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# ASIA PACIFIC ECONOMIC PROFILES

2024

ASIA PACIFIC  
AND CRITICAL MINERALS  
FOR THE ENERGY TRANSITION

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# EXECUTIVE OVERVIEW

This edition of Asia Pacific Profiles examines the central role of critical minerals in the transition to low-carbon economies, a process driven by the challenges of climate change and the need to mitigate greenhouse gas (GHG) emissions. This phenomenon not only redefines global economic and trade dynamics, but also positions critical minerals as strategic elements in the energy transition.

Critical minerals, essential for technologies such as batteries, electric vehicles and renewable energies, are fundamental for moving towards a sustainable energy model. The growing demand for these resources is closely linked to economic and geopolitical security, promoting supply diversification strategies and international agreements. The electromobility market, renewable energy generation and energy storage solutions have significantly boosted demand for minerals such as lithium, nickel, cobalt and rare earths. According to estimates, the energy transition will require an exponential increase in demand for these inputs, with lithium projected to grow by nearly 90% by 2040.

Major global economies such as China, the United States and the European Union have implemented policies to ensure access and sustainability of these inputs, including tax incentives, trade agreements and environmental regulations.

The high geographic concentration of critical minerals in regions such as Latin America, Africa and Asia creates tensions and strategic alliances in international trade. For example, China has consolidated its leadership in the refining and manufacturing of these resources, while the United States and the European Union seek to reduce their dependence through policies of strategic autonomy.

The Asia-Pacific region, led by China and the Republic of Korea, plays a key role in the global supply chain for critical minerals and clean technologies. In 2023, China accounted for 38% global investment in energy transition, highlighting its dominance in battery and electric vehicle manufacturing. However, Southeast Asian countries face challenges related to their growing energy demand and the need to accelerate the implementation of renewable energy.

To understand how the major economies of Asia Pacific are addressing these challenges, this report analyzes the trade and management policies for critical minerals at different stages of production that have been adopted by key countries, highlighting their strategies to maximize economic value, secure supply and promote sustainability in a context of global energy transition. Case studies are presented from Indonesia, Australia, the United States, the Republic of Korea and China.

Indonesia has reoriented its mining policy towards local capacity building through restrictions on nickel and bauxite exports, attracting significant investment in local processing. This model has led to advances in infrastructure and

job creation, but faces challenges such as socio-environmental conflicts and trade tensions with partners such as the European Union.

Australia is positioned as a leader in the production critical minerals, with strategies aimed at sustainable development, strengthening value chains and international alliances. The National Critical Minerals Strategy 2023-2030 and the National Battery stand out as pillars for diversifying markets, promoting recycling and fostering sustainability in the industry.

China dominates the global processing of critical minerals, ensuring its leadership in strategic sectors such as batteries and electric vehicles. Its strategy combines internal control, international investment and infrastructure development, consolidating its influence in key regions such as Africa and Indonesia.

The import-dependent Republic of Korea has implemented a national strategy that prioritizes supplier diversification, recycling and international cooperation. Agreements with Australia and Canada strengthen its capacity to address supply chain vulnerabilities.

The United States seeks to reduce its dependence on other foreign actors through policies such as the Inflation Reduction Act and the Defense Production Act. These initiatives encourage local manufacturing, job creation and the development of resilient supply chains. In addition, it leads the Minerals Security Alliance to promote sustainability and governance standards in the industry.

Thus, the report highlights the importance of comprehensive and collaborative policies to ensure a sustainable, diversified and ethical supply of critical minerals, which are essential for the global energy transition and can represent an important opportunity for a critical mineral producing country such as Chile.

In summary, critical minerals are essential pillars for energy transition and global economic development. Their management requires a balance between sustainability, security of supply and international cooperation, aspects that will define the success of the energy transition in the coming decades.

# CONTENTS

I.	TRENDS IN THE WORLD ECONOMY AND TRADE: The Contribution of Minerals Critical to the Energy Transition .....	6
	i. Introduction.....	6
	ii. Critical minerals for the energy transition .....	8
	iii. Geographical distribution and main suppliers .....	9
	iv. Critical minerals and energy transition.....	11
	v. Energy sources and intensity of use of critical minerals .....	12
	vi. Asia Pacific's role in the energy transition.....	15
II.	CASE STUDIES .....	18
	i. Trade Policy and Critical Minerals Management: Indonesia and Australia .....	18
	a. Indonesia .....	18
	b. Australia .....	22
	ii. Trade policy related to processing and scaling up in the value chaincritical minerals : China and Australia .....	25
	a. China .....	25
	b. Australia .....	29
	iii. Trade policy and international relations for securing the supply of critical minerals: United States, Republic of Korea and China .....	33
	a. United States.....	34
	b. Republic of Korea .....	43
	c. China .....	45
III.	CONCLUSIONS .....	47
	MACROECONOMIC PROFILES OF SELECTED ASIA-PACIFIC COUNTRIES .....	49
	Australia.....	50
	China.....	53
	Republic of Korea .....	56
	United States.....	60
	Philippines .....	63
	India .....	66
	Indonesia .....	69

Japan.....	73
Malaysia.....	76
New Zealand.....	79
Singapore.....	82
Thailand.....	85
Vietnam.....	88

# I. ECONOMIC AND TRADE TRENDS

## WORLD: The contribution of critical minerals to the energy transition

### i. Introduction

Climate change, driven by the accumulation of greenhouse gases (GHG) in the atmosphere, has generated significant impacts in various regions of the world, such as rising temperatures, intensified droughts, extreme precipitation and rising sea levels. In the face of these challenges, the transition to sustainable, low-carbon economies has become a global priority.

Since the Industrial Revolution<sup>1</sup>, global emissions of carbon dioxide (CO<sub>2</sub>), the main GHG, have been steadily increasing. In 2022, China accounted for 30% of global CO<sub>2</sub> emissions, followed by North America (18%), the European Union (8%) and Latin America and the Caribbean (5%). By sector, transportation is positioned as the main emitter, accounting for approximately 23% of emissions due to the intensive use of fossil fuels<sup>2</sup>.

Against this backdrop, governments, international organizations, civil society, the private sector and academia have intensified efforts to mitigate the effects of climate change. The 2030 Agenda for Sustainable Development<sup>3</sup> calls for action in key areas such as poverty reduction, education, gender equality and environmental protection.

In this context, critical minerals have emerged as an essential strategic resource for the energy transition, playing a key role in the development of technologies such as batteries, electric vehicles and renewable energies. The growing demand for these resources is redefining the dynamics of international trade and geopolitics, with profound implications for global value chains and international relations.

From a trade policy and international relations perspective, access to and control of critical minerals is closely linked to the economic and strategic security of countries. Major economic powers, such as the United States, China and the European Union, have designed strategies to diversify their sources of supply and reduce dependence on specific actors. These policies include trade agreements, investment incentives, environmental regulations, and mechanisms for assessing

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<sup>1</sup> (IPCC, 2023), [https://www.ipcc.ch/report/ar6/syr/downloads/report/IPCC\\_AR6\\_SYR\\_FullVolume.pdf](https://www.ipcc.ch/report/ar6/syr/downloads/report/IPCC_AR6_SYR_FullVolume.pdf)

<sup>2</sup> For a review of the 2022 CO<sub>2</sub> emissions baseline see International Monetary Fund (IMF) at <https://climatedata.imf.org/pages/greenhouse-gas-emissions>.

<sup>3</sup> <https://www.un.org/sustainabledevelopment/es/2015/09/la-asamblea-general-adopta-la-agenda-2030-para-el-desarrollo-sostenible/>

foreign investments, all aimed at strengthening its position in the global market for critical minerals.

The World Bank<sup>4</sup> estimates that, in order to meet the climate targets of the Paris Agreement, more than 3 billion tons of minerals and metals will be required to implement clean technologies to limit global temperature rise to below 2°C by 2050. This scenario highlights the strategic importance of critical minerals not only as essential inputs for the energy transition, but also as key elements in the competition for global economic and technological leadership.

Within the framework of international relations, critical minerals have acquired an unprecedented geopolitical dimension. Their high geographic concentration in regions such as Latin America, Africa and Asia, combined with growing global demand, has generated new tensions and alliances between countries. Competition for access to these resources has intensified rivalry between powers, particularly between the United States and China, while blocs such as the European Union have adopted a "strategic autonomy" approach to ensure their security of supply.

China, for example, has consolidated its position as a world leader in the refining and manufacturing of critical minerals, applying strategies ranging from the acquisition of mining assets in Latin America to the establishment of integrated value chains. On the other hand, the United States has implemented policies such as the *Inflation Reduction Act*, which links tax incentives to domestic production and collaboration with trading partners. In parallel, the European Union has enacted the *Critical Raw Materials Act*, setting clear targets for recycling and domestic production of critical minerals.

Competition for these resources has also spurred multilateral initiatives such as the U.S.-led *Minerals Security Partnership*, which seeks to ensure diversified and resilient supply chains. However, this increased competition poses significant challenges, such as the need to balance national interests with fair and sustainable trade, as well as to address environmental and social concerns associated with the mining of critical minerals.

In short, critical minerals represent a key element in the complex web of the energy transition and the global economy. Their management involves not only technical and economic decisions, but also trade policy and international diplomacy strategies that determine the balance of power in an increasingly interdependent world. In this context, the decisions made by countries regarding access, production and use of these minerals will be fundamental in defining the course of the energy transition and the sustainability of global trade in the coming decades.

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<sup>4</sup> World Bank (2020) - Minerals for Climate Action: The Mineral Intensity of the Clean Energy Transition, at <https://pubdocs.worldbank.org/en/961711588875536384/minerals-for-climate-action-the-mineral-intensity-of-the-clean-energy-transition.pdf>.

## ii. Critical minerals for the energy transition

Critical minerals play a strategic role in the transition to a sustainable, low-carbon energy model. These resources are fundamental for the development of clean technologies, renewable energy generation, electrification of transportation and efficient energy storage. Consequently, their availability and management are crucial for moving towards a future with lower greenhouse gas emissions and greater energy efficiency.

The concept of "criticality"<sup>5</sup> of a mineral varies according to the strategic priorities of each country, influenced by factors such as the endowment of natural resources, its relevance for industrial development and its role in global supply chains. Criticality is generally assessed from two main perspectives<sup>6</sup>:

- a) Security and control of supply: This approach considers the economic importance of a mineral, together with its scarcity and dependence on imports. A high concentration of production in a few countries, political risks or governance problems increase the vulnerability of supply chains. This perspective is commonly adopted in European countries, the United States and Japan, where security of supply is a strategic priority.
- b) Value capture: From this perspective, criticality is related to the abundance resources and a country's strategic interest in using its dominant position to gain competitive advantages in the global supply chain. This approach is characteristic of countries such as Canada, Australia and China, where priority is given to the development of industrial and technological capabilities linked to critical minerals.

Countries regularly update their lists of critical minerals based on emerging needs. For example, the United States Geological Survey (USGS) currently identifies 50 critical minerals<sup>7</sup>, including aluminum, cobalt, copper, lithium, nickel, magnesium and rare earths such as dysprosium, praseodymium and terbium. The European Union<sup>8</sup> includes 34 minerals in its list, which is reviewed every two years, Japan identifies 28 critical minerals, of which 16 are rare earths.

The use of these minerals is diverse, spanning clean energy technologies and traditional industrial applications. For example, while iron and steel are essential in multiple sectors, minerals such as lithium, cobalt, and rare earths are key to

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<sup>5</sup> For a discussion of this concept, see the report prepared by the Intergovernmental Forum on Mining, Minerals, Metals and Sustainable Development at <https://www.iisd.org/system/files/2024-09/igf-what-makes-minerals-metals-critical-en.pdf>.

<sup>6</sup> <https://www.iisd.org/system/files/2023-09/critical-minerals-primer-es.pdf>

<sup>7</sup> For a review detail of the minerals from United States United States, véase <https://www.govinfo.gov/app/details/FR-2022-02-24/2022-04027#:~:text=The%202022%20final%20list%20of%20critical%20minerals%2C%20which%20revises%20the,%2C%20gallium%2C%20germanium%2C%20graphite%2C>

<sup>8</sup> Details of EU critical minerals at <https://www.consilium.europa.eu/es/infographics/critical-raw-materials/>.

technologies such as wind turbines, solar panels, electric vehicles and battery storage.

In summary, critical minerals are fundamental pillars for sustainable development, global decarbonization and the economic competitiveness of countries in the energy transition value chains.

### iii. Geographical distribution and main suppliers

The current and projected supply of critical minerals essential for the energy transition comes largely from countries located in Latin America, Africa and Asia. These regions play a strategic role in the global supply of resources indispensable for implementing clean technologies and will be key to the success of the energy transition<sup>9</sup>.

Graph N°1 shows some examples of country cases in these regions.

**Graph N°1**  
**Geographical distribution of the main suppliers of selected critical minerals**



Source: Directorate of Studies, SUBREI, taken from the Study "Critical Minerals for Energy Transition", Conflicts and alternatives towards a socio-ecological transformation, December 2022.

<sup>9</sup> For a very good illustration see study "Critical Minerals for the Energy Transition", Conflicts and Alternatives to the Energy Transition to a socioecological transformation, December 2022, at <https://mx.boell.org/sites/default/files/2022-12/minerales-criticos-e-book-ok.pdf>

## Graph N°2 Critical minerals in the Pacific Basin<sup>10</sup>



Source: Directorate of Studies, SUBREI, taken from the "Critical Minerals Mapping Initiative", at <https://portal.ga.gov.au/persona/cmimi>,

In the Asia Pacific region, countries such as China, Australia and Japan stand out. China, in particular, has transitioned from being an exporter of raw materials to becoming the world's leading producer and consumer of critical minerals, implementing a development strategy based on the control of raw materials<sup>11</sup>. This approach has enabled China to minimize its exposure to geopolitical risks and consolidate its leadership in key industries, such as the manufacture of batteries and electric vehicle components<sup>12</sup>.

Other countries such as Congo and Australia<sup>13</sup> are relevant in the extraction minerals such as cobalt and lithium. In the case of lithium, mainly used in batteries for electromobility, Chile has the world's largest reserves, followed by Australia<sup>14</sup>. However, Australia leads in production, followed by Chile and China<sup>15</sup>.

<sup>10</sup> The Critical Minerals Mapping Initiative (CMMI) is a collaborative project between the U.S. Geological Survey (USGS), Geoscience Australia and the Geological Survey of Canada, launched in 2019. Its primary goal is to improve the understanding of critical mineral resources and promote their discovery in the three countries, with key objectives, such as Develop a global database for critical mineral geochemistry; Evaluate and analyze trends in critical mineral systems; and develop prospectivity models for basin-hosted mineral systems. These objectives seek to address U.S. dependence on foreign sources for many critical minerals, such as lithium, cobalt and graphite, essential for emerging and low-carbon technologies.

<sup>11</sup> The strategic relevance of other Asia Pacific economies in the demand for critical minerals to contribute with greater speed to the transition to cleaner, low-carbon energy will be discussed below.

<sup>12</sup> Several minerals are produced in China for use as raw materials for the production of solar photovoltaic energy.

<sup>13</sup> However, supply chains should not be viewed in a holistic manner for renewable energy technologies, which tend to be opaque and involve a large number of countries and companies.

<sup>14</sup> For more information see: <https://pubs.usgs.gov/periodicals/mcs2023/mcs2023-lithium.pdf>

<sup>15</sup> According to specialized literature, for example, 1 battery for electric vehicles requires approximately 8kg of lithium, 35kg of nickel and 15kg of cobalt. For an in-depth discussion of the relevance of supply, see FMI at <https://www.imf.org/es/Publications/fandd/issues/2023/12/A-critical-matter-Evans-Santora-STUERMER#:~:text=Los%20minerales%20como%20el%20cobre,solares%20y%20las%20turbinas%20e%20C3%B3licas>

A major challenge in the supply of these minerals lies in their high concentration in a limited number of countries, which generates risks associated with security of supply. This situation highlights the importance of establishing trade and investment policies that promote resilient and diversified supply chains. Table N°1 identifies the main producers of some critical minerals essential for the energy transition.

**Table N°1  
Main producers of selected minerals**

Mineral	Main ore producing and depositing countries
Aluminum	Australia, China Brazil
Bauxite	Guinea, India, Malaysia, China, Australia, Brazil, Indonesia, China, India, Malaysia, China, Australia, Brazil, Indonesia
Cadmium	China, South Korea and Japan
Cobalt	Democratic Republic of Congo, Australia, China, Canada, Cuba, Zambia, Philippines, Russia, New Caledonia, Papua New Guinea, Madagascar and Australia.
Copper	Chile, Australia, Peru, Mexico, Russia, United States, Democratic Republic of Congo, China and Zambia.
Lithium	Australia, Chile, Argentina, Portugal, Zimbabwe, Brazil, Bolivia, and Canada.
Nickel	Australia, New Caledonia, Cuba, Indonesia, South Africa, China, Philippines, Canada, Guatemala, Madagascar, Colombia and the United States
Zinc	Australia, China, Peru, Mexico and India
Rare Earths*	China, Brazil, United States and Myanmar
Rare Earths*	

Source: Directorate of Studies, SUBREI, prepared based on the Study "Critical Minerals for the Energy Transition, Conflicts and alternatives towards a socio-ecological transformation", December 2022, page 51. \* Note: The minerals called "rare earths" are so called because they are "earths" because they are water-insoluble metal oxides found in the earth and are "rare" due to the difficulty in discovering them, separating them from other or the mineral with which they were mixed in to obtain them in a pure form.

In summary, the geographic distribution and concentration of the supply of critical minerals reflect a power dynamic that shapes trade policy and international cooperation strategies in the context of the energy transition.

**iv. Critical minerals and energy transition**

The development of electromobility market, electronic devices and energy storage solutions has significantly boosted demand for strategic raw materials such as lithium, nickel and cobalt. These minerals, along with copper and rare earths, are essential in the transition to a more sustainable energy matrix.

The main uses of these minerals include:

- Lithium, nickel, cobalt, manganese and graphite: These are essential for the manufacture of advanced batteries, determining their life and energy density.
- Rare earths: Fundamental for the production of magnets used in wind turbines and electric vehicle motors.

- Copper and aluminum: The expansion of power grids and the implementation of renewable energy technologies require significant quantities of these metals,

copper is indispensable for any technology related to electricity due to its high conductivity.

The table below presents a summary of the main uses associated with selected critical minerals.

**Table N°2**  
**Selected critical minerals: Main uses**

Mineral	Description Uses
Copper	Transmission and distribution of electric power
Lithium	Batteries for electric vehicles and energy storage
Cobalt	Batteries for electric vehicles and electronics
Manganese	Batteries and components for electric vehicles
Molybdenum	Steel production and components for wind and solar energy
Nickel	Production of stainless steel, batteries and electronic components
Zinc	Corrosion protection in renewable energy infrastructures
Rare Earths	Magnets for wind turbines and electric motors

Source: Directorate of Studies, SUBREI.

Table N° 3 summarizes the intensity of use some critical minerals that could be used to supply the direct and indirect demand for the energy transition<sup>(16)</sup>.

**Table N°3**  
**Relevance of selected critical minerals for energy transition**

	Solar	Wind	Hydroelectric	Electric	Web Electromobility	Storage	Hydrogen
Copper	High	High	Media	High	High	Media	Media
Lithium	Down load	Down load	Download	Download	High	Download	Download
Silver	High	Down load	Download	Download	Media	Download	Download
Molybdenum	Down load	Down load	Download	Download	Download	Download	Download
Nickel	Media	Media	Download	Download	High	Media	Media
Aluminum	High	Media	Media	High	High	Media	Media
Zinc	Media	High	Media	Download	Download	Download	Download
Steel	High	High	High	High	High	High	High

Source: Directorate of Studies, SUBREI, based on the Latin American Energy Organization Report "Los Minerales Críticos para las Transiciones Energéticas de América Latina y el Caribe" (Critical Minerals for Energy Transitions in Latin America and the Caribbean), February, 2024.

## v. Energy sources and intensity of use of critical minerals

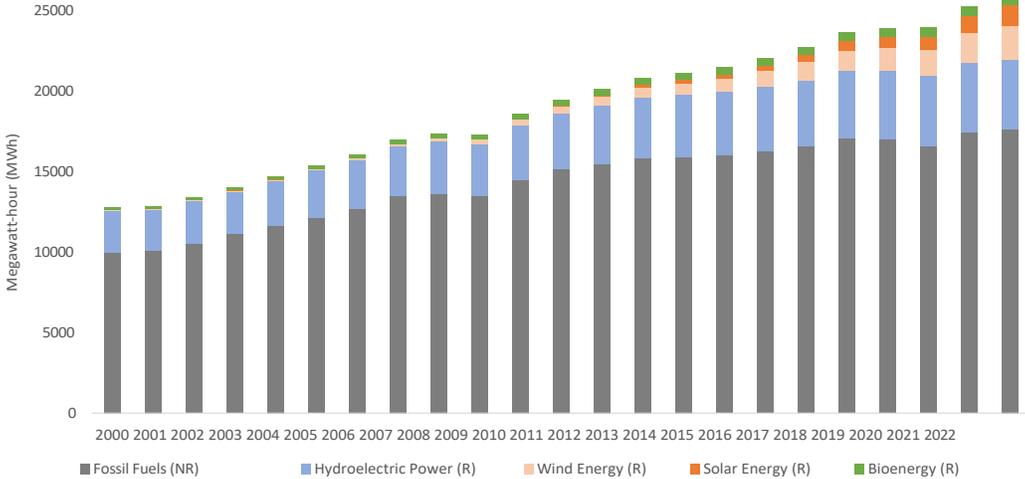
Despite the historical predominance of fossil fuels as the main source of energy generation, global efforts to reduce CO2 emissions have driven a progressive shift towards renewable energy sources. This process, accelerated in recent decades, reflects a significant increase in the share of sustainable energy technologies.

<sup>16</sup> From the table on page 14 of Latin American Energy Organization Report "Critical Minerals for Energy Transitions in Latin America and the Caribbean" February, 2024 at [https://www.olade.org/wp-content/uploads/2024/02/Minerales\\_Criticos\\_ALC\\_OLADE.pdf](https://www.olade.org/wp-content/uploads/2024/02/Minerales_Criticos_ALC_OLADE.pdf)

The greatest dynamism is observed in the development of renewable energies such as wind, solar and bioenergies, which have played a key role in the energy transition. These technologies, in addition to contributing to decarbonization, have stimulated the demand for the critical minerals described above, given their essential role as inputs in the infrastructure necessary for their generation and storage.

