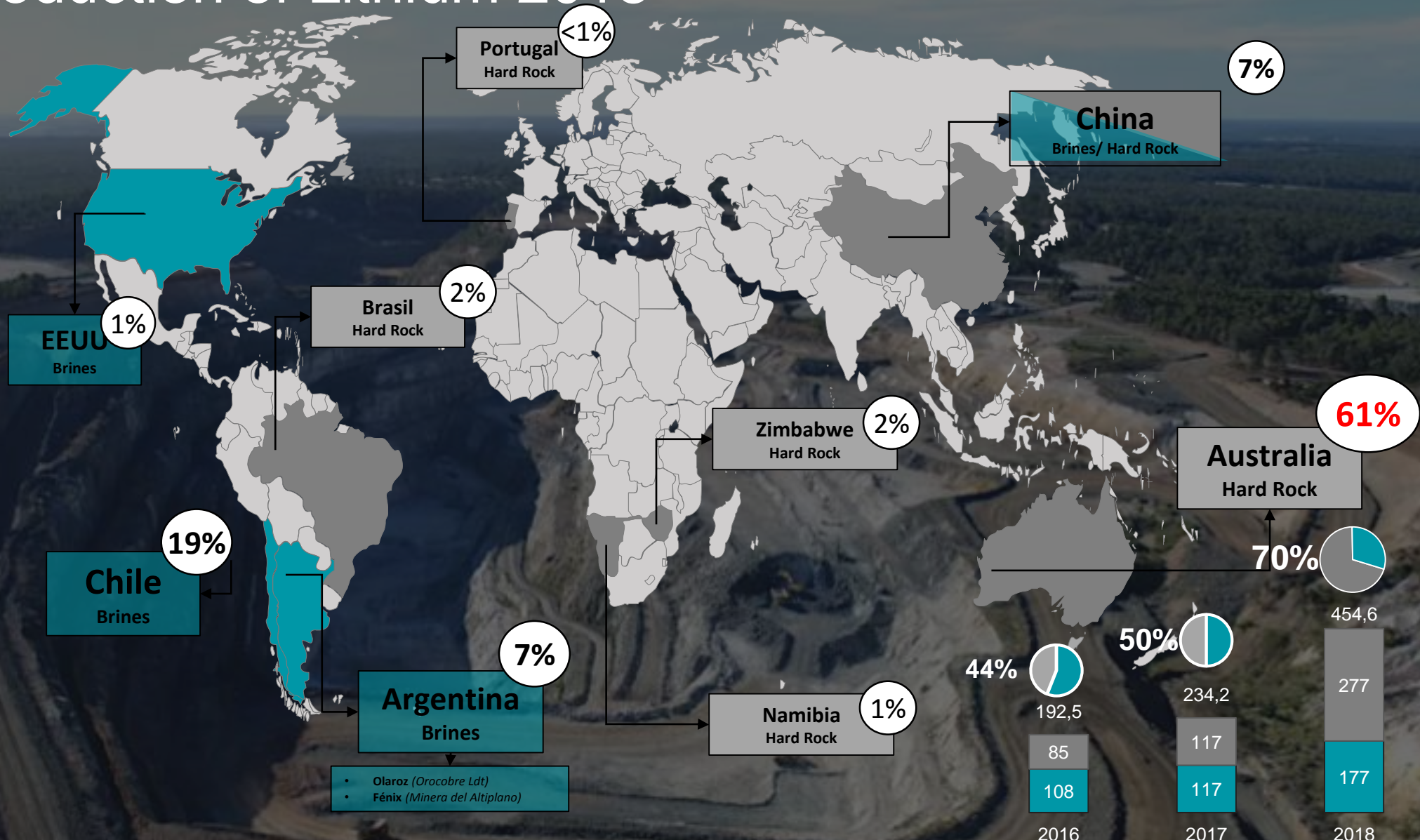


Primary production of Lithium 2018

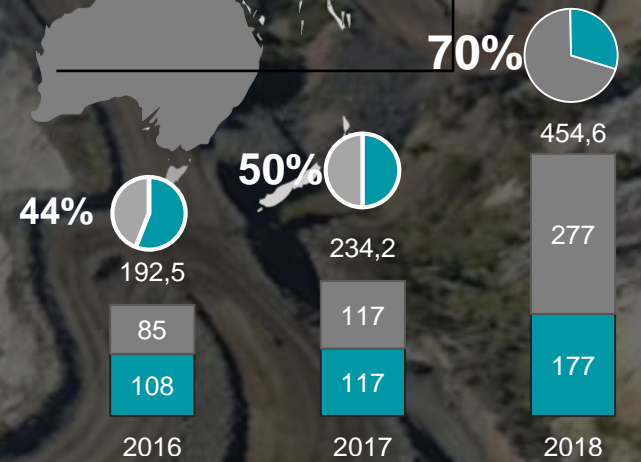
454,6
kt LCE

30%
Brines

70%
Hard Rock



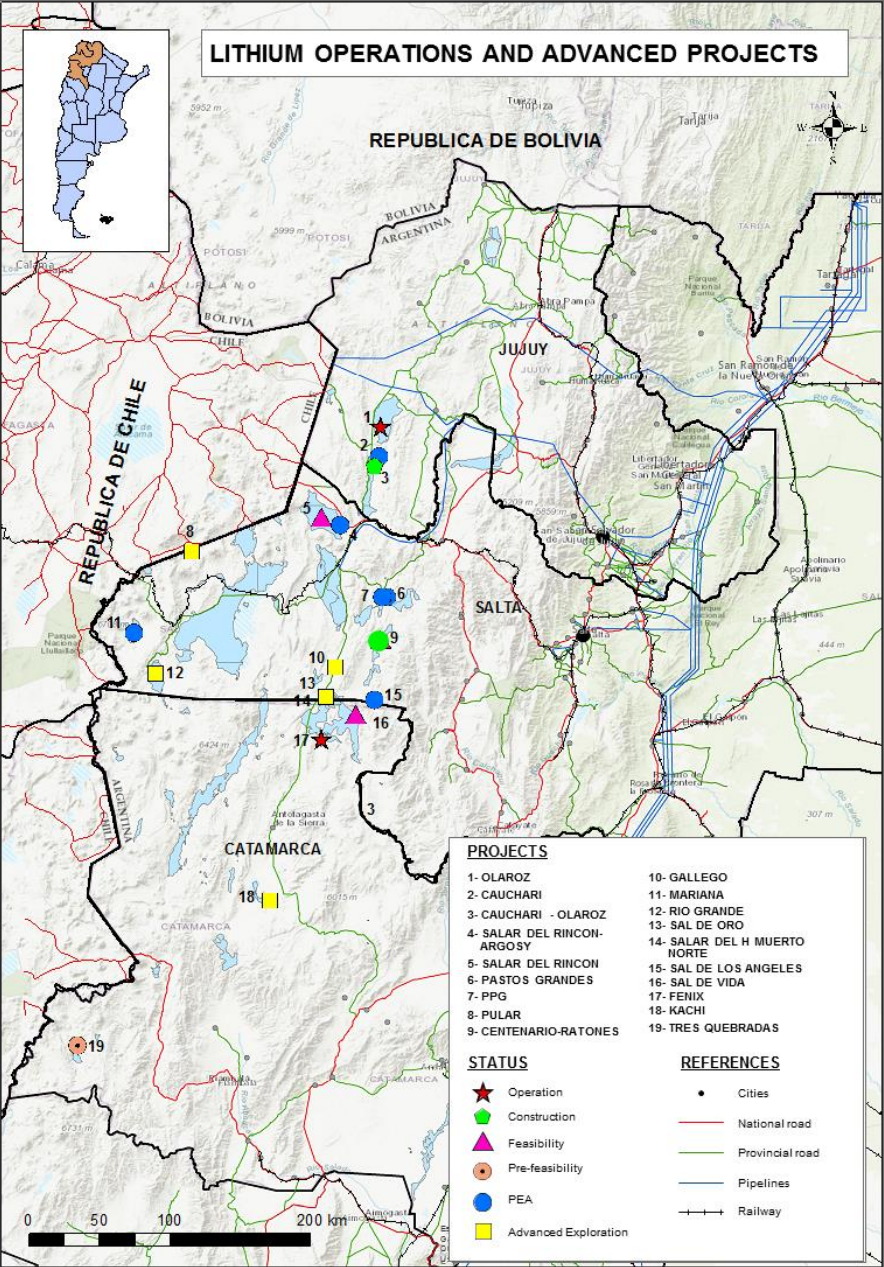
- Olaroz (Orocobre Ltd)
- Fénix (Minera del Altiplano)



