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***Dialogo UE – América Latina sobre materias
primas***

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KEY CHALLENGES TO ENCOURAGE INVESTMENT IN CHILE



**Comisión
Chilena del
Cobre**

Ministerio de Minería

Gobierno de Chile

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Agenda

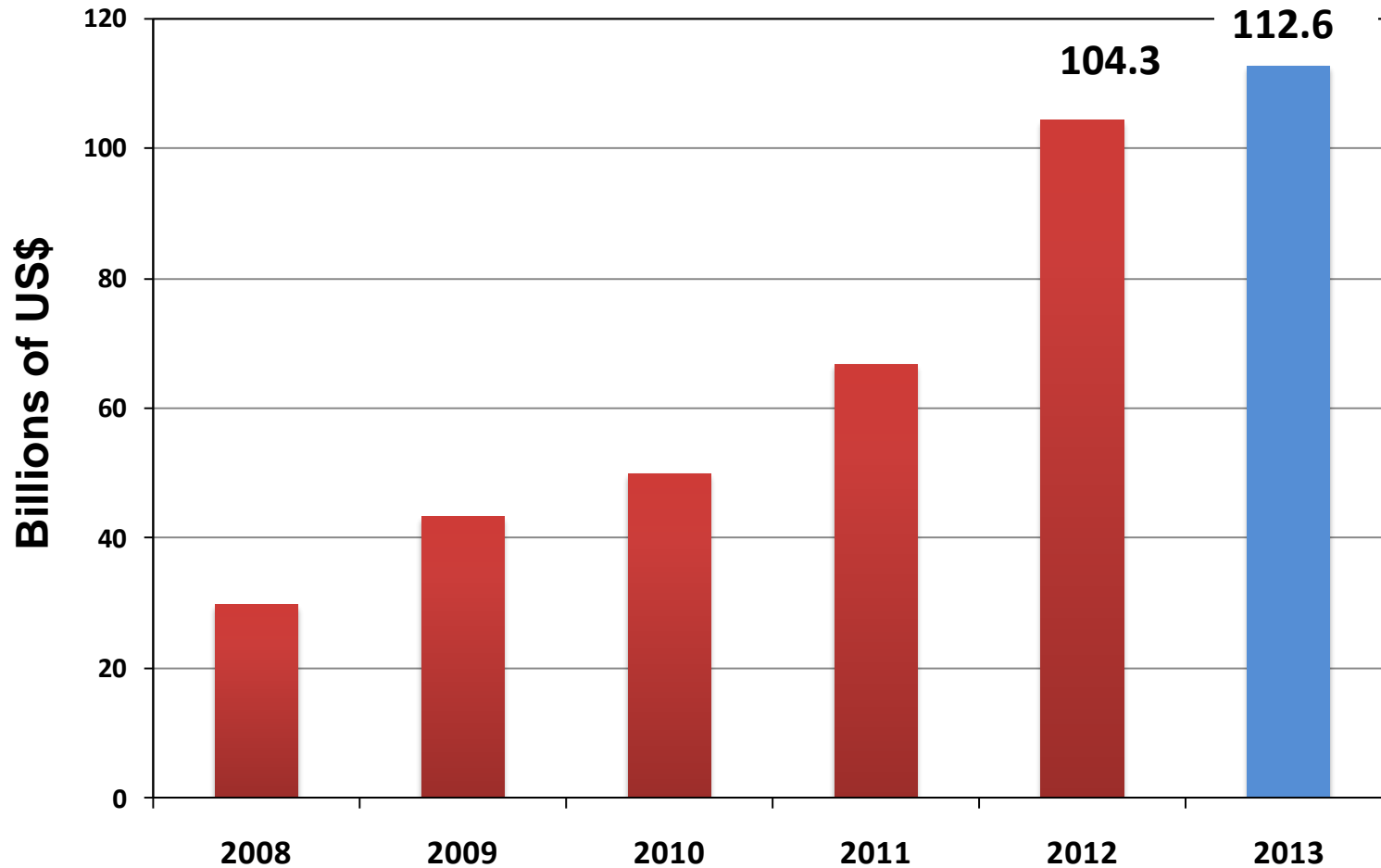


- Investment portfolio and challenges faced by the Chilean mining industry
- Communities
- Energetic challenge
- Water challenge
- Human capital: innovation
- Final comments

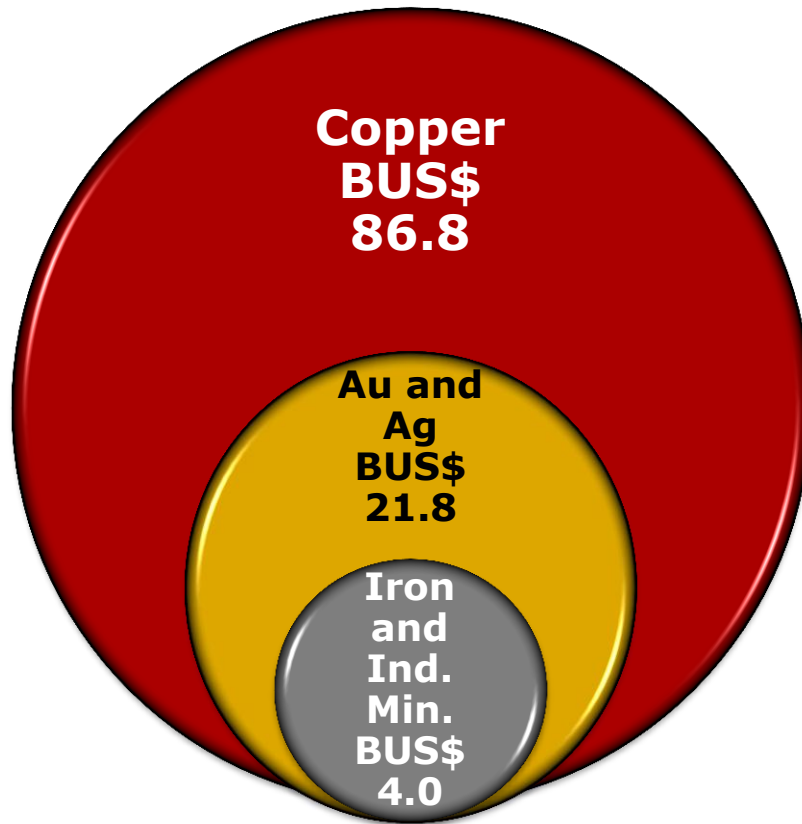
Investment portfolio and challenges faced by the Chilean mining industry