To analyze the evolution and relative participation of the different energy generation sources, please refer to Graph No. 3.

**Graph N°3**  
**Global evolution of energy generation sources, 2000-2022**  
**(Mega watt hour)**



Source: Directorate of Studies, SUBREI, prepared the International Monetary Fund database based on statistical information from the International Energy Agency. Note: R (Renewable), NR (Non-Renewable).

The increase in clean energy generation is closely linked to the increase in investments in this sector. According to the International Energy Agency (IEA), investments in clean energy technologies are now double those in fossil fuels, reflecting a structural change in the global energy matrix.

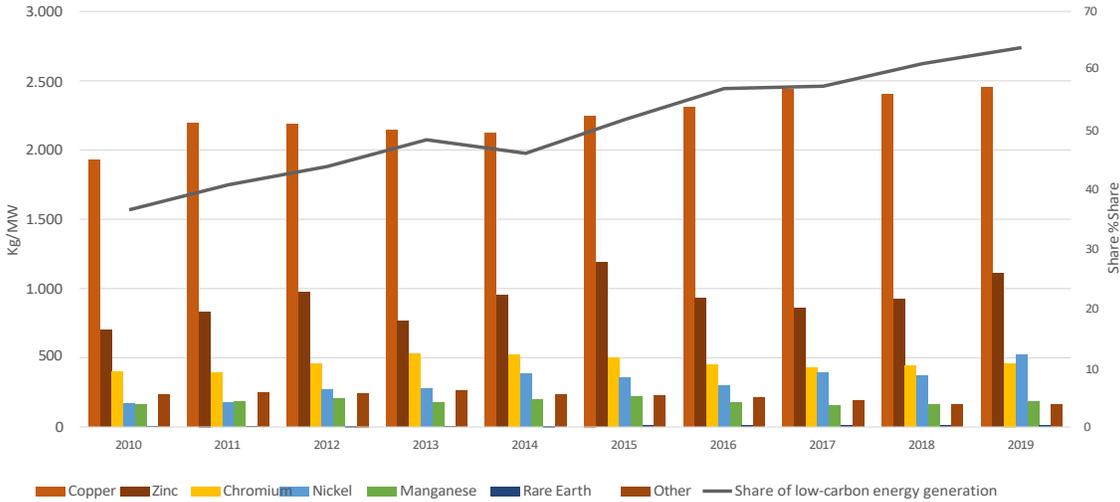
From a power generation perspective, there has been a significant increase in the intensity of critical minerals use. Since 2010, the average number of critical minerals required for each new unit of clean energy generation capacity has increased by 50%, driven by the growing share of renewables in global installed capacity.

Indeed, global low-carbon investment has been experiencing high growth rates. This situation reached a record high in the year 2023, due to the energy crisis and political actions that encouraged greater implementation of clean energy technologies<sup>17</sup>.

<sup>17</sup> A full discussion of critical minerals perspective in the energy transition can be found in the report at the Agency Agency report of Energy Agency (IEA, for its acronym in in) at

Investment in 2023 amounted to US\$1.7 trillion (billions of dollars), up 17% year-on-year, including investments in renewable energy projects, storage, charging infrastructure, hydrogen production, nuclear, recycling, and carbon capture and storage, in addition to end-user purchases of low-carbon energy technology, such as small-scale solar systems, heat pumps, and zero-emission vehicles<sup>(18)</sup>.

**Graph N°4**  
**Average use intensity of critical minerals for renewable energy generation capacity and share of low-carbon energy generation 2010- 2019**  
**(Kg/Mega Watt)**



Source: Directorate of Studies, SUBREI, prepared on the basis of the International Energy Agency.

At the same time, given the greater dynamism observed now and in the future in the generation of energy from non-conventional renewable sources, wind and solar, as well as the growth in the electricity grid and the flow of electric vehicles, a greater increase in the demand for critical minerals is expected by 2030, and supply gaps in production, among which copper, lithium, nickel and graphite will stand out.

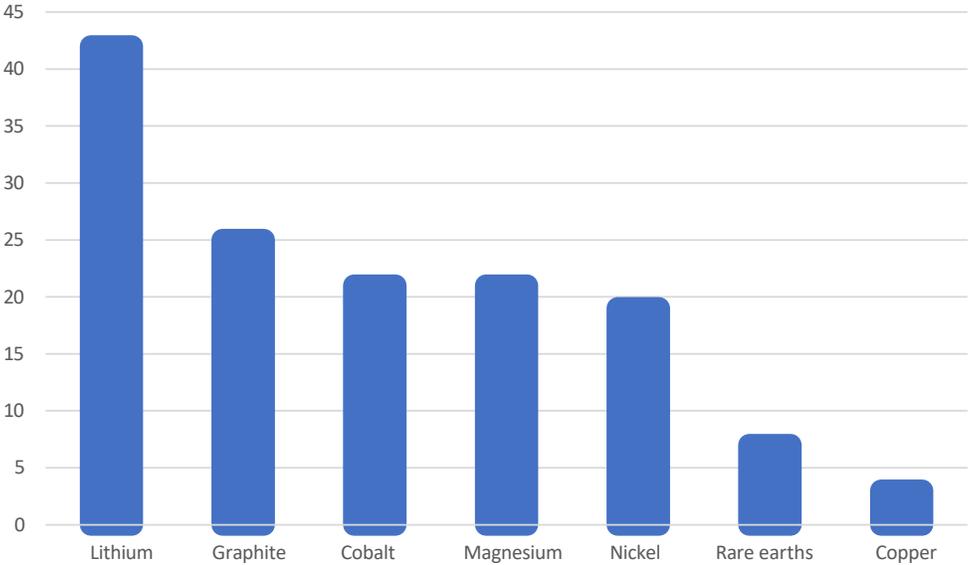
Based on the scenarios projected to comply with the reduction of global emissions, according to the Paris Agreement, the share of demand for clean energy technologies in the coming decades will imply an increase in the demand for copper and rare earths of 40%, as well as between 60% - 70% in the demand for nickel and cobalt, and a percentage close to 90% in the case of lithium.

<https://iea.blob.core.windows.net/assets/ffd2a83b-8c30-4e9d-980a-52b6d9a86fdc/TheRoleofCriticalMineralsinCleanEnergyTransitions.pdf>

<sup>18</sup> For a summary of the Bloomberg Report, see <https://about.bnef.com/blog/global-clean-energy-investment-jumps-17-hits-1-8-trillion-in-2023-according-to-bloombergnef-report/> y another summary at <https://assets.bbhub.io/professional/sites/24/Energy-Transition-Investment-Trends-2024.pdf>

The IEA projects that, over the next 20 years, demand for some critical minerals for clean energy generation, such as cobalt, graphite or lithium, will increase 20 to 40 times, depending on the speed of the green transition. It is estimated that demand for minerals will grow, on average, by four to six times between 2020 and 2030.

**Graph N°5**  
**Projected increase in demand for selected critical minerals to the year 2040**  
**(Times)<sup>16</sup>**



Source: Directorate of Studies, SUBREI, taken from OECD study, Trade Policy Paper, 2023 based on data from the International Energy Agency.

## vi. Asia Pacific's role in the energy transition

The Asia Pacific region plays a key role in the energy transition. This is due to the size of China's economy, as well as that of Japan, the Republic of Korea and the Southeast Asian economies. As described above, some countries in the Asia Pacific region are important suppliers of some critical minerals for the energy transition in lithium, cobalt and nickel.

Demand for several critical minerals in the region will increase substantially in the coming decades, driven by electric vehicles and renewable energy technologies. Indeed, in terms of investments in renewable energies, which are fundamental to the demand for critical minerals, China accounted for 38% of global investment in energy transition in 2023, with investments of US\$676 billion. According to some projections, in order to meet the zero emissions scenario, the necessary investment in the transition must triple in the rest of this decade<sup>20</sup>.

<sup>19</sup> OECD, Trade Policy Paper, 2023 at [https://www.oecd.org/content/dam/oecd/en/publications/reports/2023/04/raw-materials-critical-for-the-green-transition\\_85a69007/c6bb598b-en.pdf](https://www.oecd.org/content/dam/oecd/en/publications/reports/2023/04/raw-materials-critical-for-the-green-transition_85a69007/c6bb598b-en.pdf)

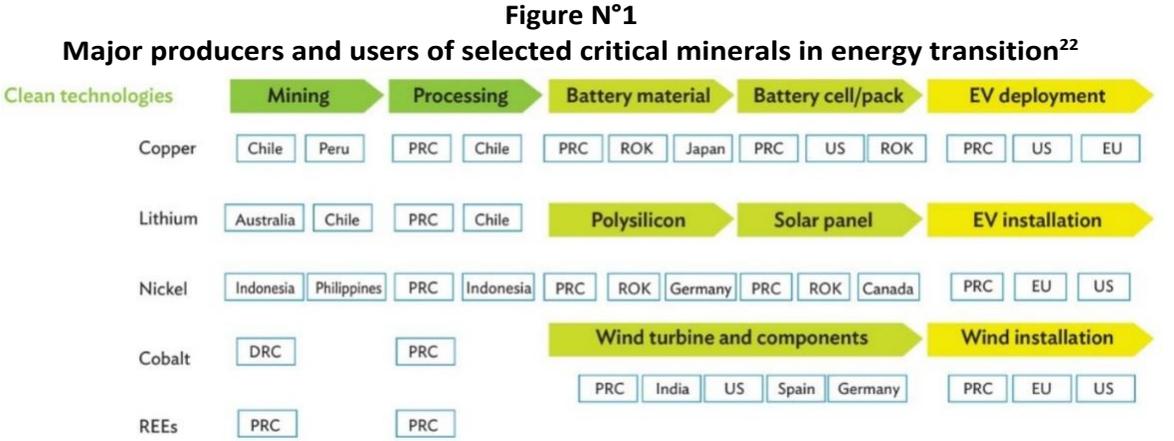
<sup>20</sup> Op. cit.

For example, in the case of demand for some minerals, such as lithium, China is the world's leading importer of lithium with more than 50% of global consumption, followed by the Republic of Korea and Japan<sup>(21)</sup>.

A relevant fraction of global lithium is explained by the manufacture of lithium batteries for electric vehicles in the automotive sector and a somewhat lower fraction by other batteries and energy storage. It is expected that in the coming years more than 50% of electric car sales will be concentrated in China, the European Union and the United States.

Meanwhile, manufacturing production will remain concentrated, with China dominating the battery and component trade, while maintaining its high share of global exports of electric cars. This electromobility boom and decarbonization process places lithium in a key role in the energy transition, which is expected to accelerate its growth rate in the coming years.

Several Asia Pacific economies play an important role in the value chains for the production of clean energy technologies (see Figure N°1). For example, China, Japan and the Republic of Korea play a leading role in the middle of the value addition process in the battery industry. China and India are key players in the production of wind turbines and their components, along with Germany, Spain and the United States. At the end of the value chain, China, the European Union and the United States dominate.



Source: Directorate of Studies, SUBREI, taken from Asian development Bank, "Expanding Critical Minerals Supply Chains for the Clean Energy Transition," No. 298, May 2024. Note: REE= (Earth Elements, DRC= Democratic Republic of Congo, Democratic Republic of : EU = European Union, European Union, EV = electric vehicle, electric vehicle PRC = People's Republic of China, People's Republic of China PV = photovoltaic, Photovoltaic, REE = rare earth element, ROK = Republic of Korea, Republic of Korea, US = United States, United States.

<sup>21</sup> Trade statistics extracted from <https://www.trademap.org/Index.aspx>.

<sup>22</sup> <https://www.adb.org/sites/default/files/publication/966351/adb-brief-298-critical-minerals-supply-chains.pdf>

From the point of view of energy analysis in Southeast Asia, the IEA<sup>23</sup> projects an increase in energy demand. This region currently accounts for 11% of global energy demand and is expected to reach just over 25% by 2035. This given the strong economic growth, population and its position as a manufacturing and industrial center. However, it warns of a projected rise of one-third in energy-related CO2 emissions by 2050.

In this regard, it should be noted that eight out of 10 Southeast Asian countries have zero emissions targets for 2050: Brunei Darussalam, Cambodia, Laos PDR, Malaysia, Singapore and Vietnam. Indonesia has them by 2060, while Thailand by 2065. In line with the targets agreed at COP28, achieving these goals will involve a faster energy transformation.

Clean technology energy in region should supply more than 35% of the growth in energy demand by 2035, due to the rapid expansion of solar and wind energy, in line with bioenergy, geothermal and other low-emission energies, which could represent close to 25% of total energy sources.

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<sup>23</sup> <https://iea.blob.core.windows.net/assets/ac357b64-0020-421c-98d7-f5c468dadbf0f/SoutheastAsiaEnergyOutlook2024.pdf>

## II. CASE STUDIES

### i. Policies Trade Policy and Critical Minerals Management: Indonesia and Australia

The exploration and extraction of critical minerals are framed by policies designed to regulate the early stages of the mining industry, considering their geopolitical relevance, as well as the associated social and environmental impacts. Countries with significant reserves face the challenge of maximizing the added value of these resources while managing social and environmental impacts. In relatively less developed economies, this challenge is compounded by the need to attract foreign investment, manage local capital and mitigate the risk of capital flight<sup>24</sup>.

Indonesia and Australia represent contrasting approaches to critical minerals management. Indonesia prioritizes local development policies through export restrictions and legal reforms, while Australia focuses on strengthening the value chain through national strategies and international agreements. Both countries seek to respond to the growing global demand for critical minerals, driven by the energy transition and the expanding electric vehicle market, while avoiding an extractivist model that limits economic development.

#### a. Indonesia

For more than a decade, Indonesia has been reorienting its economic policy from an exporter of raw materials to an exporter of higher value-added goods, taking advantage of its abundant natural resources. With the world's largest nickel reserves, this mineral has become a pillar of its economic strategy, particularly because of its importance in the manufacture of batteries for electric vehicles.

One of the most controversial policies in the multilateral trade order has been the ban on the export of certain minerals, such as nickel and bauxite, which had already been banned in Indonesia in the middle of the last decade. This experience showed that investments are key to ensure that processing capacity can keep up with production volumes.

The Indonesian strategy has faced both internal and external opposition. On the one hand, foreign mining investors have resorted to the investor-state dispute arbitration system through claims filed with the International Centre for Settlement of Investment Disputes (ICSID) against the Indonesian state. On the other hand, the large-scale geographic expansion of the mining industry has generated conflicts between the government and the Indonesian government.

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<sup>24</sup> <https://www.tni.org/es/art%C3%ADculo/indonesia-y-la-prohibicion-de-la-exportacion-de-minerales-en-bruto>

farmers over land use, as well as problems with fishermen who complain water and air pollution near nickel processing plants<sup>2526</sup>.

It is worth mentioning that Indonesia has also signed international agreements for the exploitation of critical minerals such as lithium and cobalt in exchange for infrastructure and processing capacity. This has been the case with China and the United Kingdom; with the latter country through a Memorandum of Understanding to collaborate on critical minerals that was signed in 2024<sup>27</sup>.

### **Nickel ore export ban**

In January 2020, Indonesia enacted a ban on the export of nickel ores and concentrates in order to attract investment and encourage local processing, a process known as *downstreaming*, i.e. developing higher value manufacturing capacity.

As mentioned, Indonesia has the largest nickel reserves in the world, accounting for 42.3% of the world's <sup>28</sup> supply<sup>29</sup>, and it is predicted that by 2028, it could account for up to 70% of the world's nickel<sup>30</sup> supply. In fact, it has two of the five largest reserves of the mineral globally: Sorowako and Weda Bay<sup>31</sup>.

After the country first banned raw nickel exports in 2014, more than US\$15 billion of foreign investment came into Indonesia for nickel processing, mainly from China.

Thus, since the new ban was announced in 2019 until 2022, investment in nickel processing tripled (+207.9%). In fact, prior to 2014 in Indonesia there were only two nickel smelters in operation; by mid-2023, the country had 43 smelters in operation, in addition to 28 under construction and 24 in the planning phase<sup>32</sup>. For its part, and thanks to Indonesia's global weight in the nickel industry, the value of nickel exports quadrupled between 2019 and 2022<sup>33</sup>.

One of the main resistances to the nickel export ban policy came from the European Union, which, concerned about the availability of the mineral for stainless steel production, took Indonesia to the WTO. And while the panel found Indonesia's policies to be in violation of WTO rules and recommended that it adjust its export ban policy, the European Union, concerned about the availability of the mineral for stainless steel production, took Indonesia to the WTO.

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<sup>25</sup> <https://www.tni.org/es/art%C3%ADculo/indonesia-y-la-prohibicion-de-la-exportacion-de-minerales-en-bruto>

<sup>26</sup> <https://elpais.com/planeta-futuro/2024-04-21/el-negocio-de-las-minas-de-niquel-en-indonesia-contratos-millionaires-and-polluted-beaches.html>

<sup>27</sup> <https://www.reuters.com/markets/commodities/indonesia-britain-sign-collaboration-agreement-critical-minerals-2024-09-18/>

<sup>28</sup> [https://unctad.org/system/files/non-official-document/SSE\\_UNCTAD\\_Day2\\_final.pdf](https://unctad.org/system/files/non-official-document/SSE_UNCTAD_Day2_final.pdf)

<sup>29</sup> <https://www.csis.org/analysis/diversifying-investment-indonesias-mining-sector>

<sup>30</sup> [https://www.usitc.gov/publications/332/working\\_papers/ermm\\_indonesia\\_export\\_ban\\_of\\_nickel.pdf](https://www.usitc.gov/publications/332/working_papers/ermm_indonesia_export_ban_of_nickel.pdf)

<sup>31</sup> <https://www.csis.org/analysis/diversifying-investment-indonesias-mining-sector>

<sup>32</sup> <https://www.csis.org/analysis/diversifying-investment-indonesias-mining-sector>

<sup>33</sup> [https://www.usitc.gov/publications/332/working\\_papers/ermm\\_indonesia\\_export\\_ban\\_of\\_nickel.pdf](https://www.usitc.gov/publications/332/working_papers/ermm_indonesia_export_ban_of_nickel.pdf)

In the case of the Asian country, it decided to appeal to the Appellate Body to challenge the findings of the panel report<sup>34 35 (36)</sup>.

### **Export ban on bauxite minerals**

In June 2023, Indonesia implemented the bauxite export ban<sup>37</sup>, following the precedent of the restriction on nickel in 2020, considered successful by the government in encouraging investments in local processing capacity. However, the effectiveness of this policy will ultimately depend on the alignment between annual production and installed processing capacity. In 2023, it was estimated that, of the 31 million tons of bauxite produced, 17 million tons would remain unprocessed, posing significant challenges to the viability of the measure<sup>38</sup>.

Faced with these constraints, the Indonesian government is evaluating relaxing the ban to mitigate divestment risks and allow for the development of adequate infrastructure<sup>39</sup>. This strategy is not new, as similar restrictions imposed in 2014 were relaxed in 2017, granting additional time for companies to build processing facilities and easing pressure on workers and producers<sup>40</sup>.

### **Local content policy**

Indonesia's local content policy is a set of regulations in effect from 2017 that seek to promote the use of local materials and products in the mining industry, in line with the objective of developing competitive domestic industries.

Although local content requirements (LCR) are often incompatible with the WTO and the commitments of its member countries such as Indonesia, the Asian country has pursued them to protect its incipient domestic industry<sup>41</sup>. In fact, Indonesia has such requirements in several sectors of its economy such as: telecommunications, oil and gas, defense, industry, construction, electricity, shipping, among others<sup>42</sup>.

In recent years, Indonesia has relaxed some of these requirements, seeking, for example, to unlock investment in renewable energy plants. In this regard, in 2024, it was established that solar power plant projects could use imported panels until June 2025, while the local content requirement for hydroelectric power plants

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<sup>34</sup> <https://www.iea.org/policies/16084-prohibition-of-the-export-of-nickel-ore>

<sup>35</sup> [https://www.wto.org/spanish/tratop\\_s/dispu\\_s/592r\\_s.pdf](https://www.wto.org/spanish/tratop_s/dispu_s/592r_s.pdf)

<sup>36</sup> [https://ec.europa.eu/commission/presscorner/detail/es/ip\\_22\\_7314](https://ec.europa.eu/commission/presscorner/detail/es/ip_22_7314)

<sup>37</sup> <https://setkab.go.id/en/govt-to-impose-export-ban-on-bauxite-ore-june-next-year/>

<sup>38</sup> <https://es.nhandan.vn/indonesia-considera-aliviar-la-prohibicion-de-exportar-bauxita-post64367.html>

<sup>39</sup> <https://www.mining.com/web/indonesia-considers-reopening-bauxite-exports-bisnis-com-reports/>

<sup>40</sup> <https://www.csis.org/analysis/diversifying-investment-indonesias-mining-sector>

<sup>41</sup> <https://www.eria.org/uploads/media/discussion-papers/FY21/Indonesias-LCR-An-Assessment-on-Consistency-with-FTA-Commitments.pdf>

<sup>42</sup> <https://barrerascomerciales.comercio.gob.es/ca-es/paises/Paginas/Paises-barrera.aspx?a=680Cb=351>

The requirement was lowered from a range of 47.6%-70.76% to one of 23%-45%, and in the case of wind power plants, the requirement was set at 15%<sup>(43)</sup>.

Part of Indonesia's local content policy has been the creation of a government team called the "National Team for the Increased Use of Domestic Products", which aims at inter-agency coordination in the implementation of the LCR. This is because local content requirements can be introduced not only by the Ministry of Trade, but also by other ministries or agencies. In addition, it is vital for the Indonesian state to measure the risks - and strategies to follow - from the application of these regulations, especially those related to the country's trade commitments and possible disputes with other economies<sup>44</sup>.

### **Mining law reform**

Mining Law No. 3/2020 strengthens state control over mining permits, regulates in-country processing and seeks to maximize economic benefits. This law introduces key changes to previous legislation, including the progressive nationalization of foreign mining companies (until they become minority shareholders) and the obligation to process and refine products locally before exporting them<sup>45</sup>.

Some of the important modifications were to give the central government exclusive control over the issuance and management of mining permits. allows for streamlining the issuance of permits, as well as the transfer and merger of permits for corporate restructurings and investment transactions<sup>46</sup>.