Source: Own elaboration based on USGS, SNL and company reports

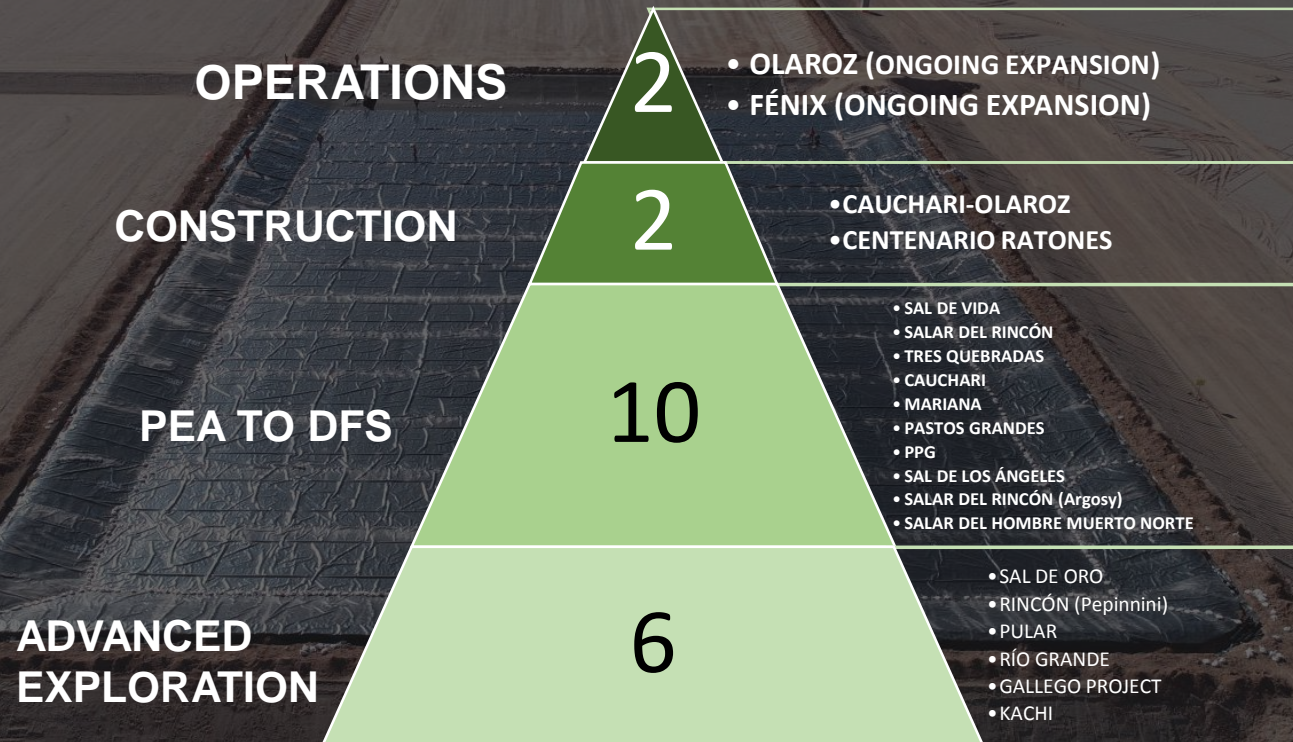
Secretaría de Minería

LITHIUM OPERATIONS AND ADVANCED PROJECTS



Operations and Advanced Lithium Projects

18 ADVANCED PROJECTS

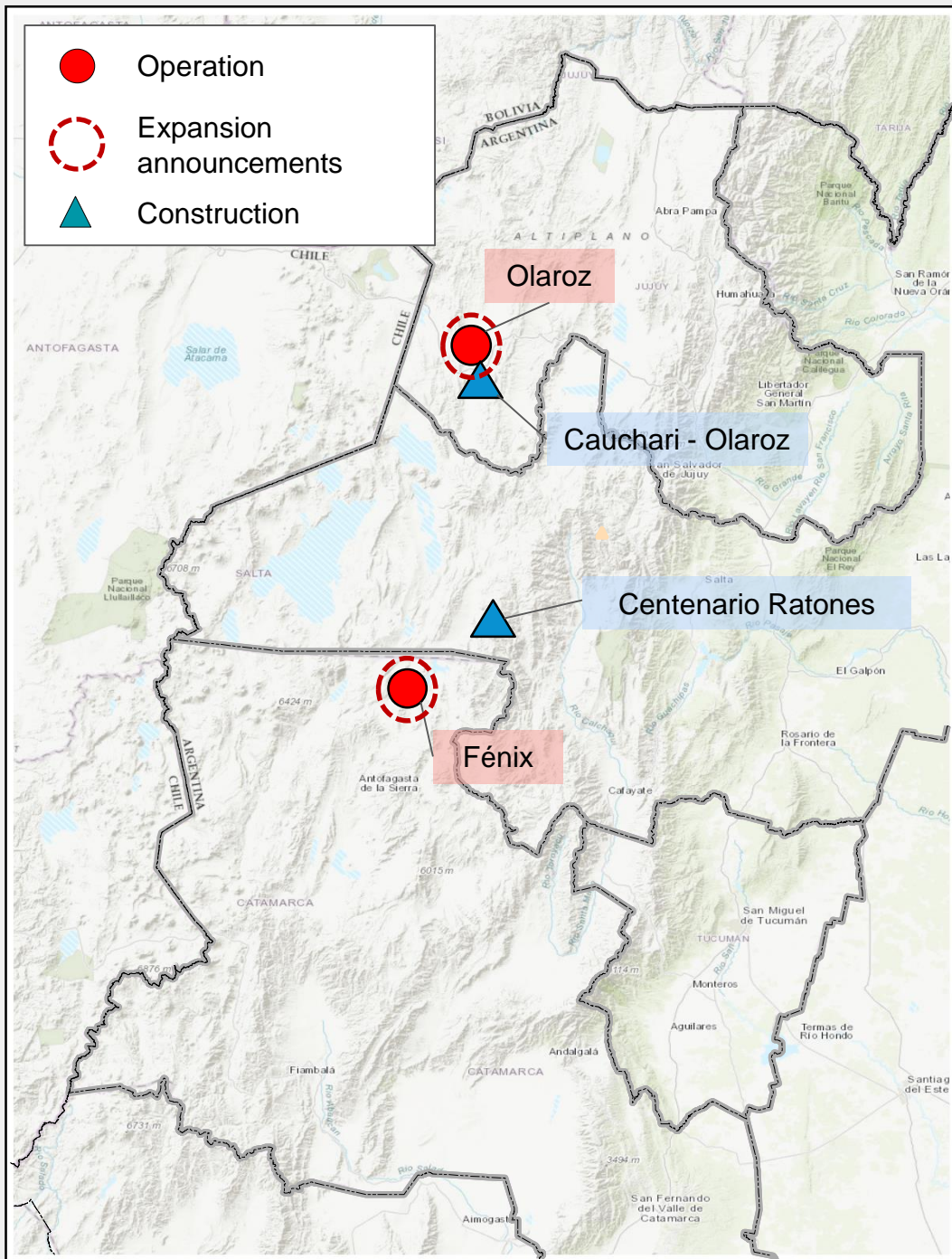


>40 early stage projects

Puna area: 80.000 km²



23 Salars: >5.200 km²



Mines in Operation, Mines under Construction and Announcements of Expansion

• Operations in 3 Salars:

■ OPERATIONS