Investment Portfolio



Distribution by mineral

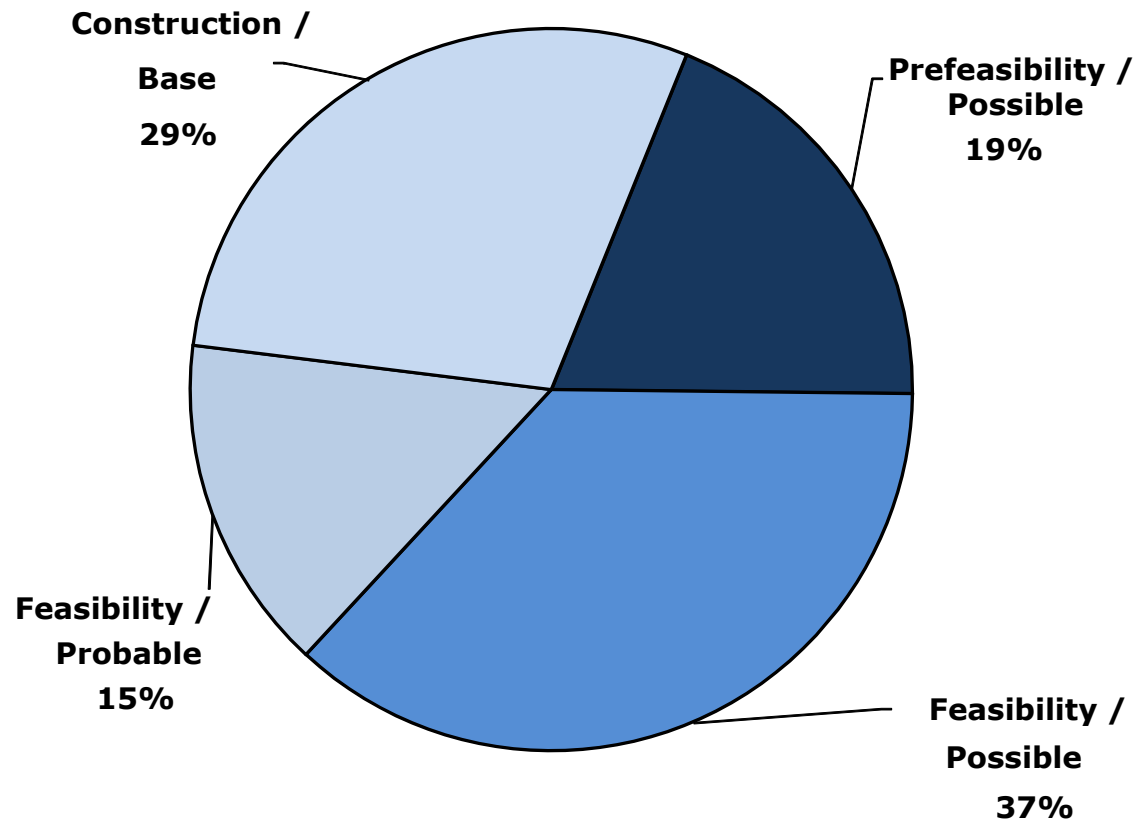


Destination	BUS\$	(%)
Copper Mining	86.8	77
Gold and silver Mining	21.8	19
Iron and industrial minerals mining	4.0	3,6
Total investment in mining	112.6	100