In summary, Indonesia's economic strategy reflects a comprehensive approach to maximizing the value of its natural resources, with nickel at the center of the transition to higher value-added industries. The implementation of export restrictions on minerals, such as nickel and bauxite, has encouraged significant investments in local processing, but has also generated tensions with international players and domestic challenges, such as insufficient refining capacity and socio-environmental conflicts. These policies are complemented by the promotion of local content, international agreements and legislative reforms that seek to strengthen state control and enhance the competitiveness of national industries, in a context of growing pressure to comply with multilateral commitments and ensure their economic and social sustainability.

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<sup>43</sup> <https://www.reuters.com/business/energy/indonesia-eases-local-content-requirement-solar-power-plants-20-official-says-2024-08-12/>

<sup>44</sup> <https://www.eria.org/uploads/media/discussion-papers/FY21/Indonesias-LCR-An-Assessment-on-Consistency-with-FTA-Commitments.pdf>

<sup>45</sup> <https://www.tni.org/es/art%C3%ADculo/indonesia-y-la-prohibicion-de-la-exportacion-de-minerales-en-bruto>

<sup>46</sup> <https://www.csis.org/analysis/diversifying-investment-indonesias-mining-sector>

## b. Australia

Australia is one of the world's leading producers of critical minerals such as lithium, cobalt, manganese, rare earths, rutile, tantalum and zircon<sup>47</sup>. In the case of lithium, the country accounts for 50% of global production and has the second largest lithium resources in the world<sup>48</sup>.

In recent years, Australia has evolved from a model based on the export of raw materials to one focused on the development of higher value-added products, such as batteries, chips and others<sup>49</sup>. This transition seeks to increase economic complexity, ensure the security of supply chains and strengthen its strategic autonomy through international alliances.

Australia currently holds a key position in the global market for critical minerals, supported by robust production that meets both domestic and international demand. However, it faces significant challenges, such as market diversification and the implementation of sustainable practices in resource extraction.

### **Critical minerals strategy 2023-2030**

Australia's critical minerals strategy is a comprehensive plan aimed at strengthening the critical minerals industry at all stages of the value chain<sup>50</sup>. This approach includes securing the supply of resources such as lithium, graphite and cobalt, encouraging research and development (R&D) and promoting sustainable production practices.

Originally launched in 2019<sup>51</sup>, the updated 2023 version sets out the vision for the period 2023-2030, the result of a public consultation process<sup>52</sup>. The main goal is to consolidate Australia as a global player in the critical minerals industry. To this end, the following strategic objectives have been defined:

- To develop sovereign capacities in the processing of critical minerals, increasing national added value.
- Maximize the value of natural resources for the benefit of the Australian population, with special emphasis on regional development and the inclusion indigenous peoples.
- Create resilient, diverse and sustainable supply chains through international alliances and agreements that strengthen all stages of the industry.
- Transform Australia into a renewable energy powerhouse, utilizing critical minerals for both the domestic and global markets.

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<sup>47</sup> <https://www.ga.gov.au/scientific-topics/minerals/critical-minerals>

<sup>48</sup> <https://international.austrade.gov.au/en/do-business-with-australia/sectors/energy-and-resources/critical-minerals#accordion-e2aa8ee0ff-item-6f56bffca3>

<sup>49</sup> [https://centroestudiosinternacionales.uc.cl/images/publicaciones/publicaciones-ceiuc/2024/minerales\\_ceiuc-1.pdf](https://centroestudiosinternacionales.uc.cl/images/publicaciones/publicaciones-ceiuc/2024/minerales_ceiuc-1.pdf)

<sup>50</sup> <https://www.industry.gov.au/sites/default/files/2023-06/critical-minerals-strategy-2023-2030.pdf>

<sup>51</sup> [https://centroestudiosinternacionales.uc.cl/images/publicaciones/publicaciones-ceiuc/2024/minerales\\_ceiuc-1.pdf](https://centroestudiosinternacionales.uc.cl/images/publicaciones/publicaciones-ceiuc/2024/minerales_ceiuc-1.pdf)

<sup>52</sup> <https://www.industry.gov.au/publications/critical-minerals-strategy-2023-2030>

The Strategy builds on Australia's competitive advantages, such as its vast geological reserves, expertise in mineral extraction, track record as a reliable exporter and highly skilled workforce. These strengths are complemented by a transparent legal framework, financial incentives and support programs targeted at various stages of the industry.

### **Programs and Incentives**

The Strategy incorporates key initiatives to facilitate its implementation, most notably the **Critical Minerals Program**<sup>53</sup>. This program supports early and intermediate stage projects, reducing risks associated with the development of critical minerals. In addition, the Strategy includes financial and fiscal incentives, such as the Australian Government's Critical Minerals Fund, the Northern Australia Infrastructure Fund and the National Reconstruction Fund.

### **International Agreements**

Australia has opted for bilateral and multilateral instruments in the form of agreements, working groups, memoranda of understanding and dialogues as a critical minerals sector development strategy.

The following highlights Australia's main bilateral agreements, which mainly involve countries and groups of developed countries such as the United States, the European Union and some Asian countries<sup>54 (55)</sup>:

- Statement of Intent: on climate, critical minerals and clean energy transformation.
- Joint States partnership: for the acceleration of net-zero emissions technology.
- Australia-United States Strategic Trade Dialogue.
- Australia-United States Energy Security Dialogue.
- Australia-Republic of Korea Memorandum of Understanding: on critical minerals supply chain cooperation, including a critical minerals working group.
- Australia-Japan Critical Minerals Partnership: which also includes a critical minerals working group.
- Australia-India critical minerals investment partnership.
- Australia-EU Memorandum of Understanding: aims to enable the EU to diversify its supplies of materials needed for the green and digital transitions, while contributing to the development of Australia's critical minerals sector across the value chain.
- Australia-France Critical Minerals Dialogue.
- Australia-Germany working group on raw materials.
- Australia-UK Critical Minerals Working Group.

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<sup>53</sup> <https://business.gov.au/grants-and-programs/critical-minerals-development-program>

<sup>54</sup> <https://www.cde.ual.es/la-ue-y-australia-firman-una-asociacion-sobre-minerales-criticos-y-estrategicos-sustainable/>

<sup>55</sup> <https://www.industry.gov.au/sites/default/files/2023-06/critical-minerals-strategy-2023-2030.pdf>

Australia has been a founder and, in many cases, has chaired multilateral critical minerals bodies. It highlights the importance to Australia of promoting environmental, social and corporate governance (ESG) criteria at all stages of the critical minerals industry value chain. Some of these multilateral agreements include:

- IEA Critical Minerals Working Party: From 2022 Australia serves as the inaugural chair of the International Energy Agency (IEA) Critical Minerals Working Party promoting the incorporation of environmental, social and governance issues into both data and related policies.
- Conference on Critical Materials and Minerals: In 2023, Australia chaired the Conference on Critical Materials and Minerals to exchange information on critical materials policies and for technical R&D collaboration.
- Minerals Security Partnership: Australia is a founding member of the Minerals Security Partnership, which strengthens supply chains for critical minerals essential to the energy transition. The Partnership promotes environmental, social and governance issues in the critical minerals industry, as well as identifying strategic projects and attracting private sector funding.
- Sustainable Critical Minerals Alliance: Australia is a founding member of the Sustainable Critical Minerals Alliance. This Alliance also promotes environmentally and socially sustainable practices.
- International Organization for Standardization (ISO): Australia chairs the International Organization for Standardization (ISO) Strategic Advisory Group. The objective is to develop technical standards for critical minerals that also include socio-environmental factors and good governance practices.
- OECD: Australia is working with the OECD on responsible critical minerals supply chains.

Australia is positioned as a strategic player in the global critical minerals industry, underpinned by its vast geological wealth, strong mining expertise and trusted regulatory framework. The implementation of the Critical Minerals Strategy 2023-2030 reflects a comprehensive commitment to strengthen its processing capacity, promote sustainability in the value chain and develop key international partnerships. This approach not only consolidates its leadership in the production of essential minerals for the energy transition, but also seeks to diversify markets and maximize domestic value added. Through bilateral and multilateral initiatives, Australia has demonstrated its leadership in environmental, social and governance standards, reaffirming its role as a reliable and responsible supplier in a global context marked by increasing demand for critical minerals.

## ii. Trade policy related to processing and scaling up in the critical minerals value chain: China and Australia.

The processing of critical minerals is one of the most complex and strategic stages within the value chain, due to its high technological intensity, high investment costs and the need for specialized infrastructure. These stages are fundamental to guarantee access to key inputs in technological and energy sectors, consolidating their strategic relevance in the context of the transition to sustainable economies. Although many countries have large mineral deposits, most processing is concentrated in a small number of countries. In response, a number of governments are seeking to develop domestic processing capabilities to reduce dependence on key markets, strengthen supply chain security and generate greater value added locally. In this context, strategies are being implemented to ensure efficient processing, both within national borders and through international partnerships.

Scaling up production of critical minerals is essential to meet the growing demand for advanced technologies such as lithium-ion batteries, solar panels and electric vehicles. However, achieving efficient scale-up in the extraction and processing of these minerals represents a significant challenge for many countries. In this context, research and development (R&D) incentive policies have been designed, as well as international agreements to increase production capacity and quality. These efforts also respond to the growing environmental pressures associated with large mining operations and the processing of critical minerals.

In the analysis of the cases of China and Australia, both countries stand out for adopting policies structured under medium-term strategies or plans. These strategies include financial and management initiatives that prioritize mainly the development of batteries and electric vehicles, positioning them as key players in the global value chain of critical minerals.

### a. China

China stands out as a world power in both the extraction of critical minerals and their processing and manufacturing. Its dominant position includes significant control over the processing of key minerals such as rare earths, manganese, graphite, lithium, cobalt and aluminum<sup>56</sup>. This leadership is also reflected in its industry's ability to manufacture 75% of all the world's batteries, as well as the majority of electric vehicles globally<sup>57</sup>.

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<sup>56</sup> <https://www.politicaexterior.com/articulo/china-y-el-control-de-las-materias-primas-criticas/>

<sup>57</sup> [https://centroestudiosinternacionales.uc.cl/images/publicaciones/publicaciones-ceiuc/2024/minerales\\_ceiuc-1.pdf](https://centroestudiosinternacionales.uc.cl/images/publicaciones/publicaciones-ceiuc/2024/minerales_ceiuc-1.pdf)

The policies implemented by China are designed to ensure comprehensive control over the entire supply chain of these strategic resources, from extraction to processing and manufacturing of final products. This approach includes not only the acquisition of minerals in producing countries, but also dominance over the key infrastructure necessary for processing, manufacturing and distribution.

The following is a description of the major trade policies implemented by China to promote the processing and scaling up of its critical minerals industry. These include the National Mineral Resources Plan (2016-2020) and the New Energy Vehicle Industry Development Plan (2021-2035), as well as recent measures related to export controls on certain minerals, all in the context of increasing geostrategic tensions.

### **National Mineral Resources Plan 2016-2020).**

This plan defined the guidelines for the exploration, utilization and protection of mineral resources in China, combining policies aimed at both the domestic and foreign markets<sup>58 59</sup>. Domestically, it promoted efficiency in the use of minerals, innovation and modernization of the industry, as well as the promotion "green mining". Externally, priority was given to international cooperation and dialogue with multilateral organizations such as APEC and the World Bank, with special emphasis on the Belt and Road region, including China's relationship with Latin America and Africa<sup>60</sup>.

The general objectives of the Plan were<sup>61</sup>:

- Establishing a secure and stable resource security system
- Form an efficient and environmentally friendly mining development model.
- Creating a modern, open, competitive and dynamic mining market
- Significantly improve the quality and efficiency of mine development

The Plan included strategic objectives according to the situation of each mineral; , for example, in some cases, exploration is encouraged while in others, production is encouraged to decrease.

Four years later, the evaluation of the Plan considers that it was fully implemented<sup>62</sup>. Results include the strengthening of the management, supervision and operation of the geological exploration stage. Data collection on resource quality was also improved. Finally, procedures were optimized (such as the registration of mining rights) and the supply of iron ore, which is essential for the Chinese economy, was secured.

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<sup>58</sup> <https://www.iea.org/policies/15519-national-plan-for-mineral-resources-2016-2020>

<sup>59</sup> <https://www.weforum.org/stories/2024/11/china-critical-mineral-strategy-beyond-geopolitics/>

<sup>60</sup> <https://www.iea.org/policies/15519-national-plan-for-mineral-resources-2016-2020>

<sup>61</sup> <https://www.fao.org/faolex/results/details/en/c/LEX-FAOC189649/>

<sup>62</sup> <http://chinageology.cgs.cn/fileZGDZYW/attachments/pdf/74238829-1ff5-44a6-9d1f-65025b387c6a.pdf>

## **Export controls on gallium- and germanium-related products**

As of August 1, 2023, China's Ministry of Commerce announced the implementation of export controls on gallium and germanium-related goods, deeming them strategic to national security and interests.

These minerals are essential for industries such as semiconductors, renewable energy, and military applications. China, which produces 80% of the world's gallium and 60% of its germanium, requires companies to apply for export licenses for certain products<sup>63</sup>.

Export controls imply that companies wishing to export some of the following listed products must apply for export licenses from the Ministry of Commerce, through the provincial trade authorities<sup>64</sup>.

The list of items that include gallium-related materials and are controlled by the Chinese authority are<sup>65</sup>: gallium metal, gallium nitride, gallium oxide, gallium phosphide, gallium arsenide, indium gallium arsenide, gallium selenophore, gallium antimonide. Similarly, controlled articles that relate to germanium are: germanium metal, molten germanium ingots, zinc phosphorus germanium zinc, ge epitaxial growth substrate, germanium dioxide, and germanium tetrachloride.

This measure has been described as China's response to the United States in the microchip war, after the latter implemented a series of export controls on certain U.S. chip manufacturing components and tooling, preventing China from using this technology, for example, in the defense sector<sup>(66)</sup>.

## **New Energy Vehicles Industry Development Plan 2021-2035)**

In 2020, the Plan was announced to start operating the following year for the pursuit of the development of the new energy electric vehicle (NEV) industry. The Plan envisages China's participation in international competition, making the Chinese industry of new energy vehicles and their parts (batteries, for example) deeply integrated into global value chains<sup>67 68</sup>.

The Plan has its direct antecedent in the 2012-2020 Plan for energy saving and new energy vehicles, published in 2012. This covered energy-efficient internal combustion engine (ICE) vehicles and new energy electric vehicles, whereas the 2021-2035 Plan focuses exclusively on new energy electric vehicles, reflecting the growing importance of NEV development<sup>69</sup>.

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<sup>63</sup> <https://www.bbc.com/mundo/articles/c2x58rgpvr2o>

<sup>64</sup> <https://www.iea.org/policies/17893-announcement-on-the-implementation-of-export-control-of-items-related-to-gallium-and-germanium>

<sup>65</sup> <https://www.iea.org/policies/17893-announcement-on-the-implementation-of-export-control-of-items-related-to-gallium-and-germanium>

<sup>66</sup> <https://www.lavanguardia.com/economia/20230704/9085655/galio-germanio-china-exportar-permiso-guerra-semiconductors.html>

<sup>67</sup> <https://www.iea.org/policies/15529-new-energy-vehicle-industry-development-plan-2021-2035>

<sup>68</sup> [https://english.www.gov.cn/policies/latestreleases/202011/02/content\\_WS5f9ff225c6d0f7257693ece2.html](https://english.www.gov.cn/policies/latestreleases/202011/02/content_WS5f9ff225c6d0f7257693ece2.html)

<sup>69</sup> <https://theicct.org/sites/default/files/publications/China-new-vehicle-industrial-dev-plan-jun2021.pdf>

The general objectives of the 2021-2035 Plan are:

- To develop a globally competitive automotive industry that stands out for its use of advanced NEV technologies and strong brand reputation.
- Drive the transition to an energy-efficient, low-carbon society, with a network of accessible charging services and NEVs as the most common vehicles.
- Strengthen China's national energy security, mitigate climate change, improve air quality, and foster economic growth in key sectors such as automotive, energy, transportation, and information and communication technologies.

In this version, the Plan considers five strategic actions:

1. Strengthening technological innovation capacity
2. Creating a new industrial ecosystem
3. Promoting integrated industrial development
4. Improving the infrastructure system
5. Deepening openness and cooperation

With this Long-Term Plan (year 2035), China updates its efforts to connect its challenges of oil conservation, air pollution reduction and climate change mitigation with its ambition to build a world-class automotive industry.

In summary, China's focus on critical minerals and related technologies illustrates its determination to consolidate a global leadership position in strategic sectors for the energy transition and future economy. Through comprehensive policies such as the National Mineral Resources Plan and the New Energy Vehicle Industry Development Plan, as well as specific measures such as export controls on strategic minerals, China is not only ensuring its competitiveness, but also its ability to influence global geo-economic dynamics. This set of strategies underscores how the country links its goals of environmental sustainability and energy security with a long-term vision to dominate essential value chains and reinforce its leading role on the international stage.

## b. Australia

With policies relating to processing and scaling, Australia seeks to maximize the economic value of its strategic mineral resources, secure both domestic and international supplies of these minerals and strengthen its position in key global markets, especially in the context of the global energy transition.

Some of these policies are discussed below, starting with the National Battery Strategy, which aims for Australia to reach 82% renewable energy and, at the time, to secure its position in global battery supply chains<sup>70</sup>. In addition to the above, the country's institutional capacity, through management, financing and research agencies, can support the process of increasing the value of the Australian critical minerals industry.

In general, mining in Australia has a reputation for safety, high labor standards and environmental responsibility.

### **National Battery**

The Australian Battery Strategy aims to build a domestic battery industry, aspiring to make the country a world leader in renewable energy<sup>71</sup>. The objectives of the Strategy are to improve Australia's energy security, secure its role in global battery supply chains, and drive Australia's economy and its energy transition. The design of the Strategy included a public consultation in March 2023<sup>72</sup>.

This strategy is, in turn, a key part of the Future Made in Australia agenda proposed by the Australian authority. The vision is that by 2035 Australia will be a globally competitive producer of batteries and battery materials<sup>73</sup>.

The Strategy has five priorities for the development of the Australian battery industry:

1. Encourage the development of battery manufacturing capabilities, generating value by leveraging Australia's comparative advantages.
2. Promote the creation of knowledge and skills that will lead to secure jobs in Australia.
3. Securing Australia's position in global battery supply chains.
4. To be world leaders in sustainability and circular economy.
5. Promote collaboration among all levels of government.

This strategy ties in with Australia's Electric Vehicle Strategy<sup>74</sup>, as the country is collaborating with international partners to ensure that battery supply chains are expanded to mitigate the risk of supply chain disruptions which

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<sup>70</sup> <https://www.industry.gov.au/publications/national-battery-strategy/strategy-glance>

<sup>71</sup> <https://www.industry.gov.au/news/charging-australias-renewable-future-through-national-battery-strategy>

<sup>72</sup> <https://www.industry.gov.au/news/national-battery-strategy-have-your-say>

<sup>73</sup> <https://www.industry.gov.au/publications/national-battery-strategy>

<sup>74</sup> <https://www.dcceew.gov.au/energy/transport/national-electric-vehicle-strategy>

The price of imports of electric vehicles, which are in growing demand in Australia, could destabilize prices.

The 2024-2025 budget allocates US\$326 million to the *Battery Breakthrough* program for advanced production and up to US\$1.06 billion to the *Future Made in Australia* Innovation Fund.

## **Austrade**

Austrade is Australia's lead government agency trade and investment facilitation. Through trade partnerships, Austrade supports the critical minerals sector by utilizing its global network and connecting Australia with trading partners and target markets<sup>75</sup>.

Austrade's three main areas of focus in relation to critical minerals are<sup>76</sup>:

- Sale and purchase and investment agreements and possible equity participation for Australian critical minerals .
- Foreign investment in processing and the creation of value chains.
- Foreign investment in critical mineral opportunities in new areas.

Its actions include customized customer engagement programs and targeted trade missions<sup>77</sup>. In addition, with the assistance of Australia's geoscience agencies, Austrade publishes the Australian Critical Minerals , the latest edition of which highlighted 55 advanced projects seeking investment or offtake agreements<sup>78</sup>.

## **Critical Minerals Office**

As part of the institutional framework defined by Australia for the development of the critical minerals industry, the Office of Critical Minerals is the Australian government's central coordinating point to help grow the sector and position the country as a safe, reliable and ethical supplier of critical minerals<sup>79</sup>. To this end, it works to implement the Critical Minerals Strategy in partnership with Austrade and the Department of Foreign Affairs and Trade (DFAT)<sup>80</sup>.

Under the Department of Industry, Science and Resources, the Office of Critical Minerals provides strategic and national policy advice. It connects Australian critical minerals projects with investors, regulators, government funding sources and Australia's strategic partners. It also develops regulatory and policy frameworks that promote investment opportunities and supports the

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<sup>75</sup> [https://exportfinancecdn.azureedge.net/media/pdajuigc/critical-minerals-brochure\\_oct23.pdf](https://exportfinancecdn.azureedge.net/media/pdajuigc/critical-minerals-brochure_oct23.pdf)

<sup>76</sup> <https://international.austrade.gov.au/en/do-business-with-australia/sectors/energy-and-resources/critical-minerals/australian-government-support-critical-minerals#accordion-8d9c799666-item-2ae5c725de>

<sup>77</sup> <https://international.austrade.gov.au/en/do-business-with-australia/sectors/energy-and-resources/critical-minerals/australian-government-support-critical-minerals#accordion-8d9c799666-item-2ae5c725de>

<sup>78</sup> <https://www.industry.gov.au/sites/default/files/2023-06/critical-minerals-strategy-2023-2030.pdf>

<sup>79</sup> [https://exportfinancecdn.azureedge.net/media/pdajuigc/critical-minerals-brochure\\_oct23.pdf](https://exportfinancecdn.azureedge.net/media/pdajuigc/critical-minerals-brochure_oct23.pdf)

<sup>80</sup> <https://international.austrade.gov.au/en/do-business-with-australia/sectors/energy-and-resources/critical-minerals/australian-government-support-critical-minerals#accordion-8d9c799666-item-921a97b78b>

research and development. Regarding the latter, the Office has partnered with the following Australian agencies<sup>81</sup>:

- Commonwealth Scientific and Industrial Research Organization (CSIRO).
- Australian Nuclear Science and Technology Organisation (ANSTO).
- Geoscience Australia.
- Australian Center for Critical Minerals Research and Development.

Also as part of its functions, the Office participates in multilateral initiatives such as:

- International Energy Agency: Critical Minerals Working Group.
- International Organization for Standardization: Strategic Advisory Group on Critical Minerals.
- OECD: Energy Resources Governance Initiative.
- Indo-Pacific economic framework.