Mine	Company	Capacity (2019)
Fénix	Livent Corp	22.500 t LCE
Olaroz	Orocobre +Toyota + JEMSE	17.500 t LCE

■ ANNOUNCEMENTS OF EXPANSION

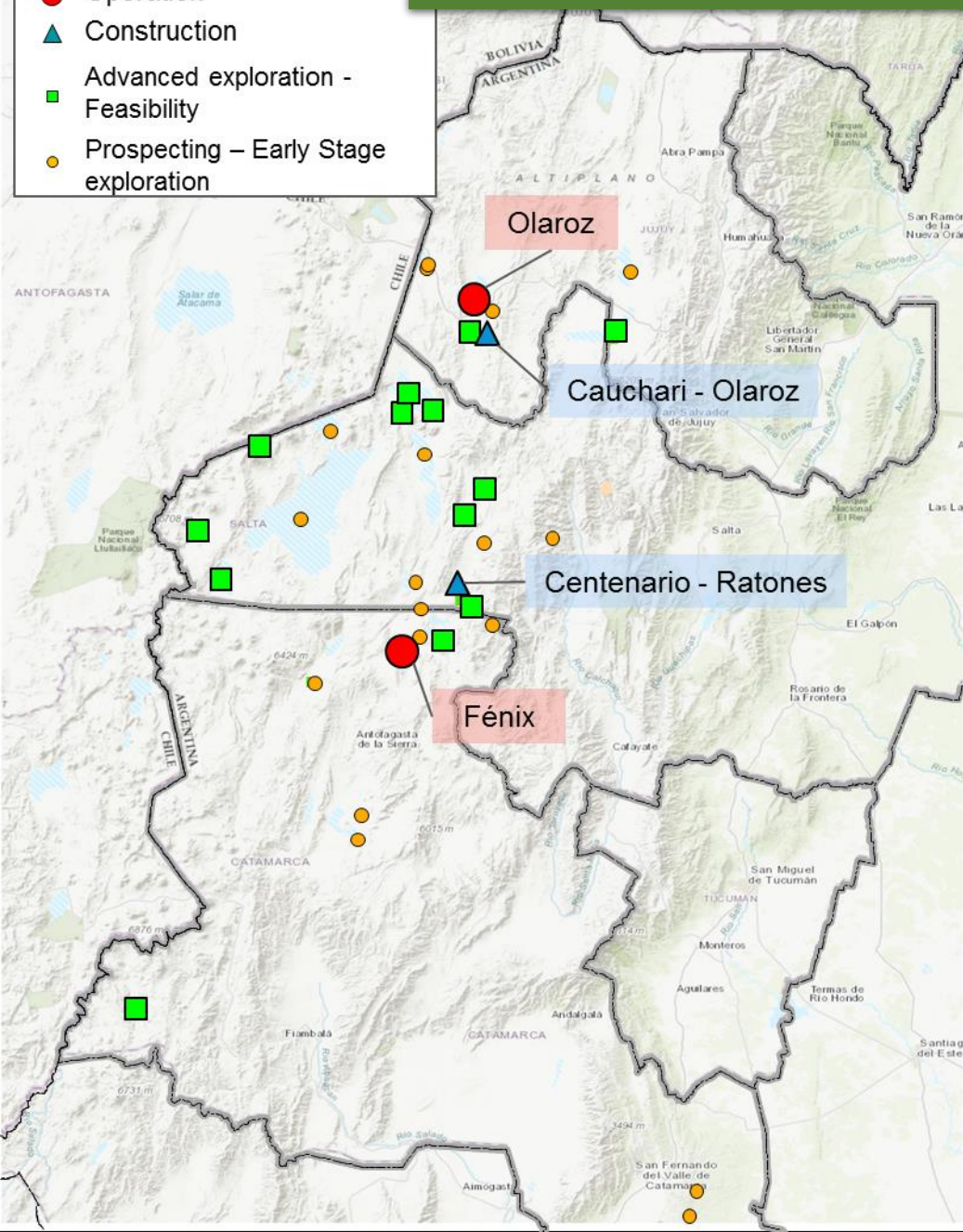
Mine	Company	Capacity after expansion
Fénix	Livent Corp	28.500 t LCE (2021)
Olaroz	Orocobre +Toyota + JEMSE	42.500 t LCE (2022)

■ 2 MINES UNDER CONSTRUCTION

Project	Company	Capacity	Operation start year
Cauchari-Olaroz	Lithium Americas + Ganfeng + JEMSE	40.000 t LCE	2021
Centenario Ratones	Eramet	24.000 t LCE	2021