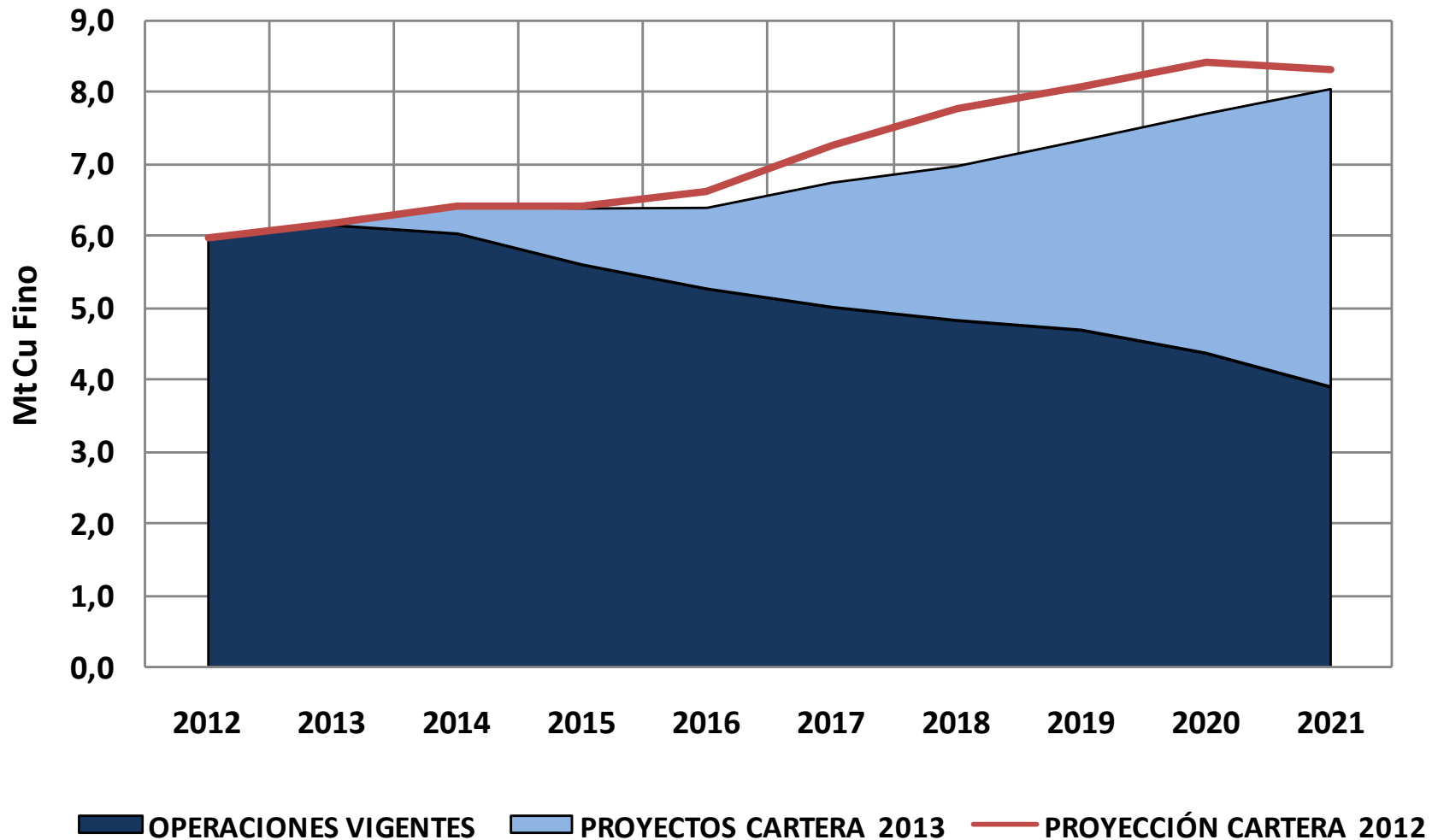
Distribution by certainty

BUS\$ 112.6



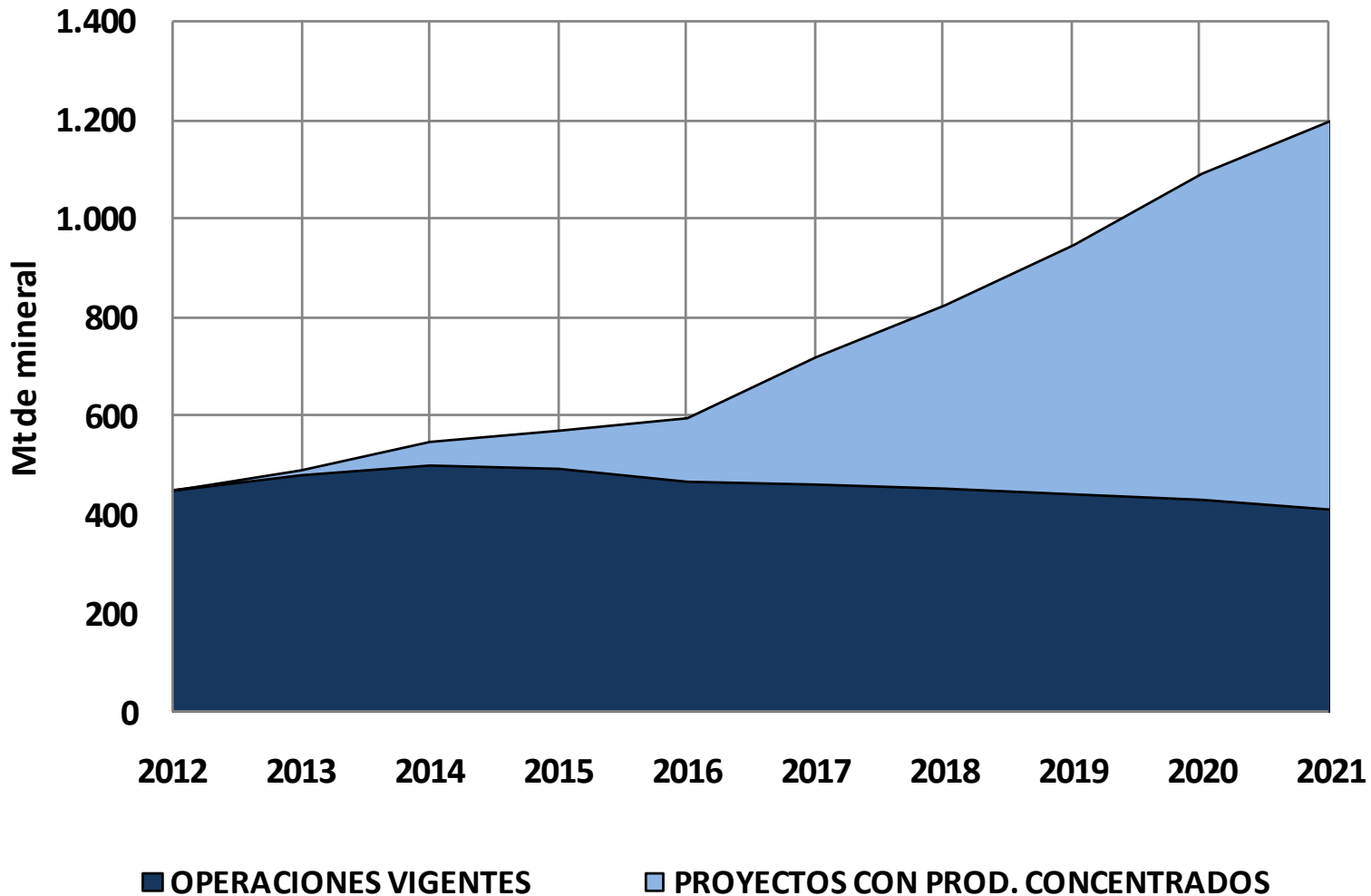
Copper Production

Variations in the maximum production capacity of copper 2012 - 2021



Copper Production

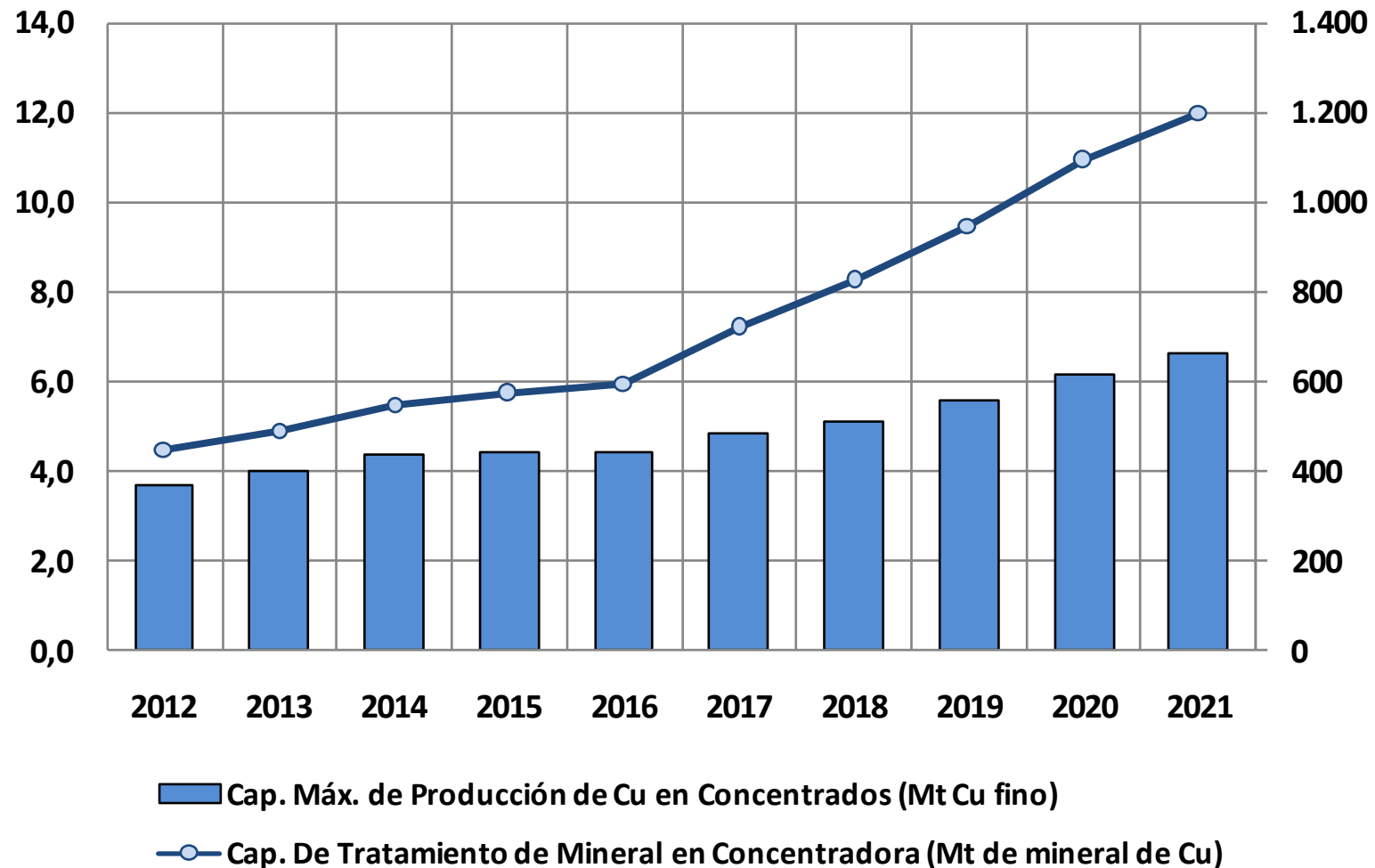
Treatment capacity of ore in concentrator 2012 - 2021



Copper Production



Treatment capacity of ore in concentrator vs Production Capacity of Copper in Concentrate 2012 - 2021







Communities

Challenges: Communities

Chileans are satisfied with their lives, but critical to society - UNDP



Environmental awareness



Challenges: Communities



- ILO Convention 169



Correct institutions to avoid discretionality

Government:

- New rules for sustainability
- Project evaluation and sustainability resolutions
- Strategic evaluation