Together with Austrade, the Bureau is behind Australia's export credit agency, providing financing to support Australian critical minerals projects and related infrastructure<sup>82</sup>. This funding aims to move Australian companies up the value chain to downstream processing<sup>83</sup>. Criteria to consider when backing a project are feasibility, buyer commitment, technical and financial capability, proven technology, and benefits of extraction and/or processing to Australia<sup>84</sup>.

#### **Partner organizations: funders and scientific institutions**

As part of the critical minerals institutional framework, Australia has a number of financial resources for its projects, as well as a number of research institutions at the forefront of the critical minerals sector.

Listed below are the major funding agencies for production, processing and value addition in the Australian critical minerals sector<sup>85</sup>:

- Australian Export Finance: provides trade finance to exporting companies through longer term loans, structured repayment and interest-only periods, as well as more flexibility in sourcing and new export markets.
- Clean Energy Finance Corporation: Australian government investor that aims to meet Australia's ambitions for a net-zero emissions future.

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<sup>81</sup> <https://www.industry.gov.au/mining-oil-and-gas/minerals/critical-minerals/critical-minerals-office>

<sup>82</sup> [https://exportfinancecdn.azureedge.net/media/pdajuigc/critical-minerals-brochure\\_oct23.pdf](https://exportfinancecdn.azureedge.net/media/pdajuigc/critical-minerals-brochure_oct23.pdf)

<sup>83</sup> <https://www.exportfinance.gov.au/how-we-can-help/our-solutions/critical-minerals/>

<sup>84</sup> [https://exportfinancecdn.azureedge.net/media/pdajuigc/critical-minerals-brochure\\_oct23.pdf](https://exportfinancecdn.azureedge.net/media/pdajuigc/critical-minerals-brochure_oct23.pdf)

<sup>85</sup> <https://international.austrade.gov.au/en/do-business-with-australia/sectors/energy-and-resources/critical-minerals/australian-government-support-critical-minerals#accordion-b09cfc1a39-item-6762ad2912>

- Northern Australia Infrastructure Fund: Provides loans to infrastructure projects in northern Australia. NAIF investments can be used to develop new or substantially improve existing infrastructure.
- National Reconstruction Fund (NRF): Provides funding in the form of debt, equity and guarantees to projects that drive high-value industry transformation, such as innovative product manufacturing, processing, refining and use of Australian minerals for use in batteries, for example.

As mentioned above, there are four Australian scientific institutions that enhance the critical minerals industry and work in conjunction with the Australian Critical Minerals Bureau<sup>86 87</sup>:

- Geoscience Australia: Australia's largest public geoscience organization. Its functions include supporting new exploration technologies, stimulating investment in mineral exploration, driving new discoveries and opening up new critical mineral-producing provinces.
- Australian Nuclear Science and Technology Organisation (ANSTO): provides consulting, process development and research services to industry.
- Commonwealth Scientific and Industrial Research Organization (CSIRO): Australia's largest minerals research and development organization and one of the largest in the world. Through innovation and process improvement it helps Australian mining companies to operate competitively and sustainably.
- Future Battery Industries Cooperative Research Center (FBI-CRC): Independent center targeting each stage of the battery value chain and where industry, government and researchers converge.

In summary, Australia's policies, strategies and strong institutional framework for the development of its critical minerals industry reflect a comprehensive approach that combines sustainability, innovation and global competitiveness. This model not only seeks to maximize the value of the country's strategic resources, but also to position Australia as a key player in international supply chains, ensuring its leadership in a global context of energy transition. On this basis, Australia's actions stand out as an example of forward-looking strategic planning in the critical minerals sector.

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<sup>86</sup> <https://international.austrade.gov.au/en/do-business-with-australia/sectors/energy-and-resources/critical-minerals/australian-government-support-critical-minerals#accordion-b09cfc1a39-item-6762ad2912>

<sup>87</sup> <https://www.ansto.gov.au/services/resources-sector/minerals>

### iii. Trade policy and international relations for securing supply of critical minerals: United States, Republic of Korea and China.

2023, global demand for critical minerals recorded significant increases, led by lithium (+30%) and other minerals such as nickel, cobalt, graphite and rare earths (increases between 8% and 15%). This growth, driven by the energy transition and the expansion of the electric vehicle market (14 million units sold in 2023, +35% compared to 2022), will continue according to projections by the International Energy Agency (IEA).

Projections to 2030 suggest that demand could double in a conservative scenario, triple with the fulfillment of climate commitments and quadruple in a zero emissions scenario. However, the IEA warns that, in its intermediate scenario, the projected mining supply would cover only 70% of the copper and 50% of the lithium needed. The situation for nickel and cobalt is equally tight, while, although there are no volume problems for graphite and rare earths, their production is highly concentrated in China, which could dominate more than 90% of graphite and 77% of refined rare earths by 2030.

#### **Production and refining concentration challenges**

Geographic and ownership concentration in the extraction and refining of critical minerals represents a key challenge:

- Extraction:
  - Copper: Chile and Peru.
  - Lithium: Australia, Chile and Argentina.
  - Nickel: Indonesia.
  - Cobalt: Democratic Republic of Congo (DRC).
  - Graphite and rare earths: China.
- Refinement:
  - China has a dominant position in all of the above minerals.
  - Indonesia has emerged as a relevant player in nickel and Chile stands out in lithium.
- Resource ownership: U.S. and European companies have a significant ownership interest, even when the resources are located in other countries. Examples include Glencore, Rio Tinto and Anglo American in copper and Albemarle in lithium. In Indonesia, 40% of nickel is produced by Chinese companies, while less than 10% is in local hands. For cobalt in the DRC, ownership is concentrated in firms such as CMOG and Glencore.

#### **Price volatility and geopolitical risks**

Price volatility has been another factor of uncertainty. While lower prices in 2023 reduced the costs of clean technologies, they also reduced incentives for new investments, which represents a risk to ensure a reliable and diversified supply.

In addition, geopolitical risks have arisen due to export restrictions on critical minerals. Examples include Indonesia's measures on nickel (2020), Zimbabwe and Namibia with lithium (2023) and China's 2023 export controls on gallium, germanium and graphite.

In the face of these challenges, major economies have implemented policies to secure the supply of critical minerals. The U.S. strategy is discussed below.

### a. United States

The United States has adopted a comprehensive approach to ensure a secure and sustainable supply of critical minerals, combining domestic actions and international initiatives. These measures seek to strengthen the entire value chain, from extraction to recycling, reducing dependence on external suppliers and fostering the resilience of strategic supply chains.

The U.S. government has promoted actions to strengthen national capabilities along the entire value chain of critical minerals, from extraction to manufacturing and recycling. These measures seek to:

- Reducing dependence on external supply chains considered unreliable<sup>88</sup>
- Promote domestic manufacturing and the creation of quality jobs in strategic sectors such as mining, construction and manufacturing.

Since 2021, the private sector has committed more than \$120 billion in investments in battery and critical minerals supply chains. In parallel, under the *Investing in America* agenda, government agencies such as the Departments of Energy, Defense, Treasury and Commerce have deployed significant resources through grants, loans and tax credits. These actions have expanded the domestic industrial base and reduced dependence on foreign suppliers.

A prominent component of this strategy has been the use of the Defense Production Act<sup>89</sup>, historically employed to protect national security. Recently, this regulation has been activated to secure the supply of critical minerals, along with new measures announced in September 2024 to further strengthen these supply chains.

Internationally, the United States has led the formation of the *Minerals Security Partnership (MSP)*, an initiative that seeks to encourage public and private investments in global supply chains for critical minerals<sup>90</sup>.

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<sup>88</sup> <https://www.whitehouse.gov/briefing-room/statements-releases/2024/09/20/fact-sheet-biden-harris-administration-takes-further-action-to-strengthen-and-secure-critical-mineral-supply-chains/>

<sup>89</sup> [https://www.fema.gov/disaster/defense-production-act#:~:text=The%20Defense%20Production%20Act%20\(DPA,from%20the%20domestic%20industrial%20base.](https://www.fema.gov/disaster/defense-production-act#:~:text=The%20Defense%20Production%20Act%20(DPA,from%20the%20domestic%20industrial%20base.)

<sup>90</sup> <https://www.state.gov/minerals-security-partnership/>

## **Inflation Reduction Act**

The Inflation Reduction Act (IRA) was signed by President Biden in August 2022 and seeks to reduce inflation caused by the global energy crisis, while addressing climate change and encouraging manufacturing relocation to the United States<sup>91</sup>. To this end, a series of credits are established for advanced manufacturing production in the United States to encourage the production of domestic components and the extraction of critical applicable minerals used in the generation, storage and manufacture of goods related to renewable energies.

The Inflation Reduction Act, according to official White House information, involves building a new clean energy economy, driven by American producers and workers, that seeks to create good-paying jobs, reduce pollution and boost environmental justice through a series of grants, loans, rebates, incentives and other financial support.

This law includes more than twenty tax provisions aimed at accelerating the energy transition to clean energy and easing the burden clean energy bills on U.S. families. Additionally, credits are offered to projects that meet certain requirements such as being located in low-income or energy communities, paying higher wages, or meeting domestic content requirements.

It also plans to deliver more than US\$370 billion in grant and loan programs and other clean energy investments. In addition, the Justice40 Initiative, which delivers 40% of the benefits of clean energy investments to disadvantaged communities such as tribes, rural areas, and communities with environmental justice issues, is being promoted. To ensure that these benefits reach communities, the federal government will work closely with state, local and tribal governments, which better understand the needs of their communities<sup>92</sup>.

The different IRA project support programs classified according to their general and specific objectives are as follows:

**Table N°1**  
**IRA project support programs**

<b>Overall objective</b>	<b>Specific objective</b>	<b>Number of programs</b>	<b>Responsible agencies</b>
<b>Promotion and deployment of clean energy technologies</b>	Financing and expediting the deployment of energy technologies clean	10	Department of the Treasury, Environmental Protection Agency, U.S. Environmental Protection Agency

<sup>91</sup> <https://home.treasury.gov/policy-issues/inflation-reduction-act>

<sup>92</sup> <https://www.whitehouse.gov/wp-content/uploads/2022/12/Inflation-Reduction-Act-Guidebook.pdf>

manufactured the United States	Revitalize the U.S. manufacturing industry in order to building an energy-based economy clean	5	Department of the Treasury, Department of Energy
	Investing in the U.S. power grid United	3	Department of Energy
	Investing in clean, affordable and sustainable energy in rural areas of the United States and in the United States, and in the United States tribal	5	Department of Interior, Department of Agriculture
	Incentive and support for the implementation of clean vehicles	6	Department of the Treasury, Department of Energy
	Incentive and support for the development and use cleaner fuels for the transportation	9	Department of the Treasury, Department of Agriculture, Department of Transportation, U.S. Department of Agriculture, U.S. Department of Agriculture, U.S. Department of Transportation, U.S. Environmental Protection Agency
	Expanding U.S. leadership in industrial decarbonization and carbon management. Investing in clean hydrogen	4	Department of the Treasury, Department of Energy, Environmental Protection Agency, Department of Energy, U.S. Environmental Protection Agency
	Investing in clean hydrogen	1	Treasury Department
	Investing in science and the central research mission of the Department of Energy	4	Department of Energy

<b>Protect communities from harmful air pollution.</b>	Reduction of air pollution that harms health public and climate	11	Environmental Protection Agency, Department of Transportation
	Improve monitoring and control of the contamination	7	Environmental Protection Agency, Quality Council Environmental

<b>homes and buildings cleaner and more efficient to save people money. and reduce pollution</b>	Reduction of energy costs in the homes	6	Department of Energy, Department of the Treasury
	Support for investment in energy-efficient buildings efficient and low carbon emissions	5	Department of the Treasury, Department of Housing and Urban Development
<b>Investing in a sustainable and low-cost federal government carbon emissions</b>		8	U.S. Postal Service, Environmental Protection Agency, General Services Administration, Department of Transportation, Federal Highway Administration, Department of Transportation, Department of Transportation, Federal Highway Administration, Department of Transportation, National Security
<b>Leveraging nature-based solutions and climate-smart agriculture to generate economic, climate and resilience benefits</b>	Supporting climate-smart agriculture and rural economic development	12	Department of Agriculture
	Preservation and protection of the nation's lands and waters for climate mitigation and resilience.	18	Department of Agriculture, Department of Interior, Department of Commerce, Department of Agriculture, Department of Commerce

<b>Increasing the resilience of our communities in a changing climate</b>	Strengthening the resilience of communities in the face of drought, the flooding and other climate impacts	8	Department of the Interior
	Improving climate science and forecasting. weather	4	Department of Commerce, Department of the Interior
<b>To make the granting permits more efficient and effective for</b>		9	United States Department of Agriculture, US. Forest Service, National Oceanic and Atmospheric Administration,

**energy  
infrastructure**

Department of Energy, Federal Energy Regulatory Commission, Department of the Interior, U.S. Department of Energy, U.S. Environmental Protection Agency Environmental Quality Council, Department of Transportation, Department of Transportation, Environmental Management, Environmental Quality Council, Department of Transportation, Department of Transportation, Environmental Management, Department of Transportation, Environmental Management Federal Highway Administration, Federal Highway Improvement Federal Permits

Source: SUBREI based on official information from the U.S. Government.

**Programs that provide investment in critical minerals**

Of the aforementioned objectives, some of the programs specifically cover investment in critical minerals projects, some of which are as follows:

**1. Department of Energy Office of Loan Program Financing**

Ranking: Financing and accelerating the deployment of clean energy technologies

Responsible agency: Department of Energy

Description: IRA provides \$40 billion in loan authorization, backed by \$3.6 billion in credit subsidies for projects eligible for loan guarantees. Targets all categories of clean energy innovation, including processing, manufacturing and recycling of critical minerals.

**2. Credit for advanced manufacturing production**

Ranking: Revitalizing U.S. manufacturing to build a clean energy economy

Responsible agency: Department of the Treasury

Description: Provides a production tax credit for domestic manufacturing of solar and wind energy components, battery components and critical minerals.

**3. Credit for clean vehicles**

Ranking: Incentive and support for clean vehicle deployment

Responsible agency: Department of the Treasury

Description: Provides tax credit for purchasers of clean vehicles. It is then expanded with new rules regarding final assembly in the United States, battery components, and critical minerals.

## **Defense Production Act**

The Defense Production Act (DPA), enacted by the U.S. Congress, gives the president the authority to ensure the supply of materials and services essential to national defense<sup>93 94</sup>. This legislation allows for prioritizing government procurement in strategic sectors, deviating from international trade provisions, investigating companies or industries, and requiring specific measures in private production plants.

In the context of the supply of critical minerals, the DPA has acquired a central role. In March 2022, Executive Order No. 2022-11 authorized its use to expand mining capacity and process materials for battery manufacturing. Subsequently, in June of the same year, the Act was invoked to encourage clean energy projects, including the manufacture of heat pumps, solar modules and fuel cells, in addition to exempting imports of solar panels from certain Asian countries.

In March 2023, its scope was expanded to finance projects linked to critical minerals such as lithium and rare earths, eliminating budgetary restrictions and promoting the relocation of key supply chains, particularly those related to rechargeable batteries.

### **Other measures at the national level**

In September 2024, the Department Energy announced a series of measures to further critical minerals supply chain assurance. The supporting measures focused on three dimensions<sup>95</sup>:

- Battery Materials Processing and Manufacturing, which provides funding to projects to mine, process and recycle critical minerals and materials and manufacture key battery components, as well as support next-generation battery manufacturing to build a national end-to-end supply chain for grid storage batteries and electric vehicles.
- Establishment of a Mine-to-Magnet supply chain for rare earth elements to ensure domestic production throughout the magnet supply chain currently dominated by China.
- Support for responsible domestic mining, to expand and accelerate sustainable domestic production of critical minerals while respecting sound environmental, labor, safety, and community participation standards.

In addition, the Department of the Interior approved the Gibellini vanadium project in Nevada, the first vanadium mine in the U.S., while the Department of Energy awarded US\$39 million through the Innovations in Energy Mining program for the

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<sup>93</sup> <https://www.whitehouse.gov/briefing-room/presidential-actions/2022/03/31/memorandum-on-presidential-determination-pursuant-to-section-303-of-the-defense-production-act-of-1950-as-amended/>

<sup>94</sup> <https://www.iea.org/policies/16095-defense-production-act>

<sup>95</sup> <https://www.whitehouse.gov/briefing-room/statements-releases/2024/09/20/fact-sheet-biden-harris-administration-takes-further-action-to-strengthen-and-secure-critical-mineral-supply-chains/>

Emissions Negative Resource Recovery (MINER) from the Advanced Research Projects Agency to 16 projects to develop technologies to increase domestic supply of critical minerals while reducing energy use and emissions.

## **Tariff increase**

In addition to measures to incentivize and strengthen the government's role in the critical minerals industry, in May 2024 the government announced increased tariffs under Section 301 of the Trade Act of 1974 on \$18 billion in Chinese imports in order to protect U.S. workers and businesses<sup>(96)</sup> According to the White House, China poses a threat to U.S. workers and businesses because of its "unfair trade practices" in technology transfer, intellectual property and innovation, in addition to its exports at "artificially low" prices. According to the White House, China poses a threat to U.S. workers and businesses because of its "unfair trade practices" in technology transfer, intellectual property and innovation, in addition to its exports at "artificially low" prices.

Most of these announced increases were already effective on September 27, 2024 and January 1, 2025<sup>97 98</sup>.

The actions are focused on strategic sectors such as steel and aluminum, semiconductors, electric vehicles, batteries, critical minerals, solar cells, ship-to-shore cranes and medical products.

### **1. Steel and aluminum**

The tariff rate on certain steel and aluminum products under Section 301 increased from 0-7.5% to 25% in 2024<sup>99 100</sup>.

This complements other measures such as the announcement of US\$6 billion for 33 clean manufacturing projects, including steel and aluminum. The measure seeks to address Chinese exports at artificially low prices and produced with higher emissions that according to the White House undermine the domestic steel and aluminum industry.

### **2. Semiconductors**

The tariff rate on semiconductors increased from 25% to 50% starting in 2025<sup>101 102</sup>. This increase, in conjunction with the CHIPS and Science Act resulting in the investment of nearly US\$53 billion in semiconductor manufacturing capacity, research, innovation, and U.S. workforce hope to help counteract

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<sup>96</sup> <https://www.whitehouse.gov/briefing-room/statements-releases/2024/05/14/fact-sheet-president-biden-takes-action-to-protect-american-workers-and-businesses-from-chinas-unfair-trade-practices/>

<sup>97</sup> <https://hts.usitc.gov/>

<sup>98</sup> [file:///C:/Users/imajluf/Downloads/China%20Tariffs%20\(1\).pdf](file:///C:/Users/imajluf/Downloads/China%20Tariffs%20(1).pdf)

<sup>99</sup> <https://ustr.gov/sites/default/files/USTR%20FRN%20Four%20Year%20Review%20Proposed%20Modifications%20ofin.pdf>

<sup>100</sup> <https://hts.usitc.gov/>

<sup>101</sup> <https://www.federalregister.gov/documents/2024/09/18/2024-21217/notice-of-modification-chinas-acts-policies-and-practices-related-to-technology-transfer>

<sup>102</sup> <https://hts.usitc.gov/>

decades of disinvestment and offshoring that have eroded U.S. capacity in semiconductor production.

### **3. Electric vehicles**

The tariff rate on electric vehicles increased from 25% to 100% in 2024<sup>103</sup> <sup>104</sup>. With Chinese subsidies to its industry and the increase of the Asian country's share in this market by 70% between 2022 and 2023 thanks to "unfair trade practices". This measure seeks to protect US manufacturers and promote local production of electric cars with US workers with tax credits for companies that manufacture batteries and produce critical minerals (see sections 1.1.1 and 1.1.2) and other measures that seek to boost the local industry.

### **4. Batteries, battery components and parts and critical minerals**

The tariff rate on lithium-ion batteries for electric vehicles increased from 7.5% to 25% in 2024, while the tariff rate on lithium-ion batteries for non-electric vehicles will increase from 7.5% to 25% in 2026. The tariff rate on battery parts will increase from 7.5% to 25% in 2024<sup>105</sup> <sup>106</sup>.

The tariff rate on natural graphite and permanent magnets will increase from 0% to 25% by 2026. The tariff rate for other critical minerals will increase from 0% to 25% in 2024.

The U.S. government is concerned that China currently controls more than 80% of certain segments of the electric vehicle battery supply chain, particularly the early stages such as mining, processing and refining of critical minerals, leaving supply chains and thus national security vulnerable.

### **5. Other products**

In addition to those mentioned above, the U.S. government increased tariffs on solar cells (from 25% to 50% in 2024); ship-to-shore cranes (from 0% to 25% in 2024); and medical products (vary by product)<sup>107</sup> <sup>108</sup>

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<sup>103</sup> <https://www.federalregister.gov/documents/2024/09/18/2024-21217/notice-of-modification-chinas-acts-policies-and-practices-related-to-technology-transfer>

<sup>104</sup> <https://hts.usitc.gov/>

<sup>105</sup> <https://www.federalregister.gov/documents/2024/09/18/2024-21217/notice-of-modification-chinas-acts-policies-and-practices-related-to-technology-transfer>

<sup>106</sup> <https://hts.usitc.gov/>

<sup>107</sup> <https://www.federalregister.gov/documents/2024/09/18/2024-21217/notice-of-modification-chinas-acts-policies-and-practices-related-to-technology-transfer>

<sup>108</sup> <https://hts.usitc.gov/>

## **Minerals Safety Partnership (MSP)**

This is a U.S.-led initiative that brings together the European Union, the United States, Australia, Canada, Estonia, Finland, France, Germany, India, Italy, Japan, the Republic of Korea, Norway, Sweden and the United Kingdom to strengthen supply chains for critical minerals essential to the global energy transition. Its focus is on ensuring that the production, processing and recycling of minerals such as lithium, cobalt, nickel, manganese, graphite, rare earths and copper are conducted under high environmental, social and governance (ESG) standards, maximizing the economic and social benefits of geological resources.

Officially launched in June 2022, the MSP has founding members including Australia, Canada, Japan, the Republic of Korea, and the European Union, among others. Subsequently, countries such as India, Italy and Norway have joined this alliance, which promotes diversified, secure and sustainable supply chains to meet the growing demand for minerals in the transition to clean energy. In August 2024, Argentina announced its intention to join the Alliance.