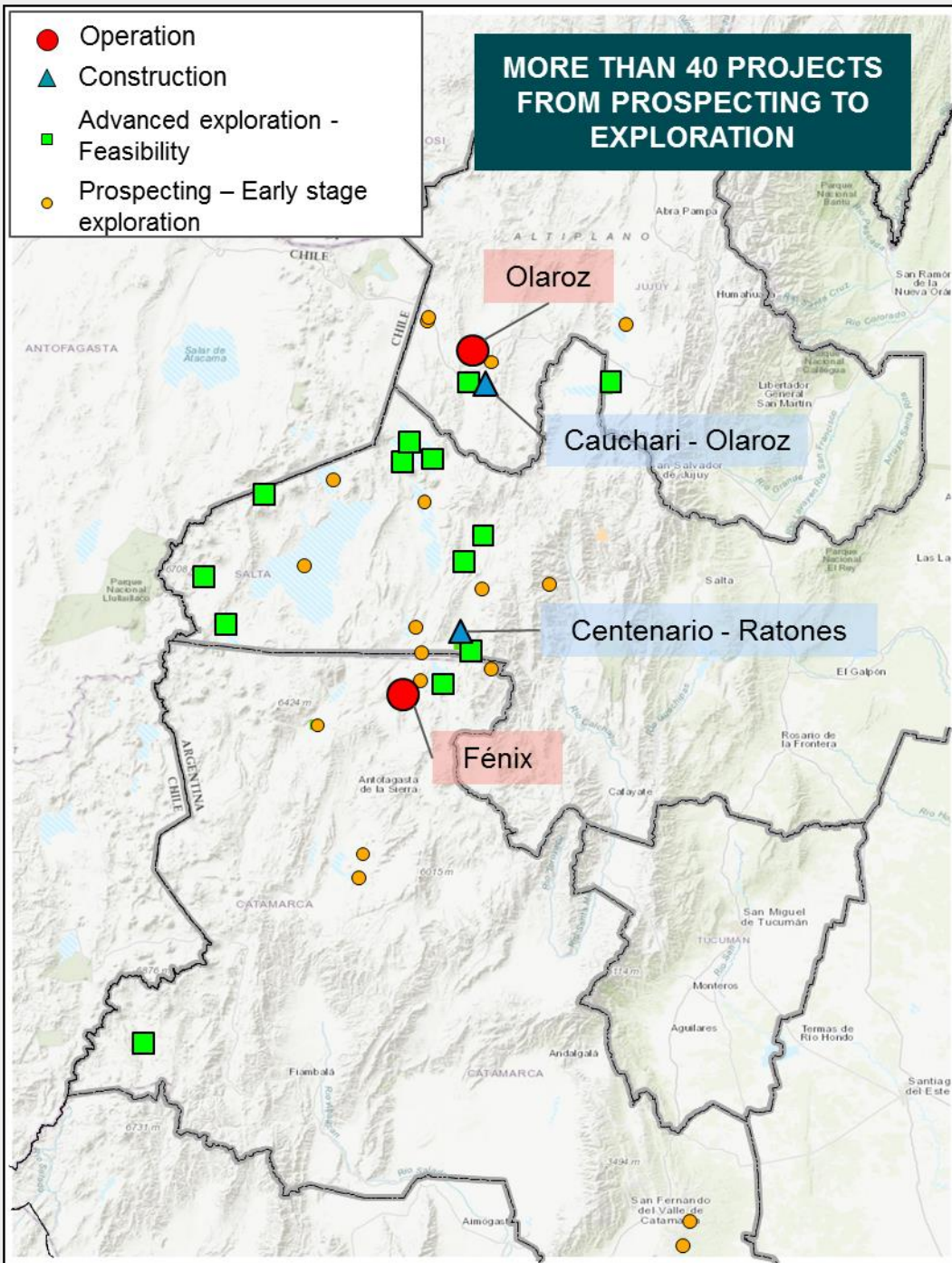
ADVANCED PROJECTS

- Operation
- ▲ Construction
- Advanced exploration - Feasibility
- Prospecting – Early Stage exploration



Project	Company	Capacity	Stage
Sal de los Ángeles	NextView New Energy Lion HK Ltd (Tibet)	25.000 t LCE	Feasibility Study undergoing Pilot Plant
Sal de Vida	Galaxy Resources Ltd	25.000 t LCE	Feasibility Study completed Pilot Plant
Salar del Rincón	Rincon Ltd	25.000 t LCE 50.000 t LCE	Feasibility Study completed Demonstration Plant
Pastos Grandes	Millennial Lithium	25.000 t LCE	Feasibility Study undergoing Pilot plant undergoing
Tres Quebradas	Neo Lithium Ltd	20.000 t LCE	Feasibility Study undergoing Pilot plant 99,1% LCE
Sal de Oro	Posco	25.000 t LCE	Advanced exploration Pilot plant undergoing

Project	Company	Capacity	Stage
Pozuelos – Pastos Grandes (PPG)	Litica - Pluspetrol	25.000 t LCE	Preliminary Economic Assessment in elaboration
Cauchari	Advantage Lithium Corp. (75%)+ Orocobre Limited	20.000 t LCE	Preliminary Economic Assessment
Rincon Lithium Project	Argosy Minerals Ltd. (77,5%) + Privado	10.000 t LCE	Preliminary Economic Assessment
Mariana	International Lithium JV con Jiangxi Ganfeng Lithium Co. Ltd	10.000 t LCE	Preliminary Economic Assessment
Salar del Hombre Muerto Norte II	NRG Metals	5.000 t LCE	Preliminary Economic Assessment
Salinas Grandes	LSC Lithium Corp		Advanced exploration
Salar de Pular	Pepinnini Lithium Limited		Advanced exploration
Rincón Project	Pepinnini Lithium Limited		Advanced exploration
Kachi	Morena del Valle S.A.		Advanced exploration
Río Grande	LSC Lithium Corp.		Advanced exploration



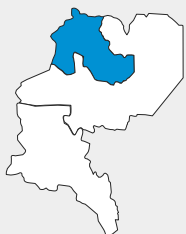
Early stage projects in 23 Salars and 4 Pegmatite Districts

PROJECT	PROVINCE	NAME OF SALAR/NAME OF PEGMATITE DISTRICT
Salar de Diablillos	Catamarca	Salar de Diablillos
Antofalla	Catamarca	Salar de Antofalla
Kachi	Catamarca	Salar Carachi- Pampa
Salar Escondido	Catamarca	Salar Carachi- Pampa
Hombre Muerto North	Catamarca	Salar del Hombre Muerto
Guayatayoc	Jujuy	Laguna Guayatayoc
Mina Teresa	Jujuy	Salinas Grandes
San José	Jujuy	Salinas Grandes
Navidad	Jujuy	Salinas Grandes
Olaroz/Cauchari	Jujuy	Salar de Olaroz-Cauchari
Paso	Jujuy	Salar de Jama
Jama	Jujuy	Salar de Jama
Salinas Grandes AdY	Jujuy	Salinas Grandes
Guayatayoc	Jujuy	Laguna Guayatayoc
Olaroz Minera Santa Rita	Jujuy	Salar de Olaroz
Cauchari de Pastos Grandes SA	Jujuy	Salar de Cauchari
Guadalquivir	Salta	Salar Rio Grande
Pocitos	Salta	Salar de Pocitos
Rio Grande	Salta	Salar Rio Grande
Centenario	Salta	Salar Centenario
Stella Maris	Salta	Salinas Grandes
Cauchari Sur	Salta	Salar de Cauchari
Cruz	Salta	Salar de Pocitos
Salar de Arizaro Brine	Salta	Salar de Arizaro
Arizaro	Salta	Salar de Arizaro
Salar de Arizaro	Salta	Salar de Arizaro
Salar de Arizaro 2	Salta	Salar de Arizaro
Tolillar	Salta	Salar Tolillar
Salar de Incahuasi	Salta	Salar de Incahuasi
Arizaro	Salta	Salar de Arizaro
Terra Cotta/Salar de Pocitos	Salta	Salar de Pocitos
Pastos Grandes	Salta	Salar de Pastos Grandes
Salar de Pular Lithea Inc	Salta	Salar de Pular
Salar Tolillar ADY	Salta	Salar Rio Grande
El Quemado	Salta	Distrito Pegmatítico El Quemado
Catamarca	Catamarca	Distrito Pegmatítico Ancasti
Vilisman - Ancasti	Catamarca	Distrito Pegmatítico Ancasti
Mina Las Cuevas	San Luis	Distrito Pegmatítico Conlara
La Estanzuela - Conlara	San Luis	Distritos Pegmatíticos La Estanzuela y Conlara
Mina Las Tapias	Córdoba	Distrito Pegmatítico Altautina/ Las Tapias