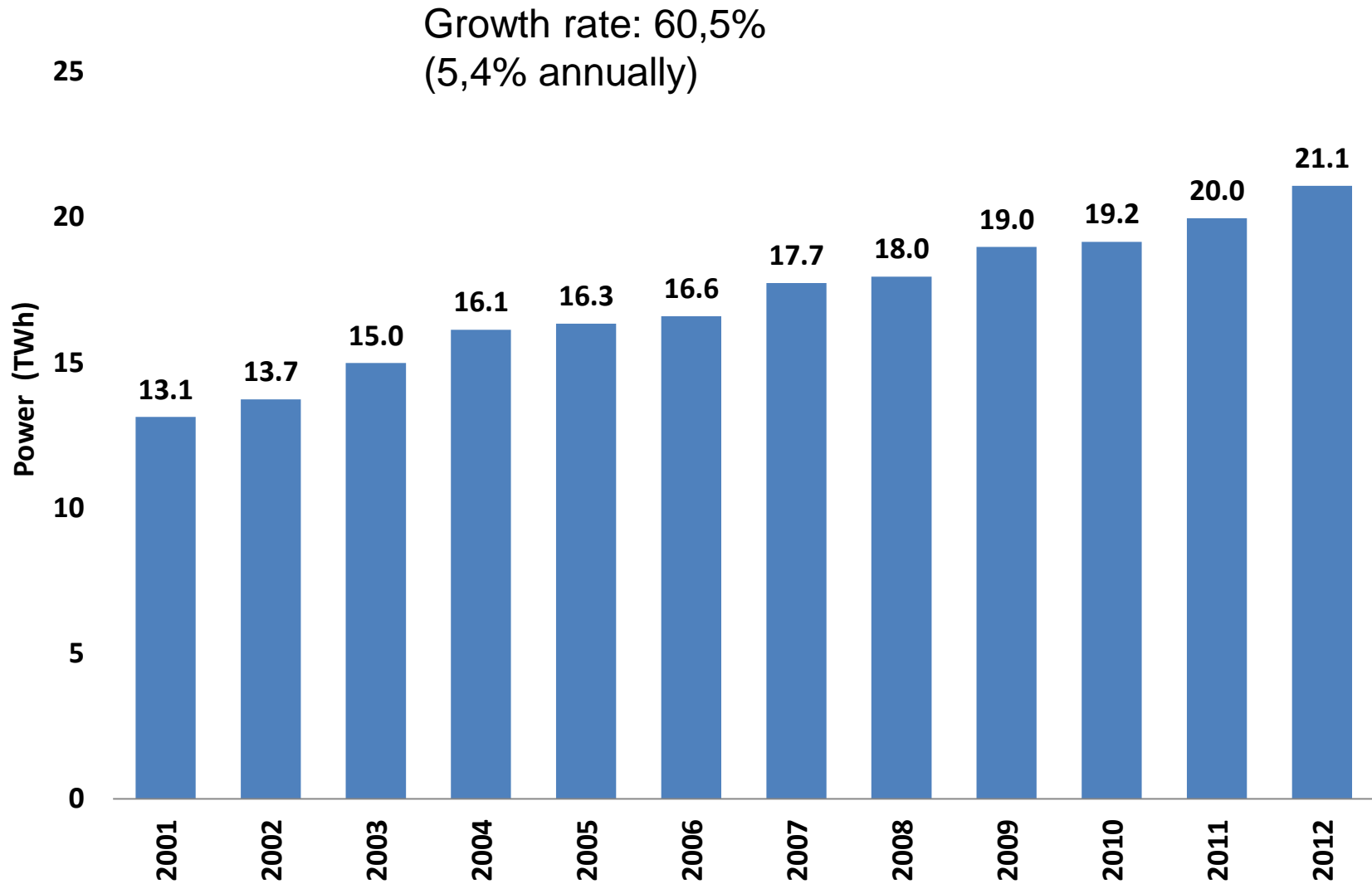


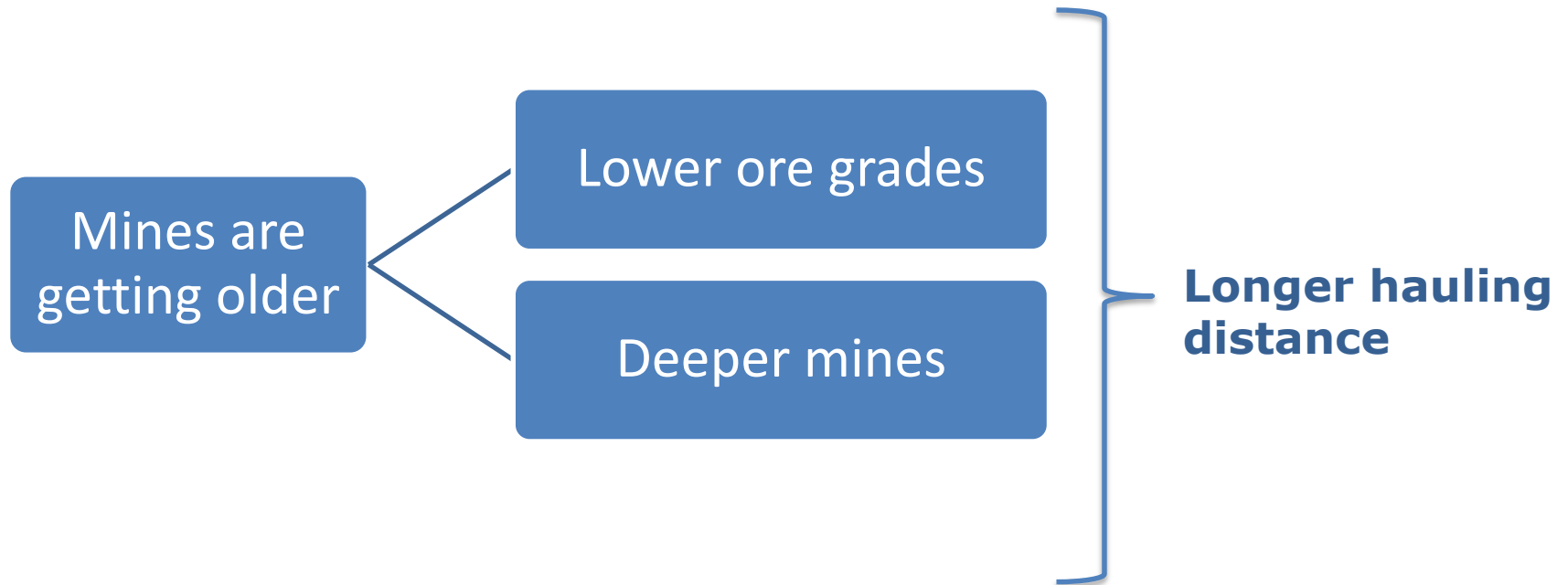


Energetic challenge

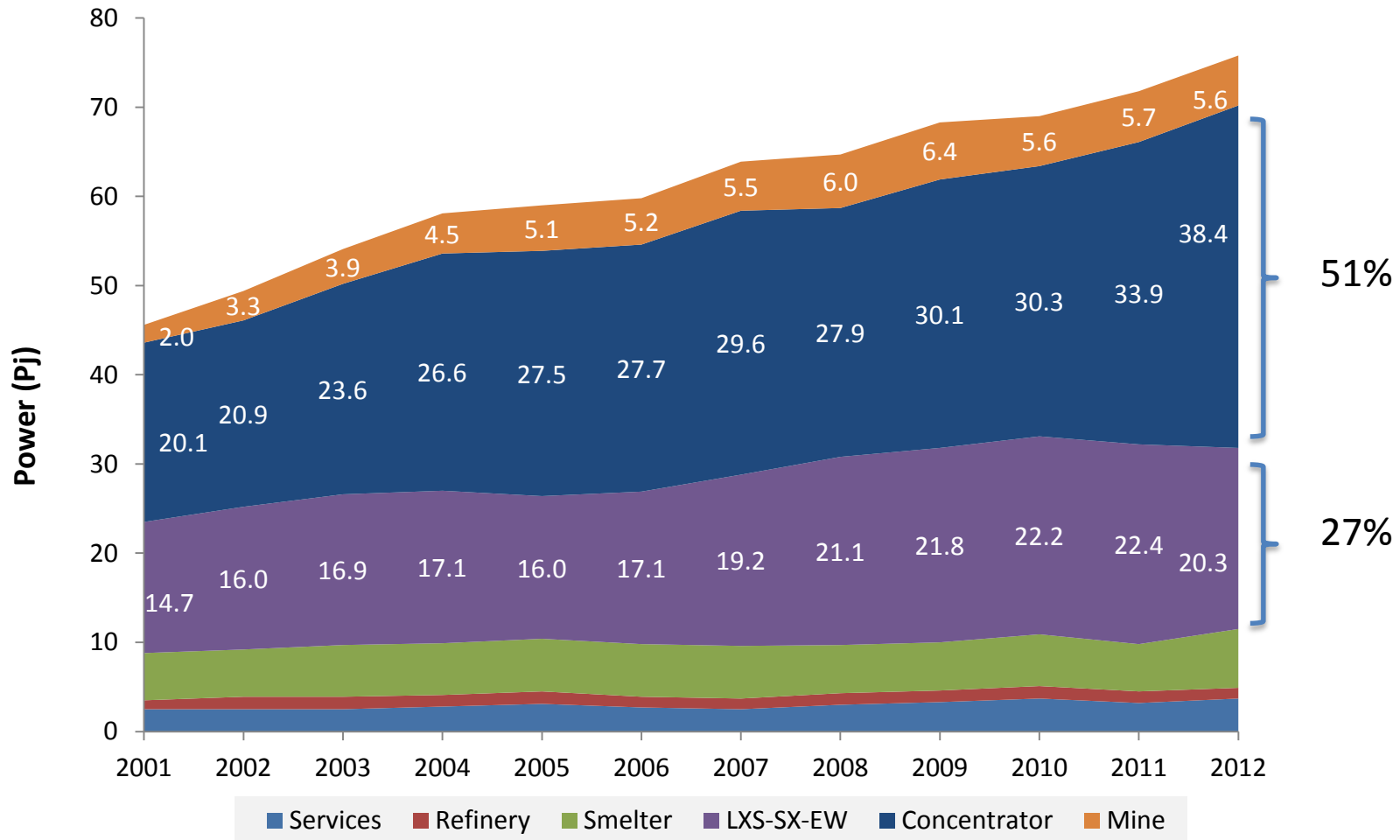


Power Demand in the Mining Sector Period 2001-2012





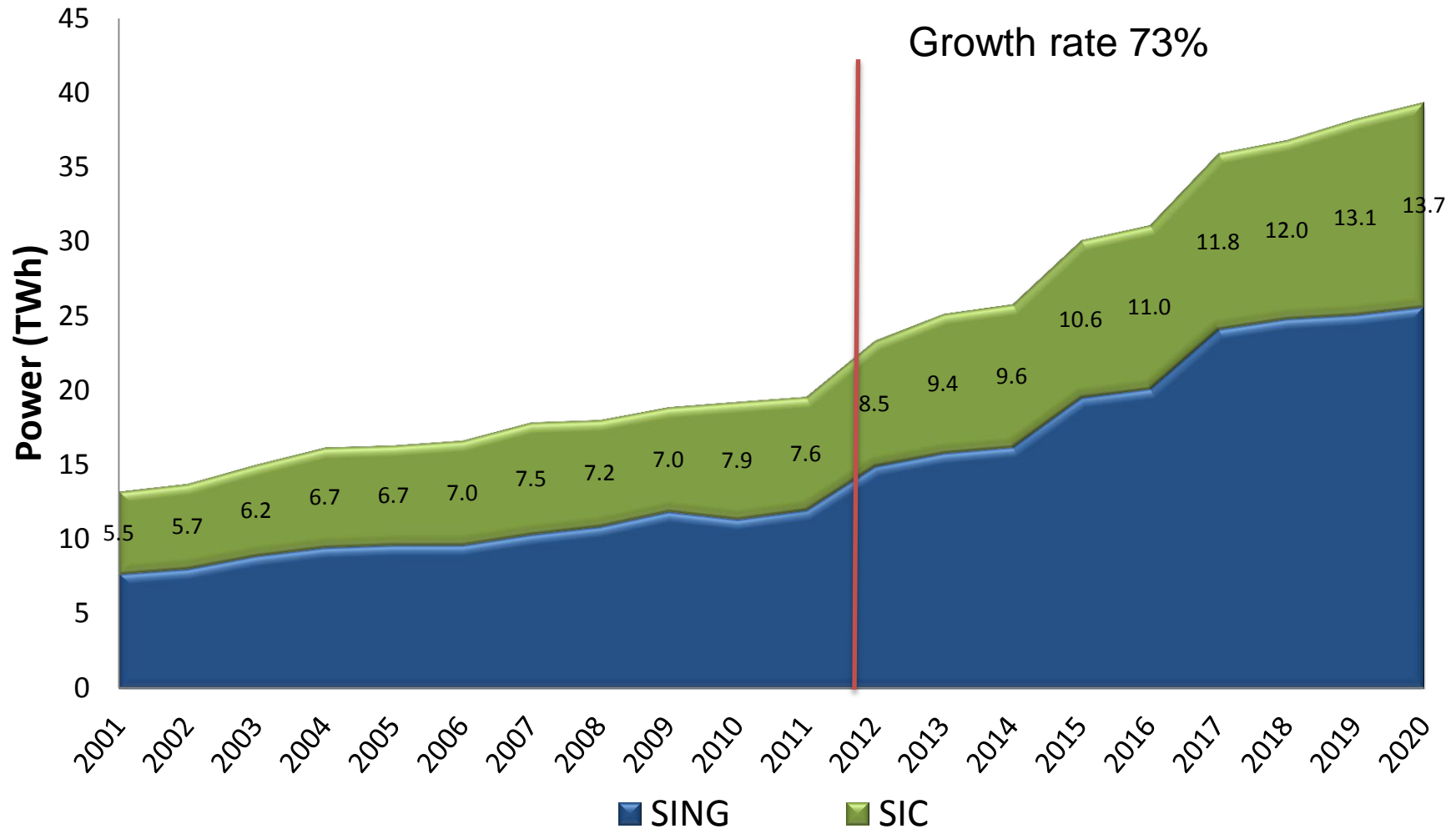
Power Consumption in the mining sector by stage of process:2001-2012



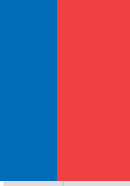
Structural change in the mining sector which requires higher energy consumption



Forecast for expected energy consumption in the mining sector 2012-2020



Public Policy: Power National Strategy 2012-2030, six pillars



1. Growth with energy efficiency: A State policy.
2. Takeoff of unconventional renewable energy: a pending challenge.
3. Role of traditional power: greater preponderance to water resources, less external dependence.
4. New transmission approach: Towards a public electric highway
5. Towards more competitive market.
6. Steady progress in the regional electricity interconnection options.