MSP focuses on catalyzing public and private investments for strategic projects along the entire value chain, from mining and processing to recycling. This effort includes working with governments and industry players to provide financial and diplomatic support, as well as fostering collaboration between partner countries through the exchange of strategic information.

A key principle of the MSP is to ensure that the projects supported comply with internationally recognized ESG standards, promote local development and respect the rights and welfare of communities. In addition, the partnership extends its reach to non-partner countries with significant mineral reserves, seeking to promote responsible production and their integration into global value chains.

## b. Republic of Korea

The Republic of Korea is in a complex situation where most critical minerals are imported, making it vulnerable to supply shocks and other market vulnerabilities. Given its role as a leading producer of batteries and semiconductors, stability of supply of critical minerals such as lithium, nickel, cobalt, manganese, graphite, gallium and germanium is crucial to its industrial competitiveness.

To mitigate these risks, the country has implemented a national strategy, announced in 2024 by the Ministry of Commerce, Industry and Energy (MOTIE), focused on diversifying suppliers, strengthening reserves, encouraging recycling, and promoting international cooperation.

In this context, in February 2024 the government of the Republic of Korea, through the Ministry of Trade, Industry and Energy (MOTIE) unveiled its strategy to ensure a reliable supply of critical minerals<sup>109 110</sup>. The plan seeks to reduce dependence on a few countries for their imports of lithium, cobalt, graphite and other critical minerals, maximizing the utilization of domestic mineral resources and contributing to the stabilization of the supply chain.

### **National Strategy for Securing Critical Minerals Supply**

The plan includes key measures to reduce dependence on a few countries, increasing strategic reserves and promoting international collaboration. Some highlights include:

- Intensive Strategic Minerals Management: identification of 33 critical minerals, with emphasis on 10 strategic minerals essential for advanced technologies such as batteries and semiconductors.
- Alert and Reserves System: creation of a world supply map, extended reserves for 100 days, and a rapid distribution system for emergencies.
- Diplomacy and International Cooperation: signing of bilateral and multilateral agreements, with emphasis on memorandums of understanding (MOUs) with resource-rich countries.
- Private Investment Promotion: financial support through loans, guarantees and incentives for mining projects abroad.
- Circular Economy: capacity building for the recycling of critical minerals, especially in sectors such as batteries and electric vehicles.
- ESG criteria: promotion of sustainable technologies and training of specialized talent in recycling and mining.

The strategy the Republic of Korea is becoming a high-tech industrial powerhouse through a stable supply chain of critical minerals and reducing dependence on imports of lithium, cobalt, graphite and other critical minerals from 80% today to 50% from a few selected countries by 2030. Another objective is to increase the recycling rate of critical minerals from 2% to 20%.

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<sup>109</sup> <https://english.motie.go.kr/eng/article/EATCLdfa319ada/1212/view>

<sup>110</sup> <https://www.iea.org/policies/16066-minerals-security-partnership>

## **International cooperation for securing the supply of critical minerals**

The Republic of Korea has strengthened cooperation with strategic allies to ensure stability of supply. Some examples are:

### Agreements with Australia:

- In 2021, a comprehensive strategic partnership was established that includes collaboration in critical minerals for high-tech industries. In 2024, an MOU with Western Australia reinforced this cooperation in minerals and renewable energy.
- Initiatives include supply chain mapping, joint research and bilateral trade and investment promotion.

### Agreements with Canada:

- In 2024, an MOU was signed to strengthen supply chains and foster integration in sectors such as batteries and electric vehicles. This includes collaboration in recycling, clean energy technologies and carbon storage.
- Companies such as LG Energy Solution have established agreements with Canadian partners to secure critical minerals such as lithium and cobalt.

These actions position the Republic of Korea as a key player in the global energy transition and technology industry, strengthening its resilience to eventual supply chain crises.

As part of its response to the global supply chain crises and the U.S. Inflation Reduction Act (IRA), the MOUs enable Korean companies to establish supply chains across North America ranging from materials and parts to finished products for secondary batteries and electric vehicles.

## c. China

China has established itself as a major player in the global battery and electric vehicle supply chain, playing a key role in the energy transition<sup>111</sup>. It currently produces two-thirds of the world's electric vehicles and controls 85% of battery cell production capacity, 90% of cathode materials and 98% of anode materials. In addition, much of the globally processed cobalt and lithium is refined in China, as is more than 90% of battery-grade graphite and 77% of refined rare earths, areas in which it is expected to maintain its dominance through 2030<sup>112</sup>. This high level of concentration raises concerns about global dependence on a single player in a strategic sector.

However, China's leadership is not absolute. In response to resource constraints within its territory, the country has implemented a systematic supply assurance strategy, focusing on critical minerals such as lithium<sup>113</sup>, cobalt and nickel. Through international investments, strategic acquisitions and integrated infrastructure projects, China has strengthened its control over essential value chains. This approach has been particularly evident in Africa and Indonesia, which have seen significant growth in Chinese presence in key sectors.

### **The Case of the Democratic Republic of the Congo and Other Regions**

In Africa, China has secured privileged access to mineral resources through a combination of bilateral agreements, preferential financing and direct investment. In 2022, trade between China and Africa reached US\$300 billion, tripling the volume of trade between Africa and the United States<sup>114</sup>. In the Democratic Republic of Congo (DRC), where more than 70% of the world's cobalt is found, Chinese companies have majority stakes in 15 of the country's 17 major mines. At the same time, they have made significant investments in lithium projects in Mali, Namibia and Zimbabwe, consolidating their influence on the continent.

The Chinese investment model in Africa is distinguished by its integrated approach: mining projects are often accompanied by essential infrastructure developments<sup>115</sup> such as roads, railroads and ports. This approach not only improves the logistical capabilities of the host countries, but also strengthens the competitive position of Chinese consortia vis-à-vis other international players. In addition, Chinese government backing in the form of subsidies<sup>116</sup>, concessional loans and diplomatic support gives their companies a strategic advantage.

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<sup>111</sup> <https://iea.blob.core.windows.net/assets/ee01701d-1d5c-4ba8-9df6-abeeac9de99a/GlobalCriticalMineralsOutlook2024.pdf>

<sup>(112)</sup> <https://iea.blob.core.windows.net/assets/ee01701d-1d5c-4ba8-9df6-abeeac9de99a/GlobalCriticalMineralsOutlook2024.pdf>

<sup>113</sup> Although not at the level of graphite and rare earths, China accounted for 17% of lithium production in 2023  
<https://iea.blob.core.windows.net/assets/ee01701d-1d5c-4ba8-9df6-abeeac9de99a/GlobalCriticalMineralsOutlook2024.pdf>

<sup>114</sup> <https://afripoli.org/chinas-role-in-africas-critical-minerals-landscape-challenges-and-key-opportunities>

<sup>115</sup> <https://afripoli.org/chinas-role-in-africas-critical-minerals-landscape-challenges-and-key-opportunities>

<sup>116</sup> <https://afripoli.org/chinas-role-in-africas-critical-minerals-landscape-challenges-and-key-opportunities>

## Indonesia: Nickel, Infrastructure and Strategic Cooperation

Indonesia has emerged as the world's leading supplier of nickel, an essential mineral for battery manufacturing<sup>117</sup>. This boom is largely due to the strategic partnership with China, which has led investments in refining and mining following the new Indonesian ban on the export of raw nickel<sup>118 119</sup>. Chinese companies have built more than 90% of the nickel smelters in the country, facilitating local processing of the mineral and generating added value<sup>120</sup>.

The Morowali Industrial Park in Central Sulawesi is an emblematic example of this cooperation<sup>121</sup>. Designed as a special economic zone, the park combines industrial development with strategic infrastructure, including ports, roads and airports. This model has not only increased Indonesia's competitiveness in nickel production, but has also stimulated regional development by attracting foreign investment and generating employment.

Cooperation between the two countries has deepened under the framework of the Silk Road and Road Belt, which has channeled more US\$7.3 billion to Indonesia by 2023. During Indonesian President Prabowo Subianto's visit to China in 2024, both governments reaffirmed their commitment to expand collaboration in strategic sectors, including renewable energy, digital economy and critical minerals. In addition, key agreements were signed in the mining sector, such as the development of a lithium iron phosphate plant and high pressure acid leaching (HPAL) projects. All this positioned Indonesia as an indispensable partner in the global battery supply chain.

China's strategy of securing the supply of critical minerals combines direct investment, infrastructure development and economic diplomacy, strengthening its influence in key regions such as Africa and Indonesia. This integrated model has enabled China to consolidate its position in global value chains, while posing challenges for other international players. However, the success of this strategy will depend on its ability to balance commercial and geopolitical interests with environmental sustainability and the social demands of partner countries.

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<sup>117</sup> <https://www.cnn.com/2024/07/27/chinese-dominance-in-indonesias-nickel-industry-during-ev-boom.html>

<sup>118</sup> <https://www.cnn.com/2024/07/27/chinese-dominance-in-indonesias-nickel-industry-during-ev-boom.html>

<sup>119</sup> <https://www.iea.org/policies/16084-prohibition-of-the-export-of-nickel-ore>

<sup>120</sup> <https://www.csis.org/analysis/diversifying-investment-indonesias-mining-sector>

<sup>121</sup> <https://carnegieendowment.org/research/2023/04/how-indonesia-used-chinese-industrial-investments-to-turn-nickel-into-the-new-gold?lang=en>

### III. CONCLUSIONS

The growing demand for critical minerals, driven by the transition to clean energy and advanced technologies, has reshaped the dynamics of international economic relations.

In this context, the main regional dynamics are characterized by the concentration of capabilities that has generated a complex balance between collaboration and competition and that have enabled the Asia-Pacific region to emerge as a key player, both for its productive capacity and for its leadership in innovation and governance around these strategic resources.

Thus, some of the countries in the region have adopted differentiated strategies to capitalize on their competitive advantages:

- China prioritizes self-sufficiency and control of its supply chain through regulations that strengthen its position in strategic sectors. At the same time, it dominates refining and processing, consolidating its position as a critical supplier in global supply chains.
- Australia balances its leadership as a supplier of raw materials with efforts to increase local value added through sustainable strategies while seeking to diversify markets.
- Indonesia is implementing policies to attract investment and encourage local industrialization, although it faces structural and social challenges.

Meanwhile, multilateral initiatives such as the Minerals Security Partnership (MSP) highlight the potential of intergovernmental cooperation to foster resilient supply chains.

On the other hand, the dominance of a few players in the refining of critical minerals represents a geopolitical risk, while opportunities are linked to the development of recycling technologies and the adoption of sustainability standards. The promotion of responsible investments will be crucial to ensure a secure and diversified supply.

Chile, as one of the largest producers of lithium and copper, has a unique position in this global landscape. However, in order to maximize its participation in value chains, the following aspects need to be addressed:

- Strategic Alliances: Promote agreements with Asia-Pacific economies to attract investments in infrastructure and technology transfer.
- Sustainability and ESG: The implementation of environmental, social and governance standards could consolidate Chile as a reliable partner in international markets.
- Innovation and Diversification: Expand the uses of lithium and copper by developing recycling technologies and applications in technological sectors.

In summary, the Asia-Pacific region is leading the configuration of critical mineral supply chains, setting a precedent in the governance of strategic resources in an interdependent global environment. Chile, as a key supplier, has the opportunity to consolidate its role through a combination of international alliances, adoption of sustainable technologies and diversification of its supply.

This chapter concludes by stressing that the transition to clean energy not only reshapes international economic relations, but also generates new opportunities for emerging economies such as Chile. Taking advantage of these opportunities will require a strategic approach that combines diplomacy, sustainability and technological development.

# PROFILES MACROECONOMIC FROM SELECTED ASIA PACIFIC COUNTRIES

## Introduction

This annex section analyzes the economic profiles of thirteen Asia-Pacific countries: Australia, China, the Republic of Korea, India, Indonesia, Japan, Malaysia, New Zealand, the Philippines, Singapore, Thailand, the United States and Vietnam. The selection of these economies responds to their strategic importance for Chile in the field of international trade, considering their impact on Chilean exports, their participation in global value chains and their relevance as partners in international agreements and forums.

Firstly, these countries represent key markets for Chilean products, particularly in sectors such as mining, agribusiness and processed foods. Economies such as China, Japan, the Republic of Korea and the United States stand out as Chile's main export destinations, especially for strategic products such as copper, lithium and other critical minerals, which are essential for the global energy transition.

In addition, several of these countries are members of trade agreements and multilateral forums relevant to Chile, such as the Comprehensive and Progressive Agreement for Trans-Pacific Partnership (CPTPP) and the Asia-Pacific Economic Cooperation (APEC). These platforms foster economic integration, strengthen trade cooperation and promote preferential access to strategic markets for Chilean products and services.

On the other hand, the inclusion of emerging economies such as India, Indonesia, the Philippines and Vietnam reflects Chile's interest in diversifying its trade relations, seeking new opportunities in expanding markets with sustained economic growth and a growing demand for goods in which Chile has comparative advantages.

Finally, countries such as Singapore and Malaysia, recognized as logistics and financial hubs in the region, together with Australia and New Zealand, traditional partners with bilateral trade agreements in force, represent strategic allies to strengthen Chile's participation in global value chains, in addition to offering possibilities for cooperation in areas such as technology, sustainability and trade in services.

In this context, the analysis of the economic profiles of these countries provides a solid basis for identifying opportunities and challenges in Chile's international economic relations, strengthening its presence in one of the most dynamic regions for global trade.

## Australia

Australia is a highly developed that is part of the G-20 group of nations, with a per capita Gross Domestic Product at power parity of US\$67,901 in 2023, making it the 13th largest economy in the world measured by GDP.

It should be noted that during the 2000-2023 period, the average annual GDP growth rate rose to 2.8%, mainly due to the contributions of private investment and the dynamics of the external sector.

The economy stands out for its endowment of natural resources for export, a dynamic service sector that includes tourism, education and financial services, accounting for 73% of GDP. Agriculture and mining account for 2% and 10% of GDP, respectively, contributing to national exports.

In the industrial sector, there is evidence of large-scale production capacity, with high technology. In this direction, there is an important development in the chemical, industrial products, transportation and food processing sectors with high innovation.

The country enjoys macroeconomic stability, evidenced by low unemployment rates of 3.7% in 2023 and inflation of 4.0% that year, a developed financial market and a slight current account surplus.

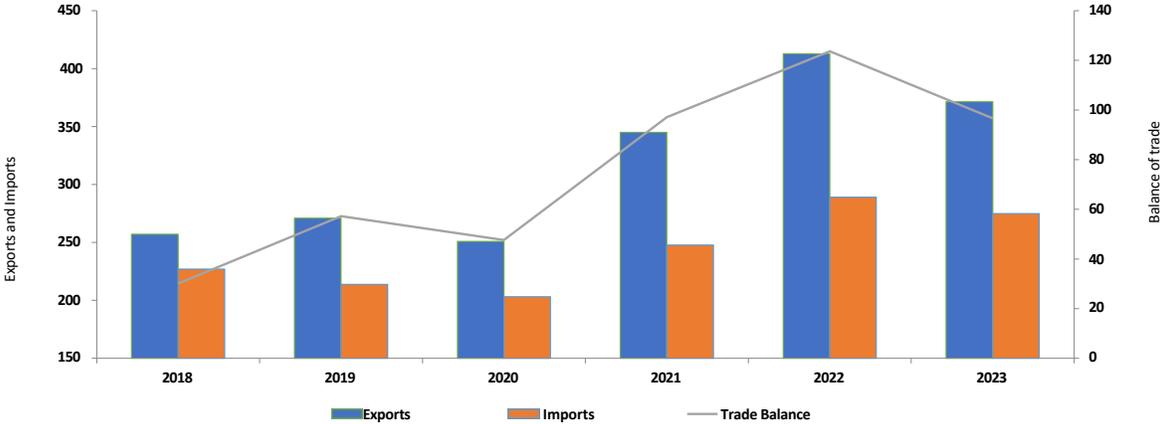
**Table N°1: Macroeconomic Indicators, Year 2023**

GDP (billions of US\$)	1.741
Real GDP growth (%)	2,0%
Estimated real GDP growth for 2024 (%)	1,2%
Population (millions of people)	27
GDP per capita (PPP) (US\$)	67.901
(Exports+Imports)/GDP	45,8%
Unemployment Rate	3,7%
Current Account Surplus (Deficit) (% of GDP)	0,3%
Fiscal Deficit	-0,9%
Inflation (end of period)	4,0%

Source: Directorate of Studies, SUBREI, with figures from IMF (WEO, October, 2024) and TradeMap.

Foreign Trade

**Graph N°1**  
**Australia's Foreign Trade: Exports, Imports and Trade Balance 2018-2023 (US\$ billions)**



Source: Directorate of Studies, SUBREI, with figures from Global Trade Atlas.

Foreign trade presents a degree of openness of approximately 46% of GDP. In recent years, the economy has been experiencing persistent trade surpluses, which are mainly attributable to higher *commodity* prices associated with the main export products. Past deficits were explained by the importance of imported intermediate goods, including fuels and other inputs, as well as the increasing evolution of prices, which had made external purchases more expensive.

In 2023, trade totaled US\$646 billion, with an average expansion rate of 6.1% between 2018 and 2023. Shipments totaled US\$370 billion, with an average annual expansion rate of 8% in the aforementioned period. It should be noted that, in recent years, after the lower foreign trade due to the effects of the pandemic, trade has been recovering.

## Australia-Chile Foreign Trade

**Table N°1**  
**Chile and Australia Foreign Trade, 2018- 2023 (US\$ millions)**

	2018	2019	2020	2021	2022	2023	Average Growth Annual 2018-2023
<b>Commercial Exchange</b>	<b>477</b>	<b>505</b>	<b>549</b>	<b>766</b>	<b>1.091</b>	<b>788</b>	<b>10,6%</b>
<b>Exports (FOB)</b>	<b>218</b>	<b>273</b>	<b>240</b>	<b>335</b>	<b>230</b>	<b>205</b>	<b>-1,2%</b>
Total mining exports	1,5	70,6	19,5	103,5	4,7	0,1	-39,5%
Copper	0	69	16	103	0	0	-
Other mining	1,5	1,6	3,5	0,0	4,7	0,1	-39,5%
Total forestry, livestock and fishery exports	2,7	3,4	10,8	4,1	5,6	4,6	11,4%
Fruits	0,6	1,3	9,7	2,7	3,2	0,8	6,1%
Total industrial exports	214	199	210	228	220	200	-1,3%
Salmon-free processed foods	80,8	80,4	97,0	74,9	85,8	94,4	3,2%
Salmon	0	0	0	0	0	0,14	-
Bottled wine	2,6	3,0	2,7	3,0	3,7	3,4	5,4%
Cellulose	15	13	9	16	19	18	4,5%
Forestry and wood furniture	58	40	39	52	49	25	-15,4%
Chemicals	21	14	17	13	17	13	-9,3%
Metal products, machinery and equipment	23	31	21	42	16	22	-0,4%
<b>Total non-mining and non-cellulose exports</b>	<b>202</b>	<b>190</b>	<b>212</b>	<b>216</b>	<b>206</b>	<b>186</b>	<b>-1,6%</b>
<b>Total imports (CIF)</b>	<b>259</b>	<b>232</b>	<b>309</b>	<b>431</b>	<b>861</b>	<b>584</b>	<b>17,6%</b>
<b>Total imports (FOB)</b>	<b>239</b>	<b>211</b>	<b>269</b>	<b>378</b>	<b>785</b>	<b>518</b>	<b>16,8%</b>
<b>Balance of trade</b>	<b>-21</b>	<b>62</b>	<b>-28</b>	<b>-43</b>	<b>-555</b>	<b>-313</b>	<b>-</b>

Source: Directorate of Studies, SUBREI, with figures from the Central Bank of Chile (\*): Includes bleached and semi-bleached conifer and eucalyptus pulp.

In 2023, trade totaled US\$788 million, with an average annual growth of 10.6% between 2018 and 2023. Shipments totaled US\$205 million, these have grown, compared to US\$84 million shipped in 2003. Imports also grew significantly, reaching US\$584 million in 2023, with an average annual growth of 17.6% between 2018 and 2023.

From the point of view of the export structure, currently, most Chilean exports to Australia come from the industrial sector, highlighting products from the processed food subsector, which reached US\$94 million in 2023. , exports of products from the forestry and wood furniture subsector accumulated US\$25 million in the period, although they experienced an annual drop of 48% in 2023.

## China

China is the second largest economy in the world and in population globally. It has been experiencing rapid economic development thanks to technical progress, increased human capital, high installed capacity and infrastructure and savings rates (above 40% of GDP on average between 1980 and 2023), which have been key drivers behind the country's rapid economic growth and recent development.

Currently, the country accounts for 18% of world output (at purchasing power parity), while in 1980 the country accounted for 2%. The Chinese economy has led world economic growth in recent decades. In fact, in the period 1980-2023 it expanded at an average annual rate of 9%. This has translated into a rapid and sustained increase in GDP per capita at power parity, which reached US\$24,503 in 2023.

Despite the recent international geopolitical crises, as well as the complexities presented by the real estate sector, the country has been able to continue boosting various manufacturing and service export sectors, whose activities accounted for 53% of GDP in 2023, compared to 22% in 1980. In addition, in line with the change in policies to encourage greater domestic consumption, an increasing mass of consumers has been joining the local market, to which must be added the external sector.

On the macroeconomic front, unemployment and inflation have remained relatively subdued, although the fiscal deficit has been growing in recent years, especially due to public spending commitments during the pandemic to sustain the subsequent economic recovery and increased public spending on infrastructure. The deficit stood at 6.9% of GDP in 2023, higher than the target of a 3% deficit.

During 2024, given the smaller fiscal space, the monetary authority has been reducing interest rates to stimulate consumption and investment, given that 4.8% growth is expected for 2024.