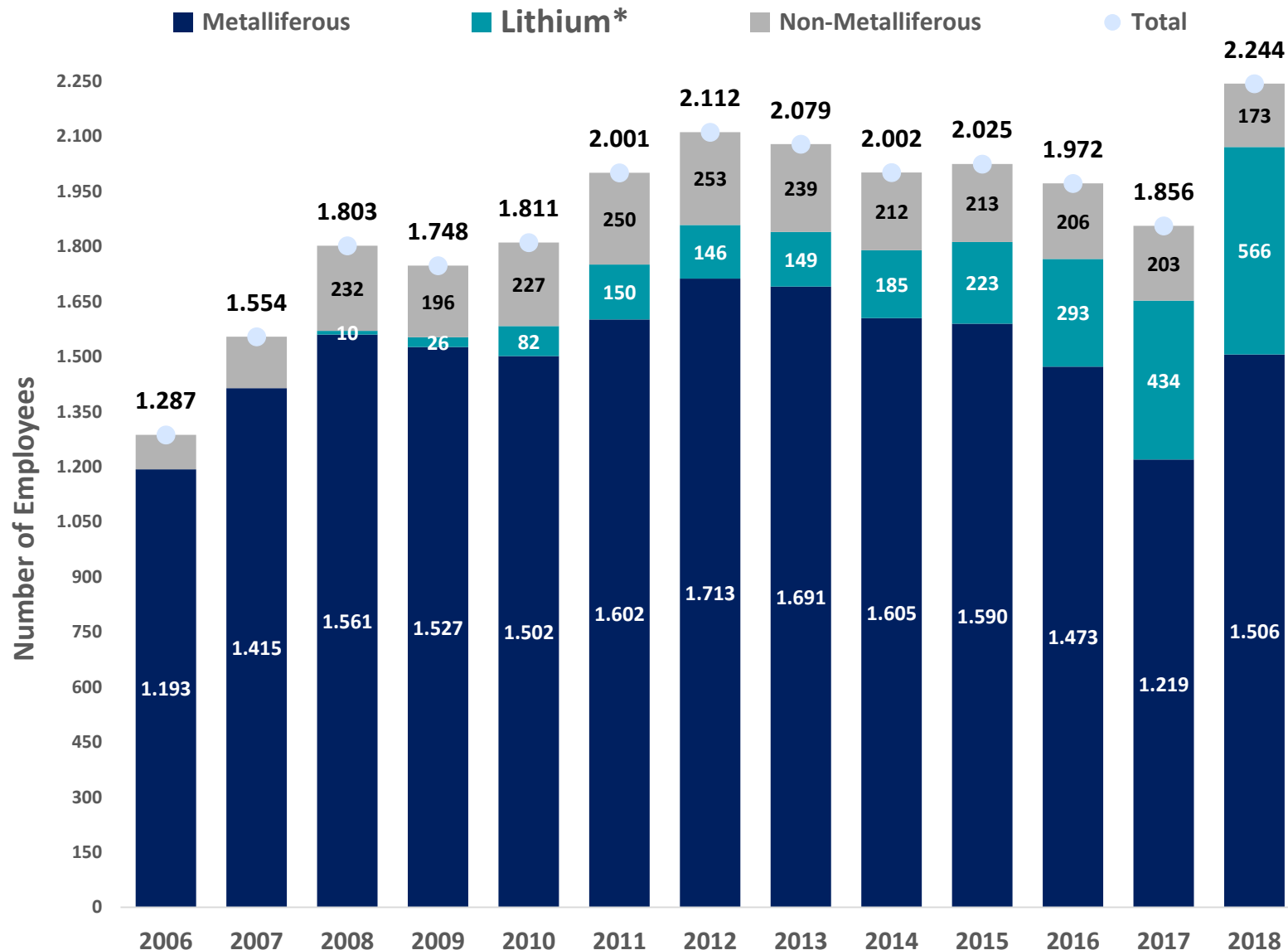


CASE STUDY JUJUY MINING EMPLOYMENT

Province of Jujuy



Direct employment from mining operations (metalliferous, non-metalliferous and lithium) is in a growing path with a peak of 2.244 employees in 2018. The indirect employment can up to two-fold the direct one.

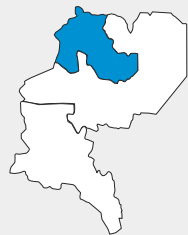


Lithium*: Includes the employment from Sales de Jujuy, Exar & South American Salars
Source: Own elaboration in base of OEDE and companies data