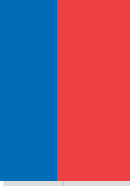


Water challenge



Water consumption in the mining sector

Variation of total water withdrawals 2009-2012



Year	2009	2010	2011	2012
Total Withdrawal (m ³ /sec)	12,3	12,7	12,6	12,4

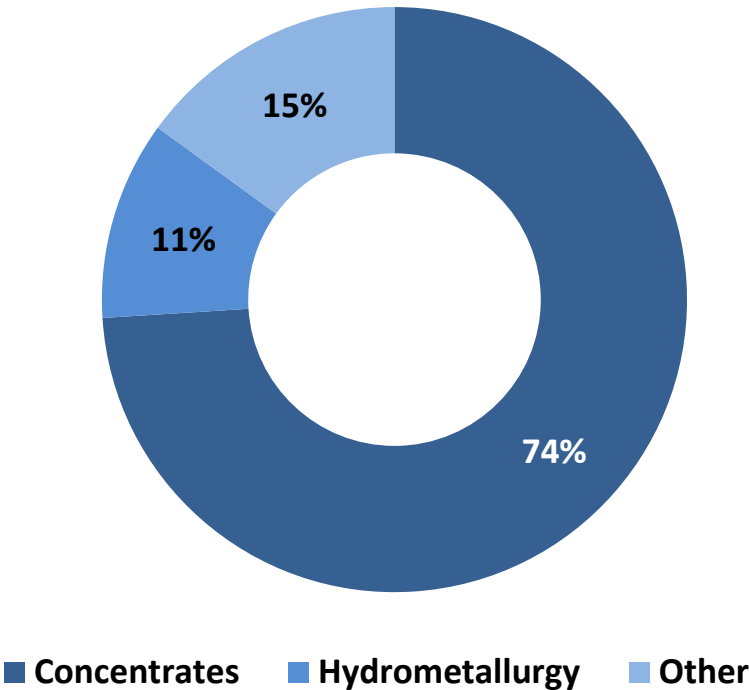


Water Consumption in the copper mining sector

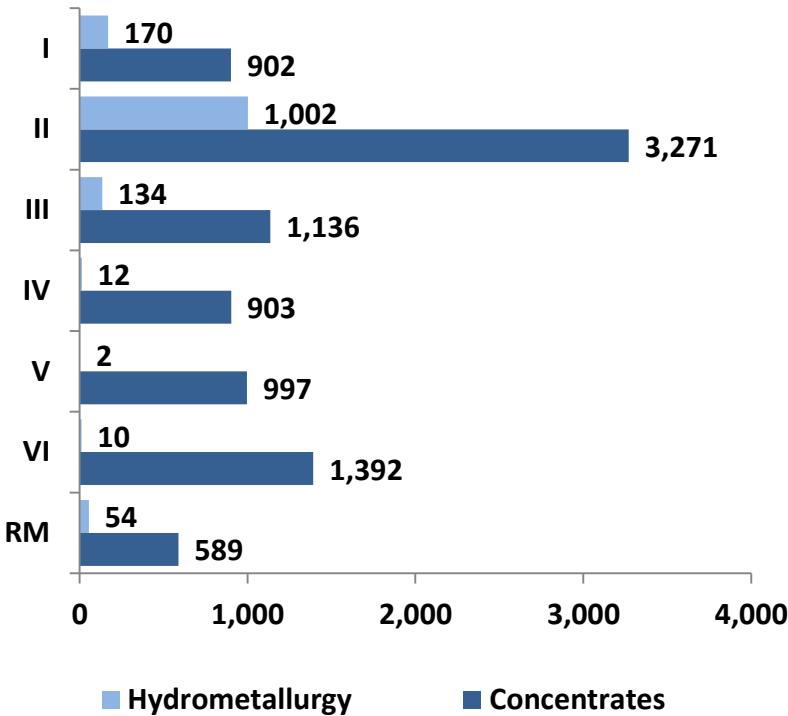
Fresh water extraction by mining process



Distribution of fresh water extraction by process 2012 (%)

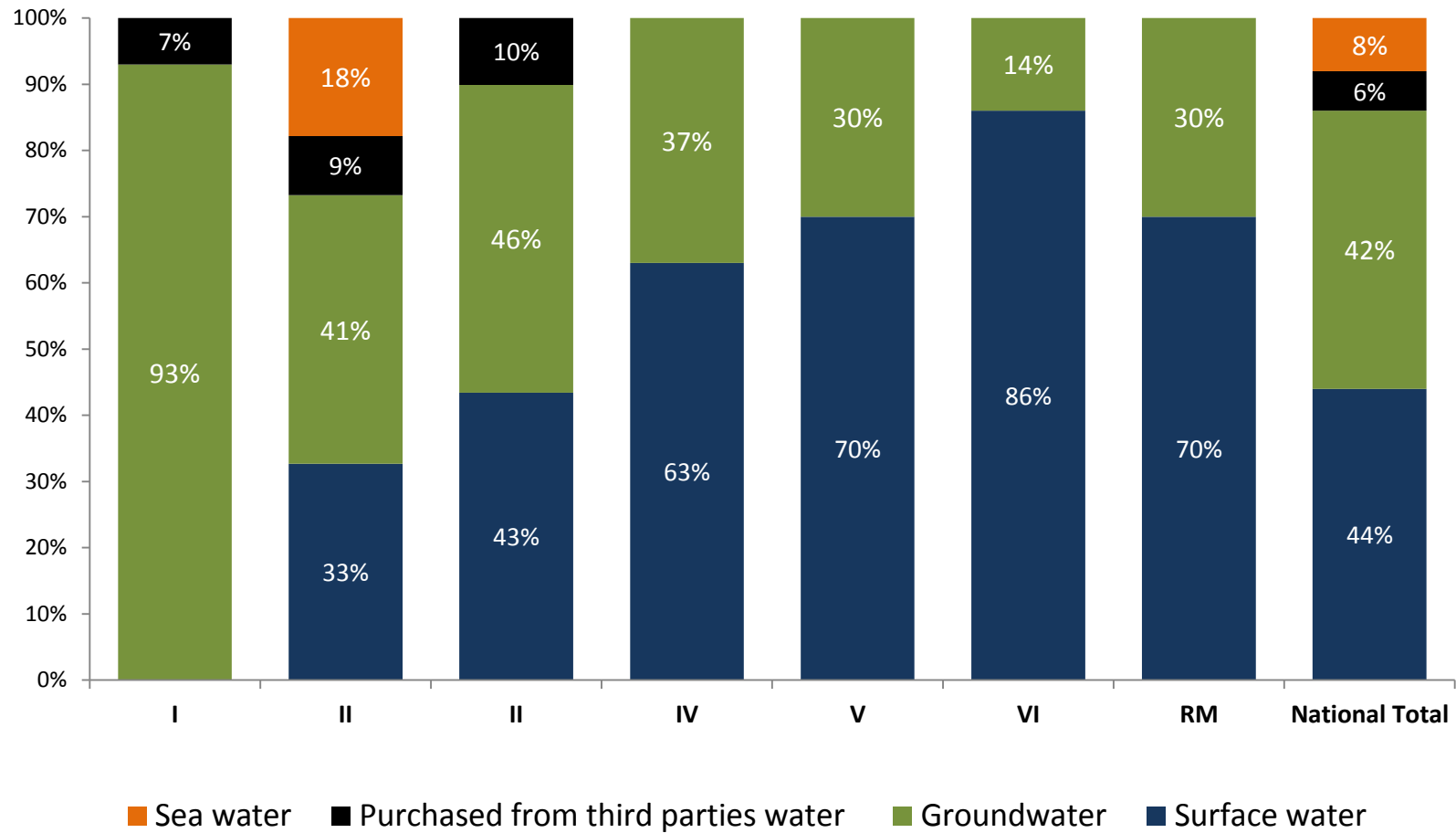


Fresh water consumption by productive process 2012 (lts/seg)



Water consumption in the Mining Sector

Fresh water withdrawals by source of origin



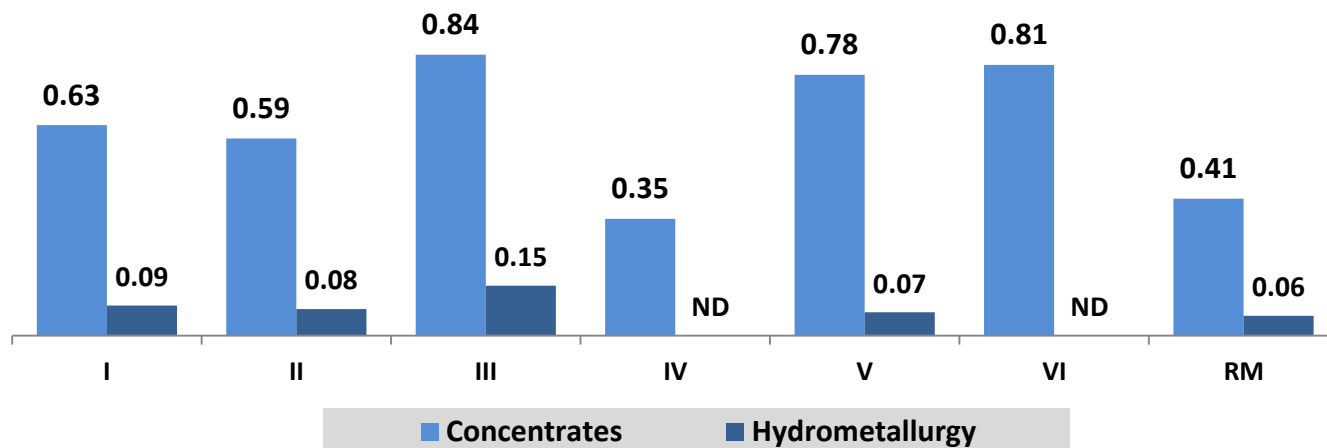
Water consumption in the mining sector

Variations of unit consumptions by processed ton 2009-2012



Process/Year	2009	2010	2011	2012
Concentrator (m ³ /ton of ore processed)	0,67	0,69	0,65	0,61
Hidrometallurgy (m ³ /ton of ore processed)	0,12	0,12	0,12	0,10