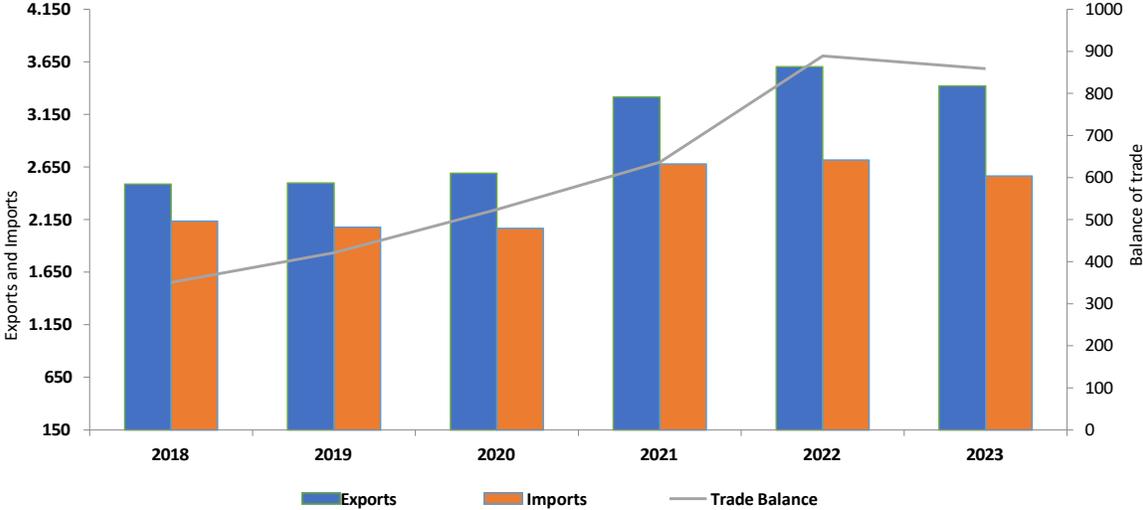
**Table N°2: Macroeconomic Indicators, Year 2023**

GDP (billions of US\$)	17.758
Real GDP growth (%)	5,2%
Estimated real GDP growth for 2024 (%)	4,8%
Population (millions of people)	1.410
GDP per capita (PPP) (US\$)	24.503
(Exports+Imports)/GDP	39,0%
Unemployment Rate	5,2%
Current Account Surplus (Deficit) (% of GDP)	1,4%
Fiscal Deficit	-6,9%
Inflation (end of period)	-0,3%

Source: Directorate of Studies, SUBREI, with figures from IMF (WEO, October, 2024) and TradeMap.

**Foreign Trade**

**Graph N°2  
s Foreign Trade: Exports, Imports and Trade Balance, 2018-2023 (US\$ billions).**



Source: Directorate of Studies, SUBREI, with figures from Global Trade Atlas.

The external scenario has been favorable, which has facilitated the gradual expansion of the country's foreign trade in goods and services. Indeed, the degree of openness as a proportion of GDP has been rising, standing at 39% of GDP in 2023, with a trade exchange of goods amounting to US\$5,985 billion, with a value of shipments of US\$3,422 billion, which expanded at an average annual expansion rate of 6.6% between 2018 and 2023.

In 2023, the country accounted for 6.6% of global purchases. It should be noted that, in recent years, after the lower foreign trade due to the effects of the pandemic, trade exchange has been recovering.

## Foreign trade with Chile

**Table N°2**  
**Foreign Trade, 2018- 2023 (US\$ millions)**

	2018	2019	2020	2021	2022	2023	Average Growth Annual 2018-2023
<b>Commercial Exchange</b>	<b>42.456</b>	<b>38.603</b>	<b>45.062</b>	<b>63.795</b>	<b>65.313</b>	<b>56.840</b>	<b>6,0%</b>
<b>Exports (FOB)</b>	<b>24.879</b>	<b>22.147</b>	<b>28.629</b>	<b>36.279</b>	<b>38.903</b>	<b>37.017</b>	<b>8,3%</b>
Total mining exports	19.551,8	16.587,1	23.070,4	30.352,8	32.058,1	29.499,0	8,6%
Copper	18.750	15.911	21.199	27.629	24.722	24.700	5,7%
Other mining	802	676	1.871	2.724	7.336	4.799	43,0%
Total forestry, livestock fishery exports	1.554	2.115	1.977	2.195	2.537	2.727	11,9%
Fruits	1.437	2.009	1.871	2.048	2.371	2.606	12,6%
Total industrial exports	3.773	3.445	3.582	3.731	4.308	4.791	4,9%
Salmon-free processed foods	498	741	1.074	862	833	858	11,5%
Salmon	278	269	129	102	182	302	1,7%
Bottled wine	254	252	185	267	232	157	-9,2%
Cellulose	1.777	1.307	1.124	1.333	1.580	1.519	-3,1%
Forestry and wood furniture	329	320	246	236	154	142	-15,5%
Chemicals	214	261	569	399	795	1.415	45,9%
Metal products, machinery and equipment	29	29	11	22	24	17	-10,1%
<b>Total non-mining and non-cellulose exports</b>	<b>3.551</b>	<b>4.253</b>	<b>4.435</b>	<b>4.592</b>	<b>5.265</b>	<b>5.999</b>	<b>11,1%</b>
<b>Total imports (CIF)</b>	<b>17.577</b>	<b>16.457</b>	<b>16.433</b>	<b>27.517</b>	<b>26.410</b>	<b>19.823</b>	<b>2,4%</b>
<b>Total imports (FOB)</b>	<b>16.700</b>	<b>15.598</b>	<b>15.398</b>	<b>24.138</b>	<b>23.003</b>	<b>18.549</b>	<b>2,1%</b>
<b>Balance of trade</b>	<b>8.179</b>	<b>6.548</b>	<b>13.231</b>	<b>12.140</b>	<b>15.900</b>	<b>18.468</b>	<b>-</b>

Source: Directorate of Studies, SUBREI, with figures from the Central Bank of Chile (\*): Includes bleached and semi-bleached conifer and eucalyptus pulp.

China is Chile's main trading partner, with trade totaling US\$56,840 million in 2023, with an average annual growth of 6.0% between 2018 and 2023. Shipments totaled US\$37,017 million, growing strongly in recent years. In line with the above, it is worth highlighting the growth of imports, after registering US\$19,823 million in 2023. The increase in the trade balance in recent years is significant.

Finally, from the point of view of the export structure, despite the relative importance of mining, copper and other shipments, the growth of shipments excluding mining and cellulose also stands out, after registering an average annual growth rate of 11.1% and shipments of US\$5,999 million in 2023.

## Republic of Korea

South Korea is an Asian economy that stands out as a country that evolved rapidly from underdevelopment to become a powerhouse, experiencing rapid economic growth rates based on export-oriented economic policies. In 2023, the country was the 14th largest economy in the world, with a GDP per capita at purchasing power parity of US\$60,046.

Between 1960 and 1970, the country went from exporting raw materials and consumer goods manufactured in small factories to exporting heavy industrial goods, such as chemicals, being competitive in sectors such as steel, semiconductors and others such as cell phones, automobiles, among others. In recent years, Korean music and video games, among other cultural contents, have become a large industry that is also part of its international insertion.

At the macroeconomic level, productive dynamics and growth are linked to macroeconomic stability, with low inflation, unemployment and fiscal deficits.

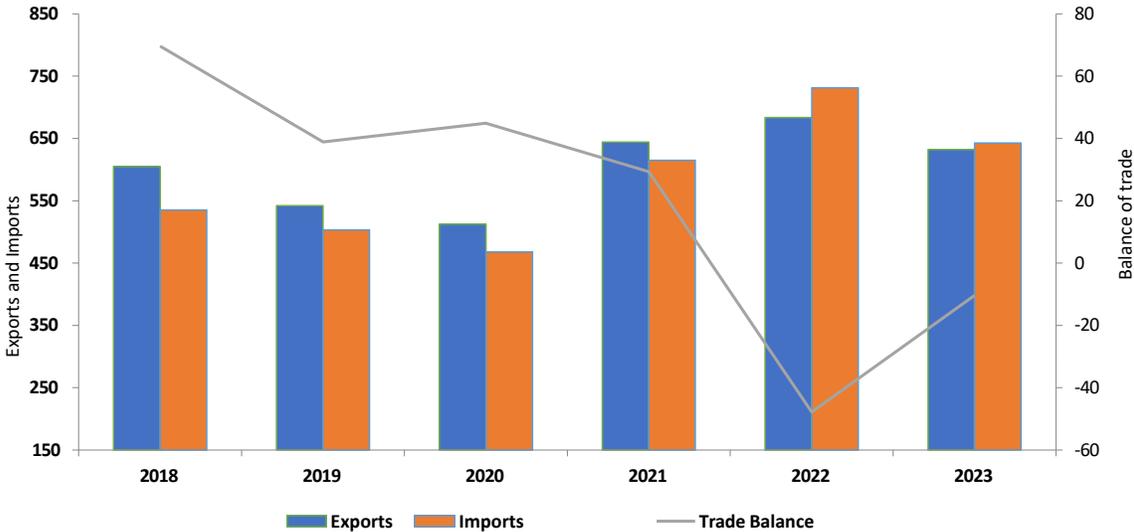
**Table N°3: Macroeconomic Indicators, Year 2023**

GDP (billions of US\$)	1.839
Real GDP growth (%)	1,4%
Estimated real GDP growth for 2024 (%)	2,5%
Population (millions of people)	51,7
GDP per capita (PPP) (US\$)	60.046
(Exports+Imports)/GDP	84,3%
Unemployment Rate	2,7%
Current Account Surplus (Deficit) (% of GDP)	1,9%
Fiscal Deficit	-0,7%
Inflation (end of period)	3,2%

Source: Directorate of Studies, SUBREI, with figures from IMF (WEO, October, 2024) and TradeMap.

**Foreign Trade**

**Graph N°3  
 Republic of 's Foreign Trade: Exports, Imports and Trade Balance  
 2018-2023 (US\$ billions)**



Source: Directorate of Studies, SUBREI, with figures from Global Trade Atlas.

The external scenario has been favorable, which has facilitated the gradual expansion of the country's foreign trade in goods and services, showing an effective recovery after the effects the pandemic. In fact, the degree of openness of the exchange of goods and services as a proportion of GDP is high, reaching close to 90% of GDP in 2023.

In 2023, trade in goods amounted to US\$1.274 billion, with a value of shipments of US\$632 billion. As imports have exceeded exports in recent years, the country has been running a trade deficit since 2022.

## Foreign Trade with Chile

**Table N°3**  
**Foreign Trade between Chile and the Republic**  
**of Korea 2018- 2023 (US\$ millions)**

	2018	2019	2020	2021	2022	2023	Average Growth Annual 2018-2023
<b>Commercial Exchange</b>	<b>6.145</b>	<b>5.913</b>	<b>5.200</b>	<b>6.739</b>	<b>8.268</b>	<b>7.389</b>	<b>3,8%</b>
<b>Exports (FOB)</b>	<b>4.288</b>	<b>4.494</b>	<b>4.185</b>	<b>4.861</b>	<b>6.377</b>	<b>5.902</b>	<b>6,6%</b>
Total mining exports	3.051,5	3.373,6	3.227,5	3.735,4	4.758,6	3.952,3	5,3%
Copper	2.488	3.020	2.879	3.178	3.254	2.616	1,0%
Other mining	563,4	353,6	348,5	557,6	1.504,7	1.335,8	18,8%
Total forestry, livestock fishery exports	131,1	153,1	118,7	139,7	115,6	102,6	-4,8%
Fruits	126,9	148,3	113,2	134,6	107,4	96,5	-5,3%
Total industrial exports	1.105	968	839	986	1.503	1.847	10,8%
Salmon-free processed foods	299,2	236,4	254,3	304,3	347,7	337,7	2,5%
Salmon	69	44	41	13	66	51,95	-5,4%
Bottled wine	44,8	46,7	58,6	80,2	66,7	40,9	-1,8%
Cellulose	255	181	99	118	152	141	-11,2%
Forestry and wood furniture	140	123	98	95	133	96	-7,2%
Chemicals	257	285	224	301	658	1.092	33,6%
Metal products, machinery and equipment	3	6	8	3	9	2	-10,0%
<b>Total non-mining and non-cellulose exports</b>	<b>981</b>	<b>939</b>	<b>858</b>	<b>1.008</b>	<b>1.466</b>	<b>1.809</b>	<b>13,0%</b>
<b>Total imports (CIF)</b>	<b>1.857</b>	<b>1.419</b>	<b>1.015</b>	<b>1.878</b>	<b>1.891</b>	<b>1.487</b>	<b>-4,3%</b>
<b>Total imports (FOB)</b>	<b>1.715</b>	<b>1.279</b>	<b>905</b>	<b>1.667</b>	<b>1.638</b>	<b>1.337</b>	<b>-4,9%</b>
<b>Balance of trade</b>	<b>2.572</b>	<b>3.215</b>	<b>3.280</b>	<b>3.194</b>	<b>4.739</b>	<b>4.565</b>	<b>-</b>

Source: Directorate of Studies, SUBREI, with figures from the Central Bank of Chile. (\*): Includes bleached and semi-bleached cellulose from conifers and eucalyptus.

Korea constituted as Chile's 12th trading partner, with a trade exchange that expanded at an average annual rate 3.8% between 2018 and 2023, highlighting the average annual rise of 6.6% in exports, after registering US\$5,902 million in 2023. From the point of view of shipments, the country became our country's 7th largest trading partner<sup>122</sup>.

It should be noted that 31% of total exports to South Korea corresponded to shipments of industrial products. The main industrial subsectors exported were chemical products, processed food, cellulose and forestry, and wood furniture, among others. Despite the importance of copper in total shipments, non-copper mining exports have also increased, especially lithium.

The Free Trade Agreement (FTA) between Chile and South Korea, in force since April 1, 2004, is comprehensive in the sense that it includes market access disciplines and related matters, as well as chapters on investment, trade in services, telecommunications, temporary entry of business persons, intellectual property, among others.

During the 2016 APEC Leaders' Summit, Chile and South Korea signed a joint declaration, expressing the willingness of both parties to initiate negotiations for the deepening of the FTA. To date, 9 rounds of negotiations have taken place: November 2018, July 2019, October 2019, November 2020, June and October 2021, May and

<sup>122</sup> Source: Central Bank of Chile.

November 2023 and the ninth round of negotiations was held the week of April 1-4, 2024, in Santiago, Chile.

Within the framework of the modernization of the FTA, Chile has expressed its interest in expanding preferential access of Chilean goods to the Korean market, allowing the liberalization of tariffs for Chilean products, especially for those that were left without any type of preference or relief in the original FTA, such as meat, dairy products, cheese, honey, vegetables, nuts, some fruits, cereals, food preparations, vegetable juices and extracts, among others.

## United States

The United States is the world's leading economic power with a per capita GDP at purchasing power parity of US\$82,715, accounting for 15.6% of global output. The country has continued to lead the field in innovation and technical progress, together with a high level of human capital, an important infrastructure and a developed financial sector.

Average annual GDP growth was 2.6% between 1980 and 2023. In 2023 it stood 2.9% and in 2024 the economy is expected to continue growing at 2.8%, explained by higher consumption, investment and net exports.

The country enjoys macroeconomic stability, with relatively low inflation and unemployment and less volatility in the economic cycle in recent decades. Despite the above, the fiscal deficit has remained, on average, above 6% of GDP between 2000 and 2023, particularly due to counter-cyclical spending policies, higher fiscal spending to recover the economy post-pandemic crisis, and high investment in infrastructure, among others.

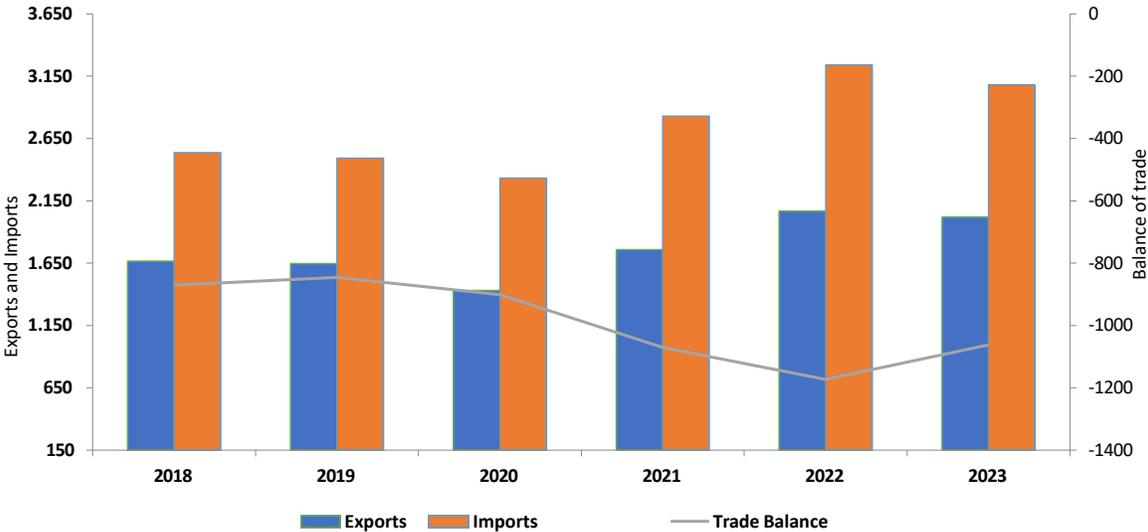
**Table N°4: Macroeconomic Indicators, Year 2023**

GDP (billions of US\$)	27.721
Real GDP growth (%)	2,9%
Estimated real GDP growth for 2024 (%)	2,8%
Population (millions of people)	335
GDP per capita (PPP) (US\$)	82.715
(Exports+Imports)/GDP	24,6%
Unemployment Rate	3,6%
Current Account Surplus (Deficit) (% GDP)	-3,3%
Fiscal Deficit	-7,1%
Inflation (end of period)	3,2%

Source: Directorate of Studies, SUBREI, with figures from IMF (WEO, October, 2024) and TradeMap.

**Foreign Trade**

**Graph N°4  
U.S. Foreign Trade: Exports, Imports and Trade Balance  
2018-2023 (US\$ billions)**



Source: Directorate of Studies, SUBREI, with figures from Global Trade Atlas.

Externally, the degree of openness of the economy, as measured by foreign trade in goods and services, amounted to 24.6% of GDP in 2023. However, given high spending, the country's current account deficit that year amounted to 3.3% of GDP.

In 2023, the trade exchange of goods amounted to US\$5,098 billion, with a value of shipments of US\$2,018 billion, increasing by 3.9% annual average between 2018 and 2023. Meanwhile, the value of imports totaled US\$3,080 billion, presenting a significant trade deficit of US\$1,062 billion, with a share of 8.8% of global purchases in 2023.

## Foreign Trade with Chile

**Table N°4**  
**Chile-U.S. Foreign Trade 2018- 2023 (US\$ millions)**

	2018	2019	2020	2021	2022	2023	Average Growth Annual 2018-2023
<b>Commercial Exchange</b>	<b>24.382</b>	<b>23.279</b>	<b>20.322</b>	<b>31.208</b>	<b>35.462</b>	<b>31.432</b>	<b>5,2%</b>
<b>Exports (FOB)</b>	<b>10.355</b>	<b>9.585</b>	<b>9.788</b>	<b>15.002</b>	<b>13.610</b>	<b>14.404</b>	<b>6,8%</b>
Total mining exports	3.587	2.973	3.155	7.054	4.221	5.479	8,8%
Copper	2.875	2.546	2.685	6.523	3.599	4.642	10,1%
Other mining	713	427	470	531	622	837	3,3%
Total forestry, livestock fishery exports	1.727	1.616	1.492	1.461	1.276	1.458	-3,3%
Fruits	1.553	1.478	1.350	1.320	1.136	1.315	-3,3%
Total industrial exports	5.040	4.996	5.140	6.486	8.112	7.467	8,2%
Salmon-free processed foods	906	836	909	1.181	1.435	1.165	5,2%
Salmon	1.725	1.801	1.647	2.220	2.756	2.737	9,7%
Bottled wine	156	146	134	144	138	116	-5,7%
Cellulose	38	27	20	24	3,1	1,0	-52,1%
Forestry and wood furniture	866	829	900	1.200	1.595	1.018	3,3%
Chemicals	708	730	610	888	1.273	1.614	17,9%
Metal products, machinery and equipment	257	267	571	256	348	298	3,0%
<b>Total non-mining and non-cellulose exports</b>	<b>6.729</b>	<b>6.585</b>	<b>6.612</b>	<b>7.924</b>	<b>9.385</b>	<b>8.924</b>	<b>5,8%</b>
<b>Total imports (CIF)</b>	<b>14.027</b>	<b>13.694</b>	<b>10.534</b>	<b>16.207</b>	<b>21.852</b>	<b>17.028</b>	<b>4,0%</b>
<b>Total imports (FOB)</b>	<b>13.229</b>	<b>12.870</b>	<b>9.747</b>	<b>15.143</b>	<b>20.298</b>	<b>15.761</b>	<b>3,6%</b>
<b>Balance of trade</b>	<b>-2.875</b>	<b>-3.285</b>	<b>41</b>	<b>-141</b>	<b>-6.689</b>	<b>-1.357</b>	<b>-</b>

Source: Directorate of Studies, SUBREI, with figures from the Central Bank of Chile (\*): Includes bleached and semi-bleached conifer and eucalyptus pulp.

The United States became Chile's 2nd largest trading partner in 2023, with a trade exchange that expanded at an average annual rate of 5.2% between 2018 and 2023, after registering US\$31,432 million, highlighting the average annual rise of 6.8% in exports and shipments for US\$14,404 million in 2023<sup>123</sup>.

Industrial products accounted for 52% of total exports to the United States. The main industrial subsectors exported were processed food, chemical products, forestry products and wood furniture, among others.

Also noteworthy are forestry, agriculture and fishing, with shipments of US\$1,457 million, accounting for 10% total shipments, and mining, with a share of 38%.

<sup>123</sup> Source: Central Bank of Chile.

## Philippines

The Philippines is a developing Southeast Asian economy with a per capita product at purchasing power parity of US\$11,281 and a large population of 112 million in 2023. The increase in per capita income has been sustained by high economic growth rates in recent decades. Between 2010 and 2023, the country experienced an average annual GDP expansion of 5%, higher than the world average, and by 2024 a growth of 5.8% is expected.

Regarding other basic macroeconomic indicators, the fiscal deficit has been growing in recent years, after 4.4% of GDP in 2023, due to fiscal plans to recover the economy after the pandemic, among others.

On inflation, the inflation rate is expected to remain in the target range between 3% and 5%, with an accommodative monetary policy to maintain the conditions for economic growth. Higher growth has contributed to lower unemployment rates, which will stand at 4.4% in 2023.