COMMUNITIES

Province of Jujuy

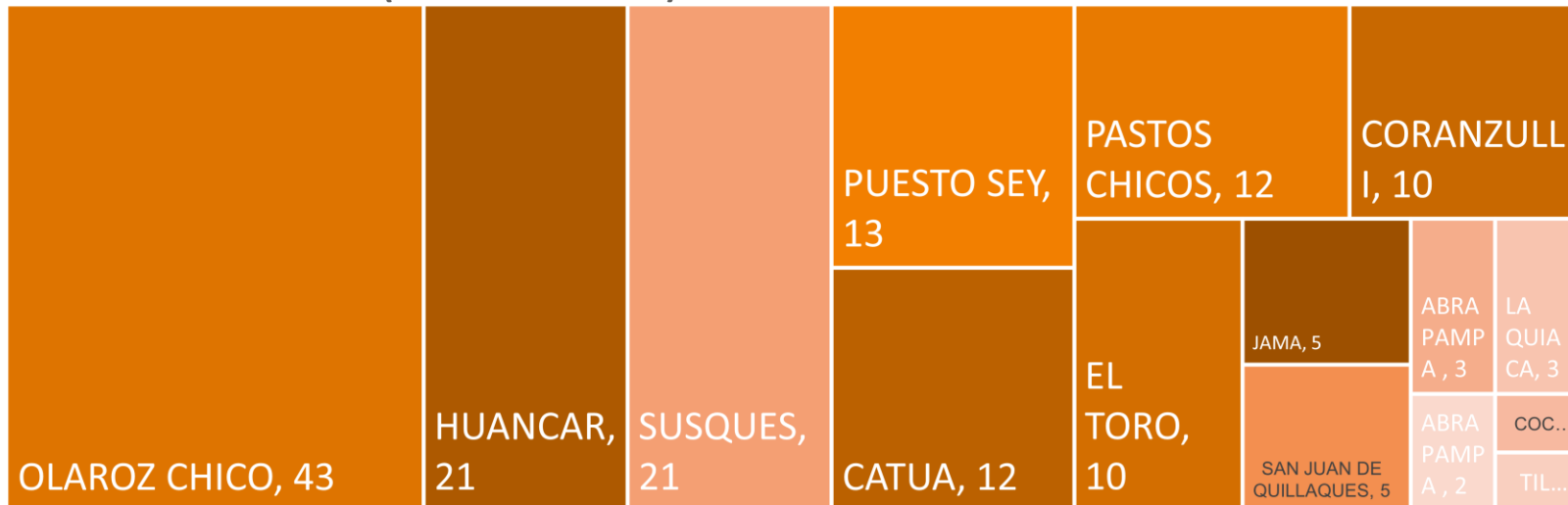


Local communities participation in the activity is increasing

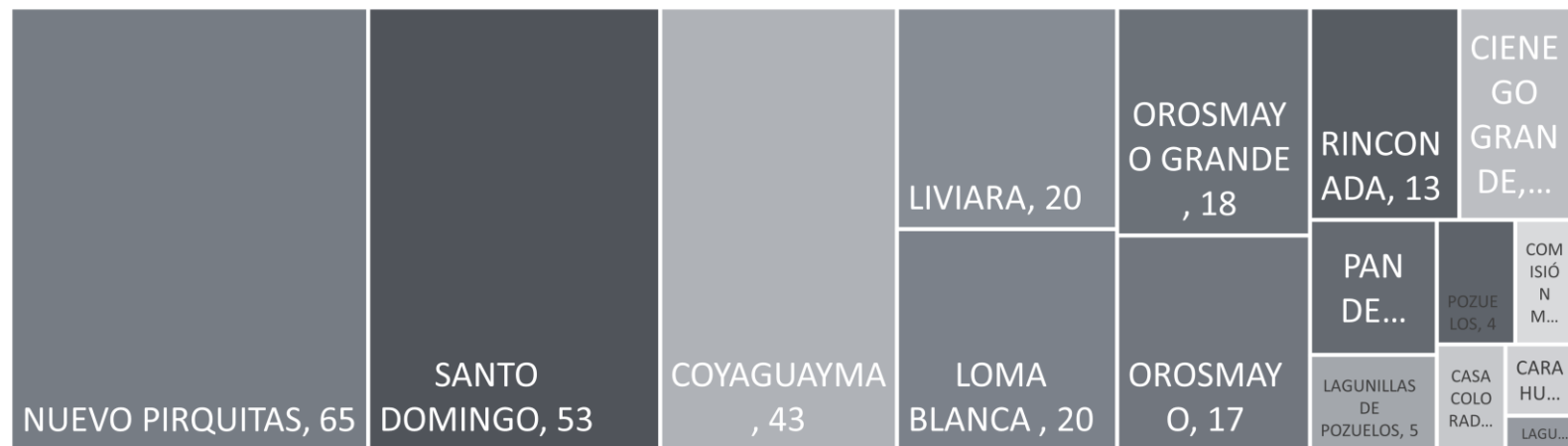
Olaroz, Susques, recorded, in 2018, 162 communities's employees, **42%** of the staff and Pirquitas-Chinchillas, Rinconada employed 284, a **59%** share

COMMUNITY EMPLOYMENT BY VILLAGE/SETTLEMENT

LITHIUM – OLAROZ (SALES DE JUJUY)