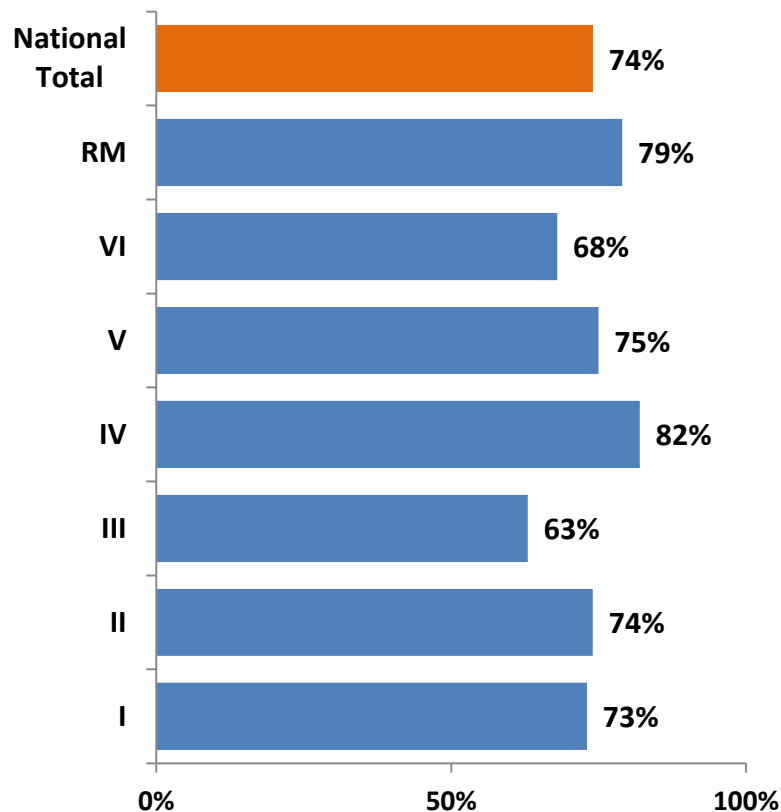
(Fresh water consumption by ton of ore processed 2012
(m³/ton_min)



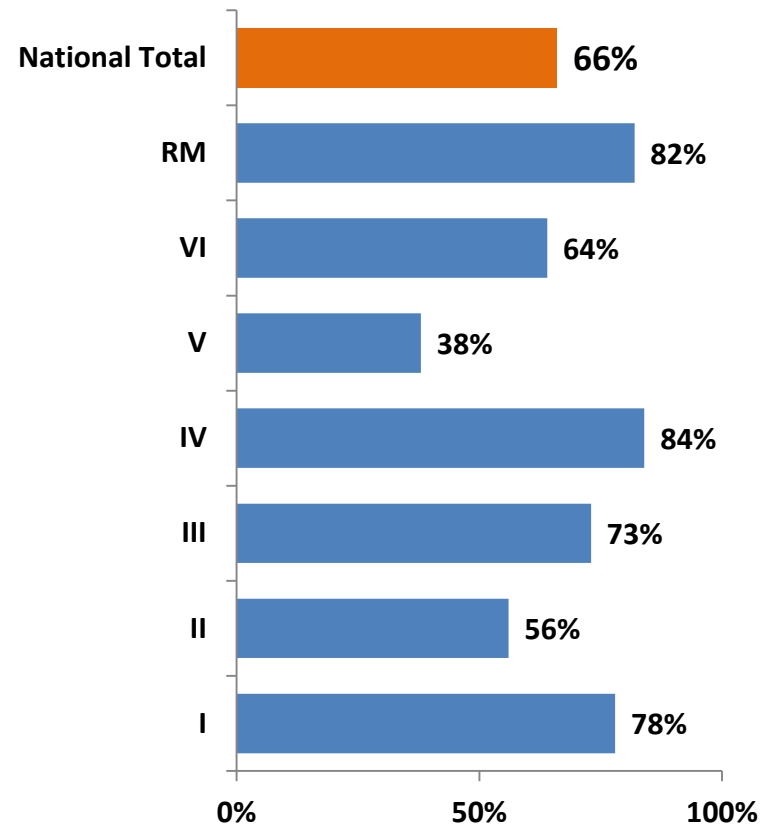
Water consumption in the copper mining sector



Recirculation rate in the mining site 2012 (%)



Recirculation rate in concentrators 2012 (%)

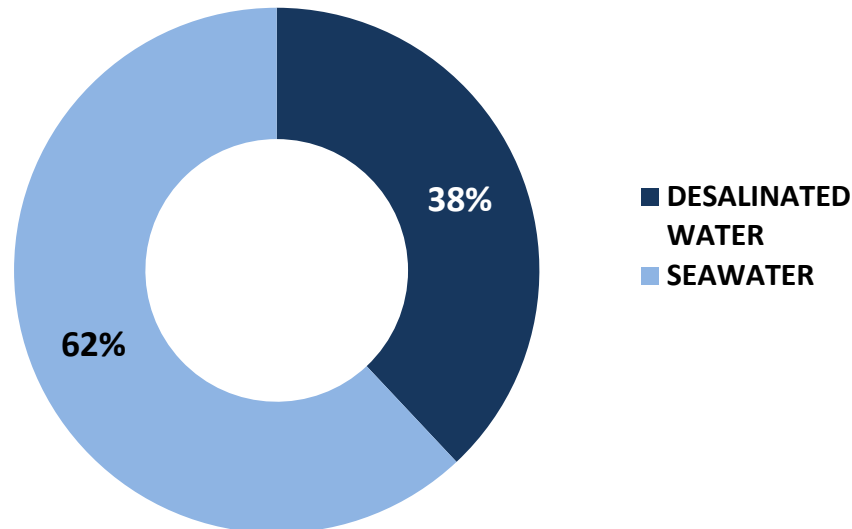


Use of sea water in the copper mining sector



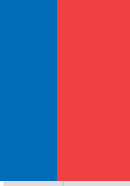
	2011 <i>Seawater total consumption (lts/sec)</i>	2012 <i>Seawater total consumption (lts/sec)</i>
DESALINATED SEAWATER	223	369
SALTED SEAWATER	490	609
TOTAL SEAWATER	713	978

Percentage distribution of seawater in the copper mining sector 2012(%)



Water consumption in copper mining

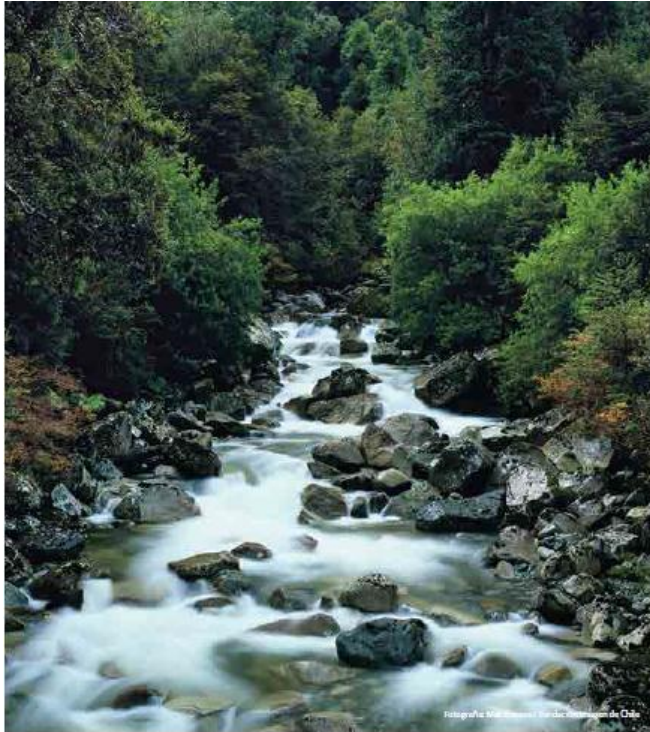
What is the mining sector doing?