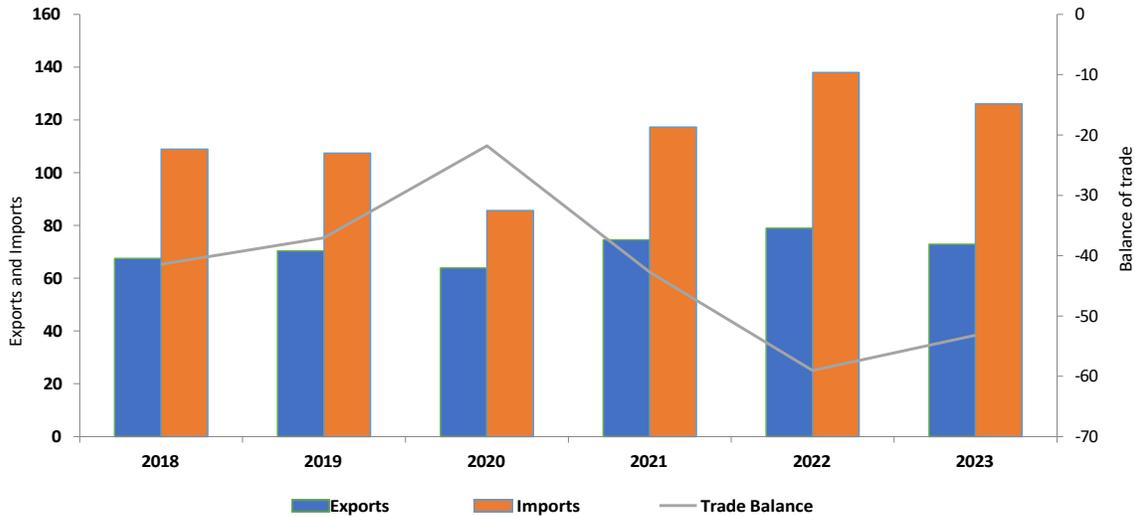
**Table N°5: Macroeconomic Indicators, Year 2023**

GDP (billions of US\$)	437
Real GDP growth (%)	5,5%
Estimated real GDP growth for 2024 (%)	5,8%
Population (millions of people)	112
GDP per capita (PPP) (US\$)	11.281
(Exports+Imports)/GDP	63,3%
Unemployment Rate	4,4%
Current Account Surplus (Deficit) (% GDP)	-2,6%
Fiscal Deficit	-4,4%
Inflation (end of period)	3,9%

Source: Directorate of Studies, SUBREI, with figures from IMF (WEO, October, 2024) and TradeMap.

## Foreign Trade

**Graph N°5**  
**Philippine Foreign Trade: Exports, Imports and Trade Balance 2018-2023 (US\$ billions).**



Source: Directorate of Studies, SUBREI, with figures from Global Trade Atlas.

Greater economic openness has increasingly contributed to the improvement in economic performance. Indeed, trade in goods and services as a proportion of GDP has risen in recent decades, representing 63.3% in 2023, although the country has been experiencing a current account deficit, at 2.6% of GDP.

From the point of view of foreign trade, trade exchange amounted to US\$199 billion in 2023, with an average annual increase of 2.4% in the period 2018 and 2023. Meanwhile, the country's higher domestic demand has contributed to higher imports of goods, which have been outpacing exports. Thus, the trade deficit has been increasing in recent years.

## Foreign trade with Chile

**Table N°5**  
**Chile-Philippines Foreign Trade**  
**2018- 2023 (US\$ millions)**

	2018	2019	2020	2021	2022	2023	Average Growth Annual 2018-2023
<b>Commercial Exchange</b>	<b>114</b>	<b>218</b>	<b>258</b>	<b>334</b>	<b>198</b>	<b>278</b>	<b>19,4%</b>
<b>Exports (FOB)</b>	<b>46</b>	<b>153</b>	<b>216</b>	<b>282</b>	<b>135</b>	<b>219</b>	<b>36,4%</b>
Total mining exports	0	97,4	177,1	228,7	51,9	159,3	-
Copper	0	97	177	229	52	159	-
Other mining	0	0	0	0	0	0	-
Total forestry, livestock fishery exports	8,3	6,3	3,0	3,6	2,4	2,4	-21,9%
Fruits	6,3	5,5	2,7	3,5	2,2	2,4	-17,4%
Total industrial exports	38	49	36	49	81	57	8,5%
Salmon-free processed foods	3,6	3,0	4,1	12,0	20,8	15,5	33,9%
Salmon	14	21	13	16	35	28,31	14,7%
Bottled wine	4,6	3,9	3,3	2,8	4,9	4,1	-2,4%
Cellulose	0	1,8	0,8	1,4	0,9	0,4	-
Forestry and wood furniture	0,4	0,7	0,4	0,2	0,1	0,0	-49,9%
Chemicals	0,3	0,3	0,9	0,8	0,8	0,7	20,6%
Metal products, machinery and equipment	1,2	1,3	0,4	0,3	0,2	1,6	6,9%
<b>Total non-mining and non-cellulose exports</b>	<b>46</b>	<b>53</b>	<b>38</b>	<b>52</b>	<b>82</b>	<b>59</b>	<b>5,0%</b>
<b>Total imports (CIF)</b>	<b>68</b>	<b>66</b>	<b>42</b>	<b>52</b>	<b>63</b>	<b>59</b>	<b>-2,7%</b>
<b>Total imports (FOB)</b>	<b>64</b>	<b>60</b>	<b>41</b>	<b>49</b>	<b>55</b>	<b>53</b>	<b>-3,6%</b>
<b>Balance of trade</b>	<b>-18</b>	<b>92</b>	<b>175</b>	<b>233</b>	<b>80</b>	<b>165</b>	<b>-</b>

Source: Directorate of Studies, SUBREI, with figures from the Central Bank of Chile (\*): Includes bleached and semi-bleached conifer and eucalyptus pulp.

During 2023, Chile's trade exchange with the Philippines amounted to US\$278 million, with an average annual growth of 19.4% between 2018 and 2023. Exports registered US\$219 million in 2023, with significant average annual dynamism of 36.4% in the same period. Given imports of US\$59 million, there was a trade surplus of US\$165 million that year.

Mining products accounted for 73% of total exports (copper is the total of mining shipments to that market). On the goods side, excluding mining and cellulose, exports grew by an average annual 5% between 2018 and 2023, with processed foods standing out.

On December 6, 2024, Foreign Minister Alberto van Klaveren and the country's Secretary of Trade and Industry, Cristina A. Roque, announced the start of negotiations for a Comprehensive Economic Partnership Agreement (CEPA). Roque, announced the start of negotiations for a Comprehensive Economic Partnership Agreement (CEPA). This negotiation will provide a more solid basis for the expansion and deepening of bilateral economic ties and technical cooperation in areas of mutual interest. The CEPA will cover trade in goods, trade in services and investment, among other areas, allowing Chile to access an important market in Southeast Asia.

## India

India is one of the most relevant economies in South Asia, due to its economic size, population, as well as its strategic location. In 2023, the country was the world's third largest economy (measured in purchasing power parity) and the leader in global population, with 1,429 million people, surpassing China.

The country has undergone a process of economic and political opening since the last decade of the last century. This has allowed it to rapidly reduce extreme poverty by half. Economic reforms have been transforming the country into one of the fastest growing economies.

While in the 1990s the country grew at an average annual rate of 5.6%, between 2009 and 2023 the average annual growth rate was 7.0%. Thus, per capita GDP at purchasing power parity will reach US\$10,233 in 2023 (US\$420 in 1980).

The economic dynamism of recent years has been stimulated by both the government and the private sector, which have continued to invest heavily in infrastructure in various sectors, such as housing and building construction, increased textile and industrial-manufacturing production, as well as outstanding performance in the technology sector.

The services sector has become increasingly important in economic activity, accounting for 53% of GDP in 2023, compared to 38% in 1960. Both are followed industry (including construction), with 25%, while agriculture, forestry and fishing account for 16%.

In the fiscal area, a deficit of 8.3% of GDP was observed in 2023, compared to an average deficit of 7.5% of GDP in the last decade, given the growing fiscal spending in recent years, which has affected inflationary levels, among other factors. Despite the above, inflation has been decreasing in 2023 and stood at 5.0% that year.

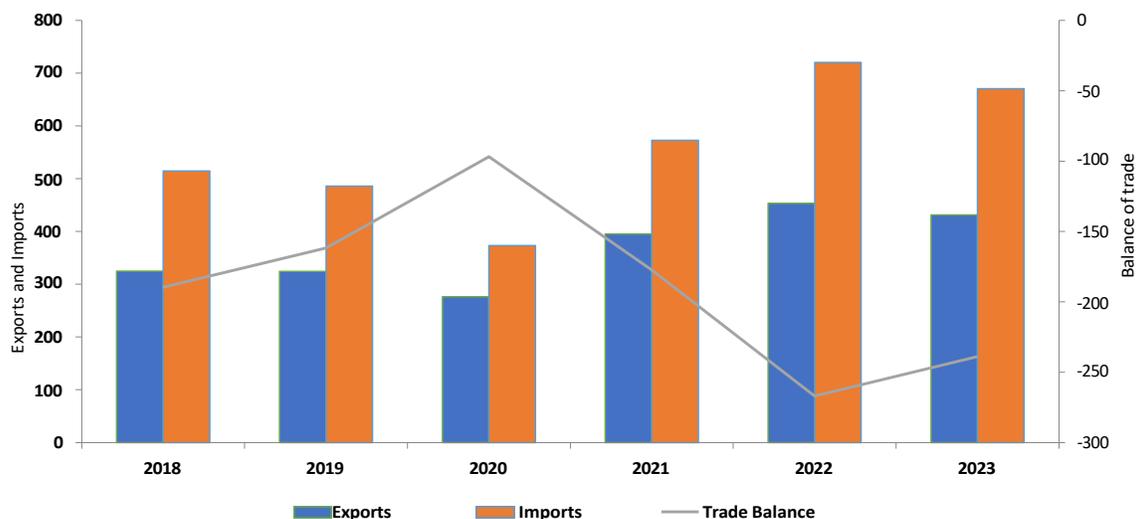
**Table N°6: Macroeconomic Indicators, Year 2023**

GDP (billions of US\$)	3.568
Real GDP growth (%)	8,2%
Estimated real GDP growth for 2024 (%)	7,0%
Population (millions of people)	1.429
GDP per capita (PPP) (US\$)	10.233
(Exports+Imports)/GDP	47,5%
Unemployment Rate	8,0%
Current Account Surplus (Deficit) (% GDP)	-0,7%
Fiscal Deficit	-8,3%
Inflation (end of period)	5,0%

Source: Directorate of Studies, SUBREI, with figures from IMF (WEO, October, 2024) and TradeMap.

## Foreign Trade

**Graph N°6**  
**India's Foreign Trade: Exports, Imports and Trade Balance 2018-2023 (US\$ billions)**



Source: Directorate of Studies, SUBREI, with figures from Global Trade Atlas.

India's opening up process and the increase in foreign trade in goods and services has implied that the degree of openness of the Indian economy will stand at 47.5% of GDP in 2023. Between 2018 and 2023, an average annual growth of 5.5% in trade in goods was observed, which is higher than the average growth in global trade.

It is important to note that, as a result of structural reforms and trade policy, India has managed to diversify its export basket. But not only this, as it has also gone from being a net exporter of primary goods and natural resources to exporting products with higher value added.

India's exports of goods to the world amounted to US\$431 billion in 2023, while purchases from abroad totaled US\$670 billion, making it a net importer. Traditionally, trade with the world has shown a marked and permanent trade deficit, which stood at US\$238 billion in 2023, while maintaining a trade surplus in services.

## Foreign trade with Chile

**Table N°6**  
**Foreign Trade 2018- 2023 (US\$**  
**millions)**

	2018	2019	2020	2021	2022	2023	Average Growth Annual 2018-2023
<b>Commercial Exchange</b>	<b>2.274</b>	<b>2.166</b>	<b>1.499</b>	<b>2.541</b>	<b>2.667</b>	<b>2.848</b>	<b>4,6%</b>
<b>Exports (FOB)</b>	<b>1.284</b>	<b>1.147</b>	<b>763</b>	<b>1.258</b>	<b>1.205</b>	<b>1.509</b>	<b>3,3%</b>
Total mining exports	970	855	503	887	804	935	-0,7%
Copper	938	797	481	855	793	931	-0,2%
Other mining	32	57	22	32	11	4	-35,5%
Total forestry, livestock fishery exports	89	68	72	143	119	177	14,8%
Fruits	83	62	69	141	114	167	15,0%
Total industrial exports	225	224	188	228	282	397	12,0%
Salmon-free processed foods	3,0	7,4	10	5,4	8,9	5,1	11,3%
Salmon	0	0	0	0	0	0,12	-
Bottled wine	1,2	1,2	1,1	1,7	1,8	1,4	2,8%
Cellulose	66	46	31	58	70	43	-8,5%
Forestry and wood furniture	0,4	0,1	0,0	0,2	0,1	0,1	-23,6%
Chemicals	112	125	101	121	155	253	17,7%
Metal products, machinery and equipment	2,5	4,6	4,0	2,2	4,2	4,6	13,0%
<b>Total non-mining and non-cellulose exports</b>	<b>248</b>	<b>246</b>	<b>228</b>	<b>313</b>	<b>331</b>	<b>531</b>	<b>16,5%</b>
<b>Total imports (CIF)</b>	<b>990</b>	<b>1.019</b>	<b>736</b>	<b>1.282</b>	<b>1.462</b>	<b>1.339</b>	<b>6,2%</b>
<b>Total imports (FOB)</b>	<b>925</b>	<b>959</b>	<b>689</b>	<b>1.140</b>	<b>1.270</b>	<b>1.233</b>	<b>5,9%</b>
<b>Balance of trade</b>	<b>359</b>	<b>188</b>	<b>74</b>	<b>118</b>	<b>-65</b>	<b>276</b>	<b>-</b>

Source: Directorate of Studies, SUBREI, with figures from the Central Bank of Chile (\*): Includes bleached and semi-bleached conifer and eucalyptus pulp.

In 2023, the trade exchange between Chile and India amounted to US\$2,848 million, with an average annual increase of 4.6% between 2018 and 2023, after recording US\$1,509 million in exports and imports for US\$1,339 million in 2023.

Despite the fact that 62% of total exports to India corresponded to mining products in 2023, it is worth noting the greater dynamism in industrial and silvo-agricultural shipments, with an average annual growth rate of 12% and 15%, respectively, between 2018 and 2023.

The Partial Scope Agreement (PSA) with India, which has been in force since 2007, was expanded in 2017, when Chile granted tariff preferences to 2,099 Indian products, while India did the same with 1,110 Chilean products. The agreed extension, in addition to increasing the coverage of the AAP in terms of tariff lines, considers preference margins between 80% and 100%, higher than the original agreement. Specific rules of origin were included in this extension, together with the incorporation of the disciplines of sanitary and phytosanitary measures (SPS) and technical barriers to trade (TBT), which generated favorable instances to review the implementation of the agreement and address the trade problems that could arise in bilateral flows.

In the year 2023, authorities from both parties agreed to deepen economic and trade relations, highlighting the significant potential of bilateral trade. The negotiating teams are mandated to work towards the negotiation of an Economic Partnership Agreement.

## Indonesia

Indonesia is the largest economy in Southeast Asia, the 16th largest in terms of world output and the fourth most populous. Its economy has grown rapidly since the late 1990s, reducing poverty to less than half of what it was in 1999.

GDP expanded at an average annual rate of 5.1% between 1980 and 2023. An expansion of 5.0% is projected for 2024, due to higher consumption and private investment, as well as an increase in net exports. At the highest growth rate, GDP per capita at purchasing power parity will reach US\$15,554 in 2023.

In the same year, inflation reached a relatively low 2.8% per year, while unemployment fell to 5.3%. On the fiscal side, the deficit has been receding to 1.6% of GDP in 2023.

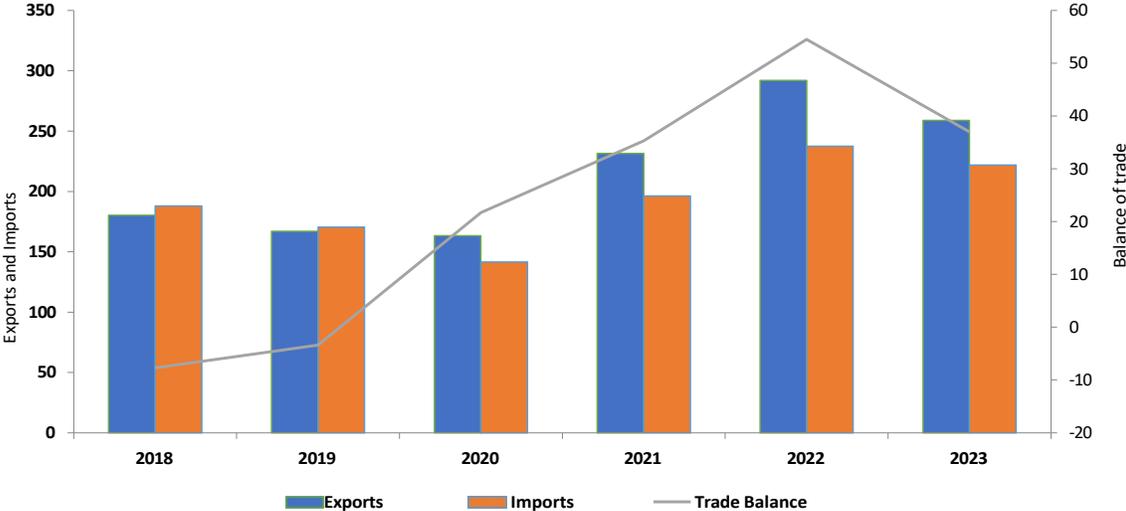
**Table N°7: Macroeconomic Indicators, Year 2023**

GDP (billions of US\$)	1.371
Real GDP growth (%)	5,0%
Estimated real GDP growth for 2024 (%)	5,0%
Population (millions of people)	279
GDP per capita (PPP) (US\$)	15.554
(Exports+Imports)/GDP	41,2%
Unemployment Rate	5,3%
Current Account Surplus (Deficit) (% of GDP)	-0,2%
Fiscal Deficit	-1,6%
Inflation (end of period)	2,8%

Source: Directorate of Studies, SUBREI, with figures from IMF (WEO, October, 2024) and TradeMap.

**Foreign Trade**

**Graph N°7  
Indonesia's Foreign Trade: Exports, Imports and Trade Balance, 2018-2023 (US\$ billions).**



Source: Directorate of Studies, SUBREI, with figures from Global Trade Atlas.

Following increased foreign trade and economic openness to the external sector, the trade exchange of goods and services came to represent 41% of GDP in 2023. Between 2018 and 2023, the trade exchange of goods expanded at an average annual rate of 5.5%.

Part of Indonesia's higher economic growth has been explained by the increase in exports of goods, which grew in value by an annual average of 7.5% between 2018 and 2023, while imports grew by 3.4%, as an annual average over a similar period. It is worth noting the strong increase in the trade balance in recent years, after moving from a deficit of US\$3.4 billion in 2019 to a trade surplus of US\$39 billion in 2023.

## Foreign trade with Chile

**Table N°7**  
**Chile-Indonesia Foreign Trade 2018-**  
**2023 (US\$ millions)**

	2018	2019	2020	2021	2022	2023	Average Growth Annual 2018-2023
<b>Commercial Exchange</b>	<b>298</b>	<b>325</b>	<b>263</b>	<b>439</b>	<b>674</b>	<b>504</b>	<b>11,1%</b>
<b>Exports (FOB)</b>	<b>92</b>	<b>128</b>	<b>97</b>	<b>144</b>	<b>197</b>	<b>153</b>	<b>10,7%</b>
Total mining exports	10	58	37	56	96	68	45,7%
Copper	0	39	37	56	96	68	272,3%
Other mining	10	19	0	0	0	0	-62,3%
Total forestry, livestock fishery exports	13	15	5	23	12	6,1	-13,4%
Fruits	11	14	4	22	12	5,8	-12,8%
Total industrial exports	69	56	55	65	88	79	2,7%
Salmon-free processed foods	19	16	14	14	20	27	7,0%
Salmon	2	5	3	5	16	12	37,0%
Bottled wine	1,2	1,8	0,7	0,9	1,4	2,1	12,3%
Cellulose	11	9	11	13	16	11	-0,1%
Forestry and wood furniture	2,5	5,1	12	8,9	7,8	12	37,4%
Chemicals	7,3	4,6	5,4	5,4	12	5,1	-6,9%
Metal products, machinery and equipment	14	3,3	3,2	3,0	2,7	1,9	-33,2%
<b>Total non-mining and non-cellulose exports</b>	<b>71</b>	<b>61</b>	<b>49</b>	<b>76</b>	<b>85</b>	<b>74</b>	<b>1,0%</b>
<b>Total imports (CIF)</b>	<b>206</b>	<b>197</b>	<b>166</b>	<b>294</b>	<b>477</b>	<b>351</b>	<b>11,2%</b>
<b>Total imports (FOB)</b>	<b>197</b>	<b>187</b>	<b>154</b>	<b>264</b>	<b>419</b>	<b>323</b>	<b>10,4%</b>
<b>Balance of trade</b>	<b>-105</b>	<b>-59</b>	<b>-57</b>	<b>-120</b>	<b>-222</b>	<b>-170</b>	<b>-</b>

Source: Directorate of Studies, SUBREI, with figures from the Central Bank of Chile (\*): Includes bleached and semi-bleached conifer and eucalyptus pulp.

Regarding the bilateral relationship with Chile, between 2018 and 2023, total trade expanded at an average annual rate of 11.1%. Chilean exports to Indonesia totaled US\$153 million, highlighting industrial shipments, which concentrated 52% of total shipments, led by food shipments and copper shipments, with a strong average annual expansion of 272% in the period.

Chilean imports from Indonesia totaled US\$351 million in 2023, with an average annual growth rate of 11.2% between 2018 and 2023.

The Chile-Indonesia Comprehensive Economic Partnership Agreement (CEPA) was signed in December 2017 and entered into force on August 10, 2019. In the first instance, this agreement only covers preferential trade in goods. In the context of the negotiations for the modernization of the FTA, both countries formally expressed their intention to initiate negotiations to incorporate a chapter on cross-border trade in services.

On November 21, 2022, the Protocol on Trade in Services of the CEPA was signed in Jakarta, which was approved by the Chilean Congress on June 4, 2024. This protocol incorporates provisions on trade in services, providing direct benefits to Chile for access to professional services of different types (legal, architectural, engineering, medical and dental; information technology; research and development; cultural, and transportation, among others). In this way, it provides certainty and predictability to our exports of services and supports both exports of goods and logistics services.