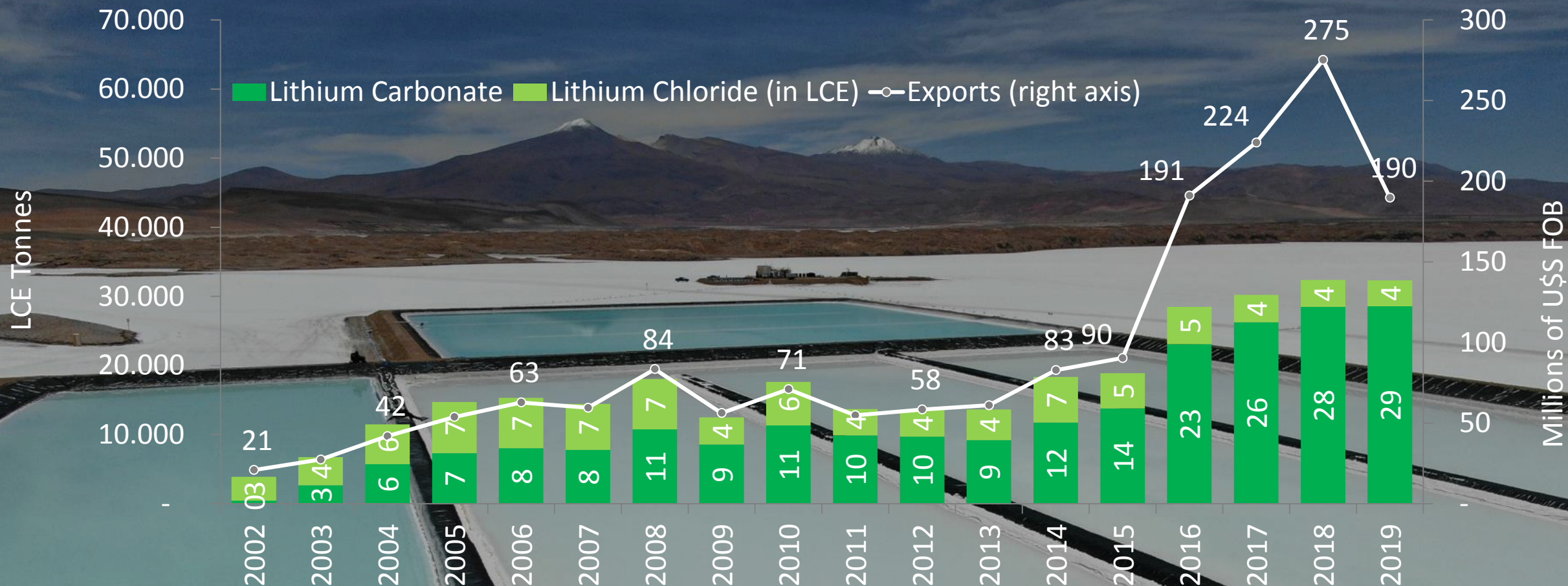


POLYMETALLIC – PIRQUITAS-CHINCHILLAS



Source: Secretaría de Minería e Hidrocarburos de la Provincia de Jujuy

2019 Exports: U\$S 189,8 Millions



Source: Secretaría de Minería

Probable exports by 2022 : U\$S 1.046^e Millions

Installed capacity of 129 Kt LCE from 2022

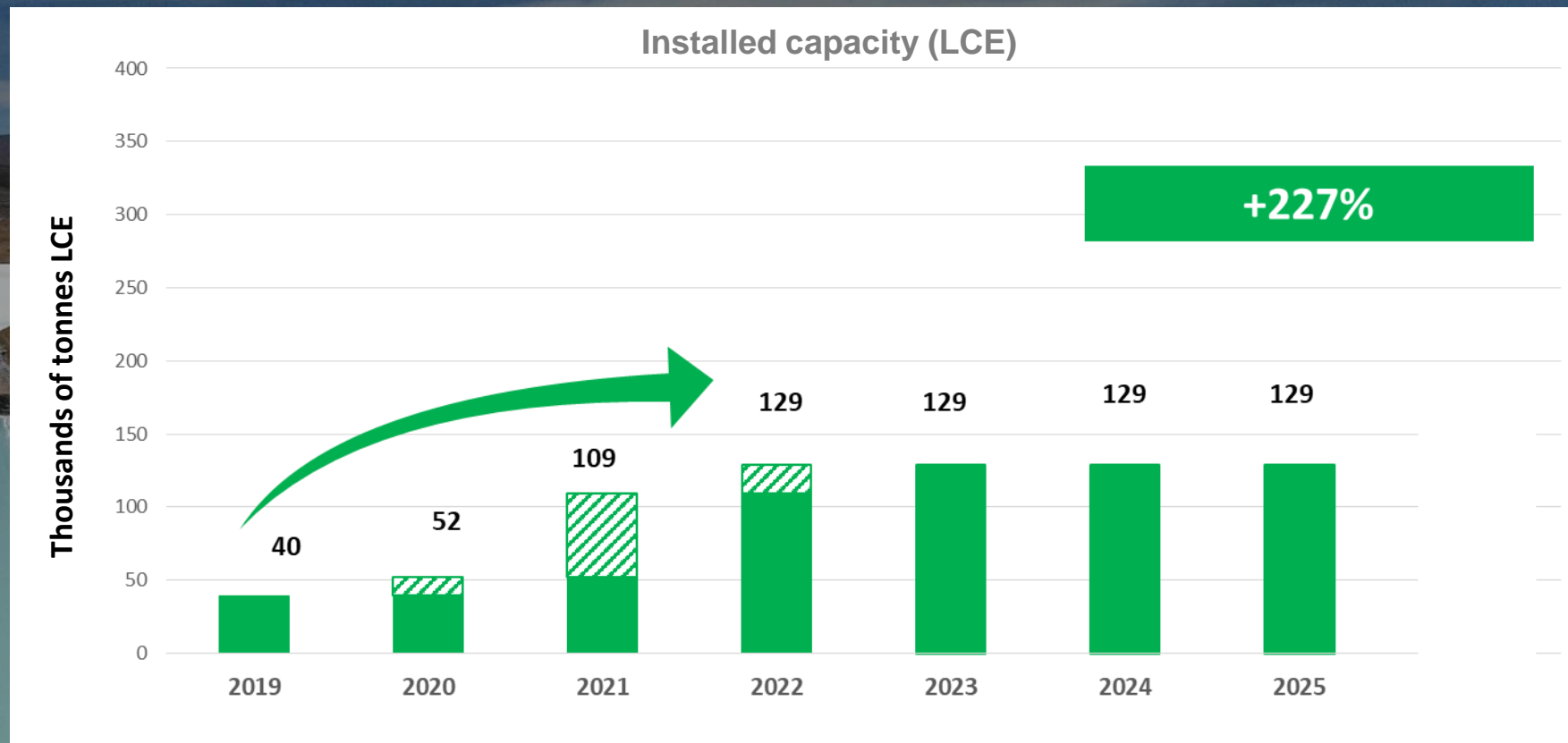
CURRENT DEVELOPMENT SCENARIO

– PROBABLE

Investment: U\$S 1.442 millions

4 OPERATIONS

(CURRENT OPERATIONS WITH THEIR RESPECTIVE EXTENSIONS AND CURRENT CONSTRUCTION OF NEW OPERATIONS)



Source: Own elaboration based on JORC & NI 43-101 reports from the operating companies

Kt LCE : Thousands of tonnes LCE

^e : Valued production at a price of 8,011 U\$S/t LCE

Possible exports by 2024 : U\$S 2.101^e millions

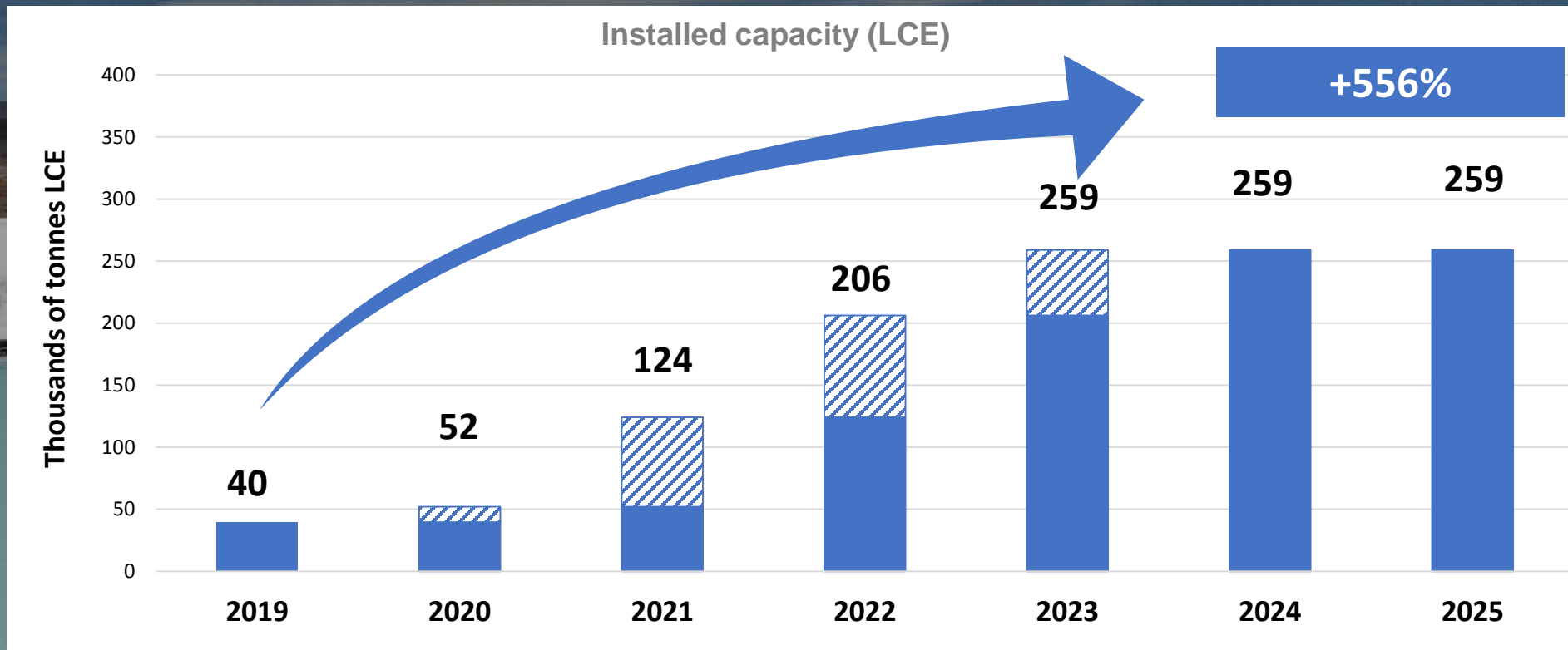
Installed capacity of 259 Kt LCE from 2023