- ☐ Reduce fresh water withdrawals regarding total water use. New technologies in consumer savings, greater reuse, seeking new sources of supply (seawater).
- ☐ Managing for sustainability. Maintain constant monitoring and measurement of water flows by processes.
- ☐ Systematize and complete the information to strengthen the balance sheets of water consumption.
- ☐ Develop studies and reports that contribute to the design, implementation and monitoring of public policies aimed at sustainable development of mining.
- ☐ Support and encourage the development of new sources of water to supply mining.
- ☐ Hydric resource national strategy 2012 - 2025



Hydric resource national strategy 2012-2025



- ☐ Sustainable and efficient management
- ☐ Better Institutionalility
- ☐ Face scarcity
- ☐ Social Equity
- ☐ Informed citizenship





Human capital: innovation



Suppliers Characterization

General background



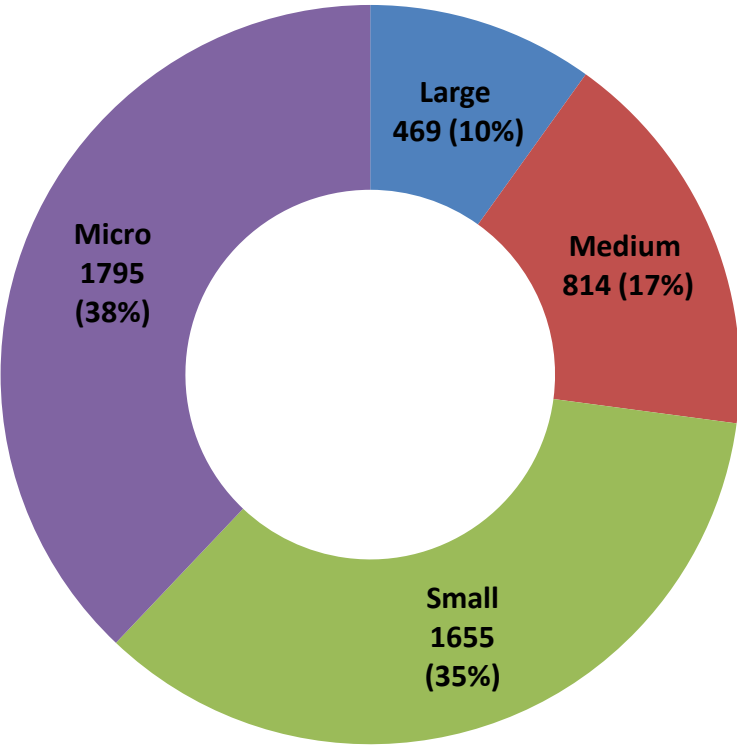
- ☐ Chile's mining suppliers are around 5,000
- ☐ Most of them are Chilean supplier companies.
- ☐ Sales are concentrated in large suppliers.
- ☐ Most of them provide services.



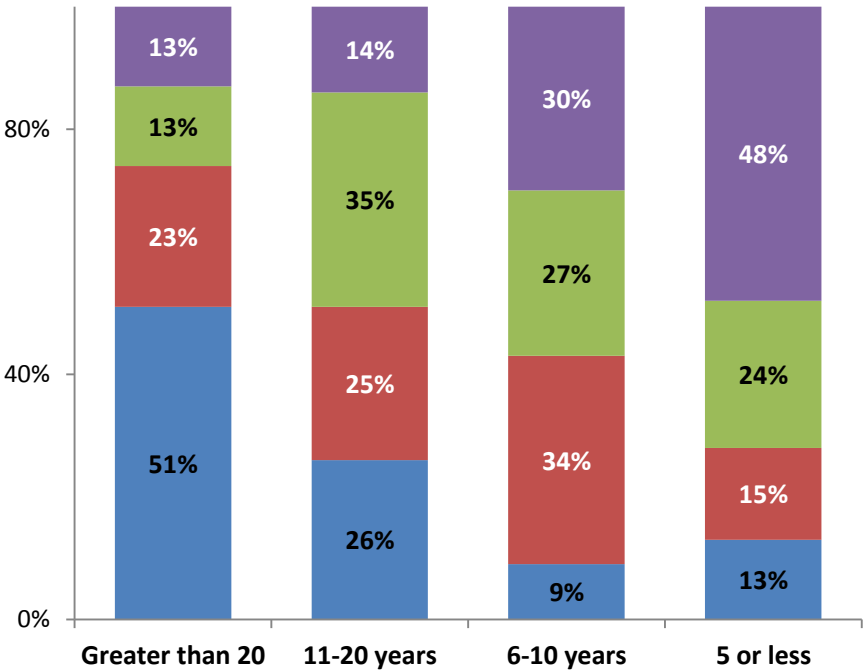
Mining sector suppliers

Characterization

NUMBER OF SUPPLIERS BY SIZE

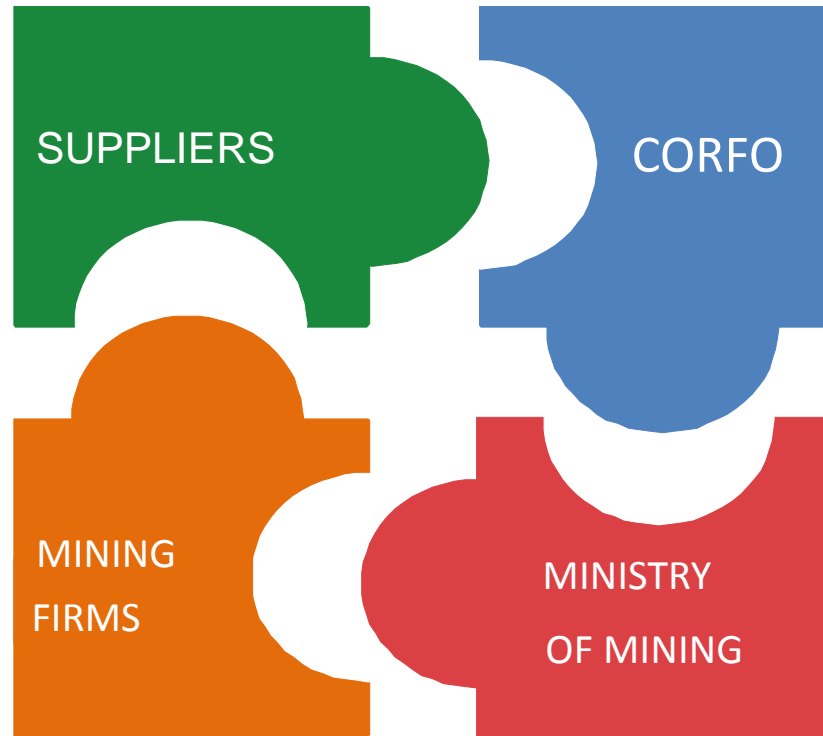


SUPPLIERS BY AGE OF FIRMS



Micro Small Medium Large

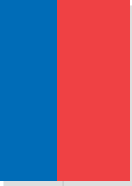
World class suppliers program





Final comments





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