SCENARIO BASED ON ANNOUNCED INVESTMENTS

POSSIBLE

Investment: U\$S 3.690 millions

10 OPERATIONS (4 IN CURRENT EXECUTION + 6 NEW OPERATIONS)



Source: Own elaboration based on JORC & NI 43-101 reports from the operating companies

Kt LCE : Thousands of tonnes LCE

^e : Valued production at a price of 8,011 U\$S/t LCE

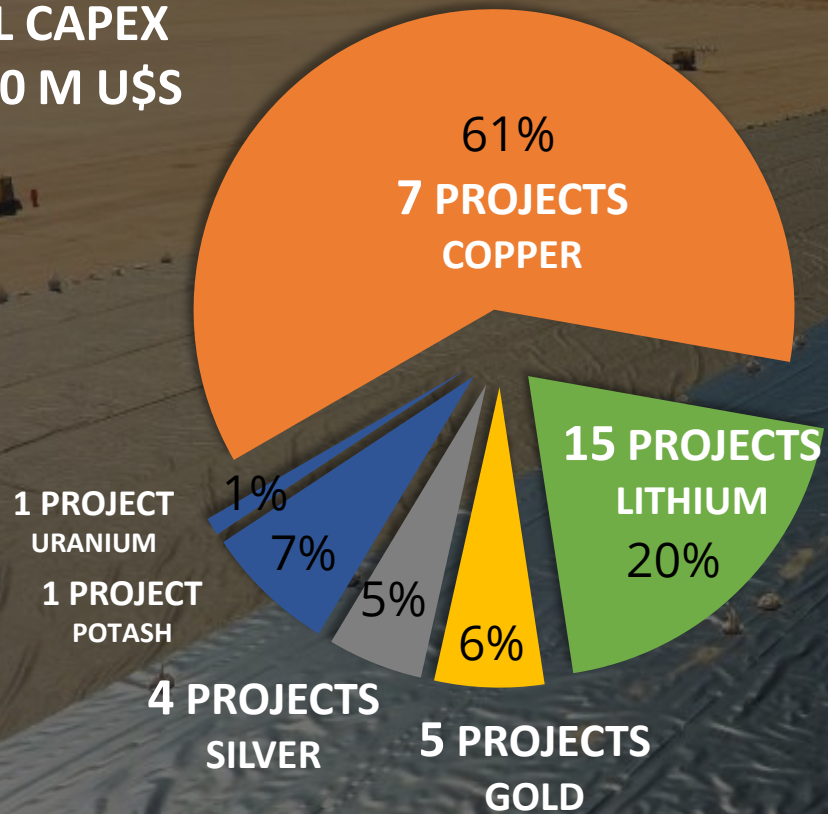
Argentina has the potential to more than three-fold the mineral exports

Our goal is to start-up some of the advanced projects

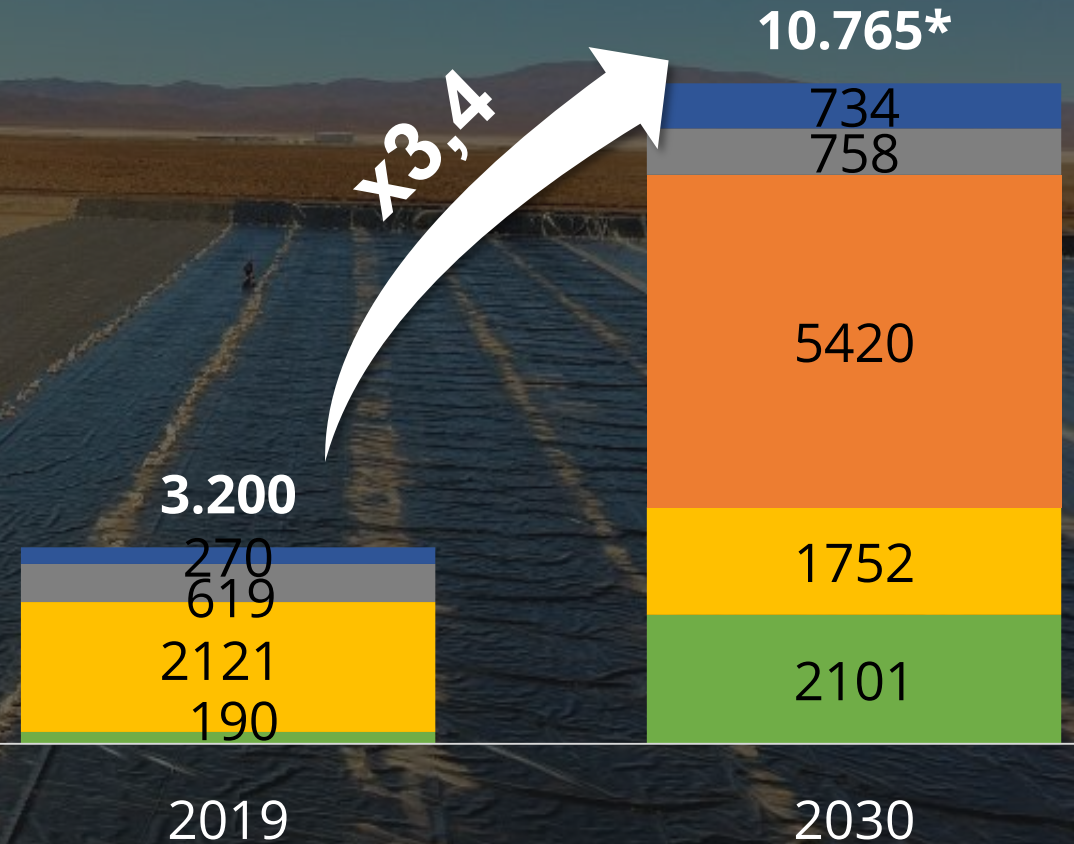
34 MORE ADVANCED PROJECTS

TOTAL CAPEX

27.250 M U\$S



Exports Millions US\$



■ Lithium ■ Gold ■ Copper ■ Silver ■ Others

*Construction of 5 copper, 3 gold, 3 silver, +6 lithium projects

Strengths of the XXI Century Argentina Mining

Peaceful country with a stable democracy and absence of social turmoils

Innovative and entrepreneur environment developed for the provision of mining goods and services

Copper & Lithium World-Class projects to be developed to supply the electromobility boom

Legal framework without restricted minerals, 3% royalties upperbound and willingness for new mining investments

Political decision and policy management to put the geological potential in value

... Thanks