The opening of the services market in Indonesia will not only deepen our bilateral economic relationship with that country, the largest economy in Southeast Asia, but also allow a greater flow of trade in services.

## Japan

Japan is a developed East Asian nation, the world's fourth largest economy and a member of a select group of the most developed nations (G7). In 2023, GDP per capita at purchasing power parity amounted to US\$51,399.

For several decades, the country has been developing in the technological field in various areas, such as robotics, natural sciences, aerospace exploration and biomedical research, among other cutting-edge sectors.

However, after several decades of high economic growth, the pace of expansion has been slowing. Between 1980 and 2010, the economy expanded at an average annual rate of 3.2%, slowing to an annual average of 0.7% 2010 and 2023, in a context of increased volatility. In 2023, the economy grew by 1.7% and is expected to grow by 0.3% in 2024.

From the standpoint of other macroeconomic indicators, low inflation and unemployment stand out. However, given the strong fiscal momentum of the post-pandemic economic recovery efforts and fiscal plans to help increase public investment, the fiscal deficit remained relatively high at 4.2% of GDP in 2023.

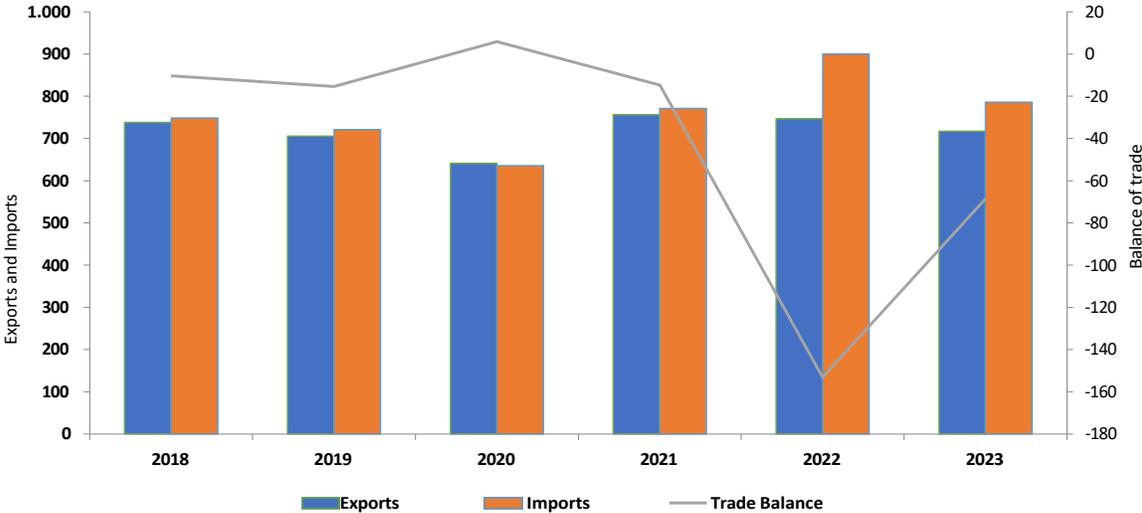
**Table N° 8: Macroeconomic Indicators, Year 2023**

GDP (billions of US\$)	4.220
Real GDP growth (%)	1,7%
Estimated real GDP growth for 2024 (%)	0,3%
Population (millions of people)	125
GDP per capita (PPP) (US\$)	51.399
(Exports+Imports)/GDP	45,9%
Unemployment Rate	2,6%
Current Account Surplus (Deficit) (% of GDP)	3,6%
Fiscal Deficit	-4,2%
Inflation (end of period)	2,9%

Source: Directorate of Studies, SUBREI, with figures from IMF (WEO, October, 2024) and TradeMap.

Foreign Trade

**Graph N° 8**  
**Japan's Foreign Trade: Exports, Imports and Trade Balance 2018-2023 (US\$ billions)**



Source: Directorate of Studies, SUBREI, with figures from Global Trade Atlas.

Following its greater economic openness to foreign trade, trade in goods and services will account for 41% of GDP in 2023. Another notable indicator for Japan is the current account surplus, given that the country is a net saver. In 2023, the surplus amounted to 3.6% of GDP.

Trade exchange has been stagnating in recent years. Between 2018 and 2022, it expanded by an average annual 0.2%, with exports declining by an average annual 0.6% in that period. However, the country remains a global export engine, whose shipments are made up of 90% manufactured goods.

## Foreign trade with Chile

**Table N° 8**  
**Chile-Japan Foreign Trade 2018-**  
**2023 (US\$ millions)**

	2018	2019	2020	2021	2022	2023	Average Growth Annual 2018-2023
<b>Commercial Exchange</b>	9.250	8.608	7.812	9.329	10.163	9.276	0,1%
<b>Exports (FOB)</b>	6.856	6.226	6.623	7.186	7.499	6.795	-0,2%
Total mining exports	4.119	3.568	4.195	4.627	4.630	4.061	-0,3%
Copper	3.728	3.352	4.073	4.455	4.062	3.694	-0,2%
Other mining	391	216	122	172	568	367	-1,2%
Total forestry, livestock fishery exports	119	131	130	118	114	127	1,4%
Fruits	60	67	67	58	58	65	1,4%
Total industrial exports	2.619	2.526	2.298	2.441	2.754	2.606	-0,1%
Salmon-free processed foods	691	706	738	635	702	750	1,6%
Salmon	806	800	762	814	972	729	-2,0%
Bottled wine	155	137	140	122	132	108	-6,9%
Cellulose	114	79	52	83	102	59	-12,2%
Forestry and wood furniture	331	300	244	210	179	161	-13,4%
Chemicals	453	440	320	525	618	749	10,6%
Metal products, machinery and equipment	0,9	2,8	4,2	1,6	2,1	2,2	20,2%
<b>Total non-mining and non-cellulose exports</b>	<b>2.624</b>	<b>2.579</b>	<b>2.376</b>	<b>2.477</b>	<b>2.767</b>	<b>2.674</b>	<b>0,4%</b>
<b>Total imports (CIF)</b>	<b>2.394</b>	<b>2.383</b>	<b>1.189</b>	<b>2.143</b>	<b>2.665</b>	<b>2.482</b>	<b>0,7%</b>
<b>Total imports (FOB)</b>	<b>2.250</b>	<b>2.237</b>	<b>1.107</b>	<b>1.982</b>	<b>2.403</b>	<b>2.260</b>	<b>0,1%</b>
<b>Balance of trade</b>	<b>4.606</b>	<b>3.988</b>	<b>5.517</b>	<b>5.204</b>	<b>5.096</b>	<b>4.534</b>	<b>-</b>

Source: Directorate of Studies, SUBREI, with figures from the Central Bank of Chile (\*): Includes bleached and semi-bleached conifer and eucalyptus pulp.

In the bilateral trade relationship with Chile, during 2023 the trade exchange totaled US\$9,276 million, evidencing stagnation in recent years, with an average annual increase of 0.1% between 2018 and 2023. However, Chile's historic trade surplus with Japan stands out.

Chilean exports to Japan reached US\$6,795 million, with non-copper and non-cellulose shipments accounting for 39% of shipments in 2023. Of these, foodstuffs stand out, with shipments of US\$1,479 million that year. Copper accounted for 54% of total exports.

## Malaysia

Malaysia is a Southeast Asian economy that has been developing on basis of production for export of higher technology manufactured goods, in line with increased labor force participation and skills with high savings in the country.

This has allowed the country to experience high rates of economic growth. Between 1980 and 2023, the country grew by an annual average of 5.4%, which meant that per capita GDP at purchasing power parity increased from US\$3,340 in 1980 to US\$38,694 in 2023.

Malaysia is an economy that has been developing the services sector (53.5% of GDP), particularly given the increased dynamism of tourism in recent decades. Manufacturing accounted for 23% of GDP in 2023. This last productive sector includes oil and gas production, considering that Malaysia is the main hydrocarbon exporter in the region. Exports accounted for 75% of GDP in 2023.

From the point of view of other macroeconomic indicators, low inflation and unemployment stand out. However, the fiscal deficit, on average, was 3.5% of GDP between 2013 and 2023, given the significant presence of the State in efforts to increase public investment and current spending to contribute to the stability of the economic cycle.

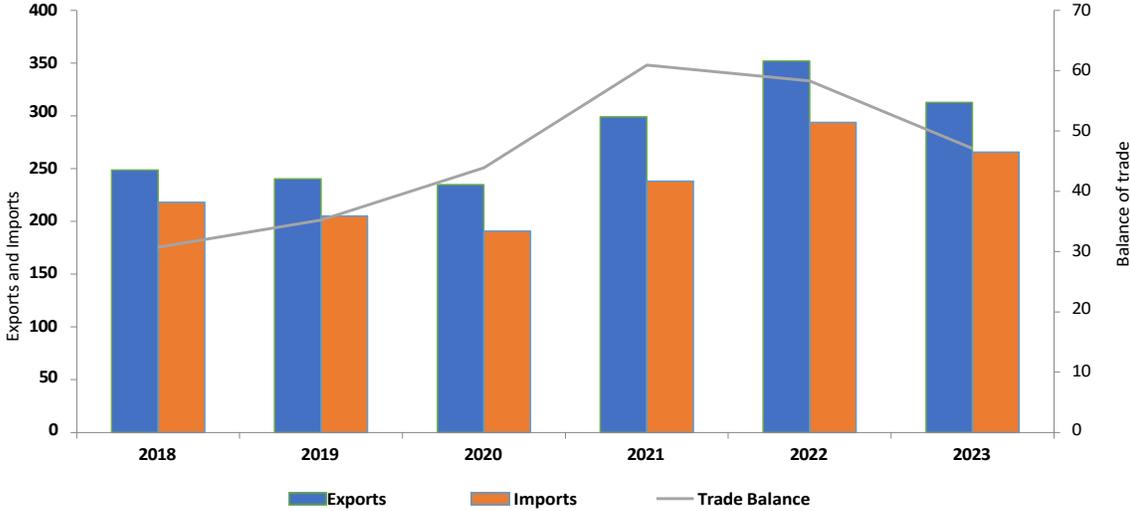
**Table N°G: Macroeconomic Indicators, Year 2023**

GDP (billions of US\$)	400
Real GDP growth (%)	3,6%
Estimated real GDP growth for 2024 (%)	4,8%
Population (millions of people)	33
GDP per capita (PPP) (US\$)	38.694
(Exports+Imports)/GDP	168,3%
Unemployment Rate	3,6%
Current Account (Deficit) Surplus (% GDP)	1,5%
Fiscal Deficit	-4,6%
Inflation (end of period)	2,5%

Source: Directorate of Studies, SUBREI, with figures from IMF (WEO, October, 2024) and TradeMap.

**Foreign Trade**

**Graph N°G**  
**Malaysia's Foreign Trade: Exports, Imports and Trade Balance 2018-2023**  
**(billions of US\$)**



Source: Directorate of Studies, SUBREI, with figures from Global Trade Atlas.

Given the relevance of the external sector in the economy and the importance of the country's export engine, the degree of trade openness, measured by the trade exchange of goods and services with respect to GDP, stood at 168.3% in 2023. In addition, the trade balance surplus of US\$47 billion that year and the current account surplus, which has remained uninterrupted since 1998, are worth noting.

During 2018 and 2023, trade in goods expanded at an average annual rate of 4.4% after recording US\$578 billion, driven by an average 4.7% increase in exports and a 4.0% increase in imports.

## Foreign trade with Chile

**Table N°G**  
**Chile-Malaysia Foreign Trade 2018-**  
**2023 (US\$ millions)**

	2018	2019	2020	2021	2022	2023	Average Growth Annual 2018-2023
<b>Commercial Exchange</b>	<b>378</b>	<b>454</b>	<b>382</b>	<b>536</b>	<b>565</b>	<b>482</b>	<b>5,0%</b>
<b>Exports (FOB)</b>	<b>120</b>	<b>209</b>	<b>167</b>	<b>214</b>	<b>277</b>	<b>304</b>	<b>20,4%</b>
Total mining exports	61,7	144,7	111,4	152,1	202,1	235,3	30,7%
Copper	61,5	144	111	152	195	235	30,8%
Other mining	0	0	0	0,406	7,03	0,10	-8,3%
Total forestry, livestock fishery exports	5,9	7,5	4,6	5,7	4,1	3,3	-11,0%
Fruits	5,9	7,4	4,5	5,4	3,8	3,1	-12,0%
Total industrial exports	52	56	51	56	71	65	4,5%
Salmon-free processed foods	8,5	10,7	9,1	11,9	11,5	8,0	-1,2%
Salmon	11,5	16,3	16,2	12,7	21	20,6	12,4%
Bottled wine	5,9	6,0	3,9	4,1	8,2	6,9	3,3%
Cellulose	6,8	9,6	6,1	6,1	5,6	6,2	-1,7%
Forestry and wood furniture	3,1	1,9	5,5	5,1	6,6	10,3	27,0%
Chemicals	6,4	5,8	5,0	8,0	9,5	7,5	3,1%
Metal products, machinery and equipment	2,6	0,3	0,5	0,5	0,6	1,2	-13,8%
<b>Total non-mining and non-cellulose exports</b>	<b>51</b>	<b>54</b>	<b>50</b>	<b>56</b>	<b>69</b>	<b>62</b>	<b>3,9%</b>
<b>Total imports (CIF)</b>	<b>258</b>	<b>246</b>	<b>215</b>	<b>322</b>	<b>288</b>	<b>178</b>	<b>-7,2%</b>
<b>Total imports (FOB)</b>	<b>243</b>	<b>231</b>	<b>201</b>	<b>287</b>	<b>248</b>	<b>164</b>	<b>-7,5%</b>
<b>Balance of trade</b>	<b>-123</b>	<b>-23</b>	<b>-33</b>	<b>-74</b>	<b>29</b>	<b>139</b>	<b>-</b>

Source: Directorate of Studies, SUBREI, with figures from the Central Bank of Chile (\*): Includes bleached and semi-bleached conifer and eucalyptus pulp.

In the period 2018 - 2023, Chile's trade exchange with Malaysia totaled US\$482 million, with an average annual expansion of 5%, a rise mainly explained by higher total exports in the period. Meanwhile, Chilean imports from Malaysia decreased on average in the period.

In the case of mining products, they accounted for 77.4% of total exports, which was mainly explained by copper. Also noteworthy is the increase in industrial exports, with an average annual growth of 4.5% between 2018 and 2023, pushed by the rise in exports of forestry products and wood furniture. According to exported amounts, in 2023, salmon shipments stood out, which concentrated 32.9% of total exports from the industrial sector.

## New Zealand

New Zealand is highly developed, natural resource-based in Oceania that promotes free market fundamentals, competition and private enterprise, fostering dynamic regulatory frameworks and a business-friendly environment.

Growth in recent decades has been rather stable, with an average annual GDP growth rate of 2.8% between 2000-2023, mainly due to the contributions private investment and the dynamics of the external sector. The higher growth has contributed to an increase in GDP per capita at purchasing power parity to US\$52,856 in 2023.

From the point of view of the economic structure, in 2023 the services sector accounted for 72% of the economy, while manufacturing accounted for 11%, while forestry, agriculture and fishing accounted for 6% of GDP, among others. However, New Zealand's comparative advantages are based on natural resources exports associated with the primary sector, such as dairy and meat.

One of the challenges facing the New Zealand economy is to improve productivity levels and diversify the productive matrix and improve infrastructure, particularly in the energy, transportation and telecommunications sectors.

From the macroeconomic point of view, low unemployment rates persist and inflation is expected to fall to 4.7% in 2023. In addition, the economy is dragging a high fiscal deficit due to the expansionary counter-cyclical fiscal policy to counteract the negative effects of the pandemic, standing at 3.3% of GDP in 2023.

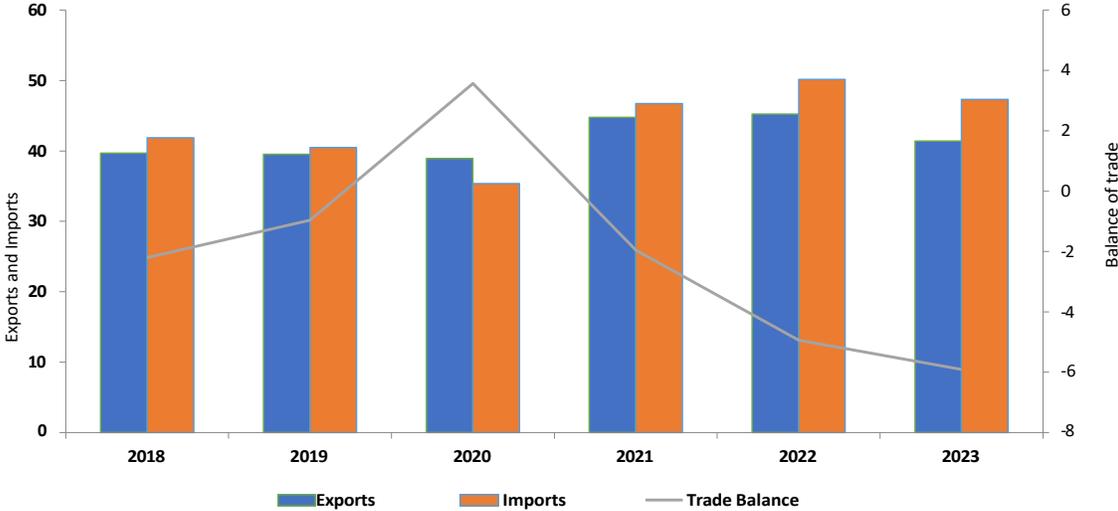
**Table N°10: Macroeconomic Indicators, Year 2023**

GDP (billions of US\$)	249
Real GDP growth (%)	0,6%
Estimated real GDP growth for 2024 (%)	0,04%
Population (millions of people)	5,2
GDP per capita (PPP) (US\$)	52.856
(Exports+Imports)/GDP	49,7%
Unemployment Rate	3,7%
Current Account Surplus (Deficit) (% of GDP)	-6,9%
Fiscal Deficit	-3,3%
Inflation (end of period)	4,7%

Source: Directorate of Studies, SUBREI, with figures from IMF (WEO, October, 2024) and TradeMap.

Foreign Trade

**Graph N° 10**  
**New 's Foreign Trade: Exports, Imports and Trade Balance**  
**2018-2023 (US\$ billions)**



Source: Directorate of Studies, SUBREI, with figures from Global Trade Atlas.

The external sector has been important to New Zealand's economy. Indeed, trade in goods and services, as a percentage of GDP, was 50% in 2023. Generally, the economy has run trade deficits over the last decade. The deficits are explained by the importance of imported intermediate and capital goods, including fuels and other inputs, as well as rising prices that have made external purchases more expensive.

In 2023, trade exchange totaled US\$88 billion, with an average expansion rate of 1.7% between 2018 and 2023. Shipments totaled US\$41 billion, with an average annual expansion rate of 0.9% in the aforementioned period. Meanwhile, imports grew by an average annual rate of 2.5%, after registering US\$47 billion.

## Foreign Trade with Chile

**Table N° 10**  
**Foreign Trade between Chile and New Zealand 2018- 2023 (US\$ millions)**

	2018	2019	2020	2021	2022	2023	Average Growth Annual 2018-2023
<b>Commercial Exchange</b>	<b>212</b>	<b>176</b>	<b>174</b>	<b>214</b>	<b>190</b>	<b>174</b>	<b>-3,9%</b>
<b>Exports (FOB)</b>	<b>72</b>	<b>74</b>	<b>57</b>	<b>59</b>	<b>77</b>	<b>59</b>	<b>-4,0%</b>
Total mining exports	0	0	0	0	0	0	-
Copper	0	0	0	0	0	0	-
Other mining	0	0	0	0	0	0	-
Total forestry, livestock fishery exports	4,4	3,7	2,2	3,0	2,6	2,3	-12,3%
Fruits	4,2	3,4	1,9	2,7	2,5	2,1	-12,5%
Total industrial exports	67	70	55	56	75	56	-3,5%
Salmon-free processed foods	32,5	26,5	19,2	17,7	21,8	14,7	-14,7%
Salmon	0	0	0	0	0	0	-
Bottled wine	0,7	0,5	0,6	0,7	0,5	0,3	-13,2%
Cellulose	11,4	17,5	12,0	13,3	15,1	19,2	10,9%
Forestry and wood furniture	16,3	14,5	15,2	18,6	31,6	11,2	-7,2%
Chemicals	1,3	2,4	2,5	1,3	2,1	3,0	17,2%
Metal products, machinery and equipment	2,6	4,9	2,1	1,8	1,8	4,0	8,7%
<b>Total non-mining and non-cellulose exports</b>	<b>60</b>	<b>56</b>	<b>45</b>	<b>46</b>	<b>62</b>	<b>39</b>	<b>-8,2%</b>
<b>Total imports (CIF)</b>	<b>140</b>	<b>103</b>	<b>117</b>	<b>155</b>	<b>113</b>	<b>115</b>	<b>-3,9%</b>
<b>Total imports (FOB)</b>	<b>135</b>	<b>98</b>	<b>111</b>	<b>147</b>	<b>106</b>	<b>109</b>	<b>-4,2%</b>
<b>Balance of trade</b>	<b>-63</b>	<b>-25</b>	<b>-54</b>	<b>-88</b>	<b>-29</b>	<b>-50</b>	<b>-</b>

Source: Directorate of Studies, SUBREI, with figures from the Central Bank of Chile (\*): Includes bleached and semi-bleached conifer and eucalyptus pulp.

In 2023, trade between Chile and New Zealand reached US\$174 million, which has been relatively stable in recent years. However, in 2023 it expanded at an average annual rate of 7.0%, which is explained by shipments totaling US\$59 million and imports of US\$115 million.

From the point of view of the export structure, currently 96% of Chilean exports to New Zealand come from the industrial sector. Of the total exported, 40.9% corresponded to products from the cellulose subsector, followed by processed food and forestry products and wood furniture.

## Singapore

Singapore is an Asian city-state of high economic growth and development and one of the most open economies in the world. Its expansion has been explained by the rapid growth manufacturing exports and services, in context increased human capital development, which have been fundamental in explaining its rapid development.

Between 1980 and 2023, the economy expanded at an average annual rate of 5.8%. The country has the third highest per capita product at purchasing power parity globally, with US\$141,554 in 2023.

Singapore has outstanding macroeconomic indicators. In 2023, it had a fiscal surplus of 3.5% of GDP, very low unemployment and low inflation. The country is characterized by high domestic and foreign savings.

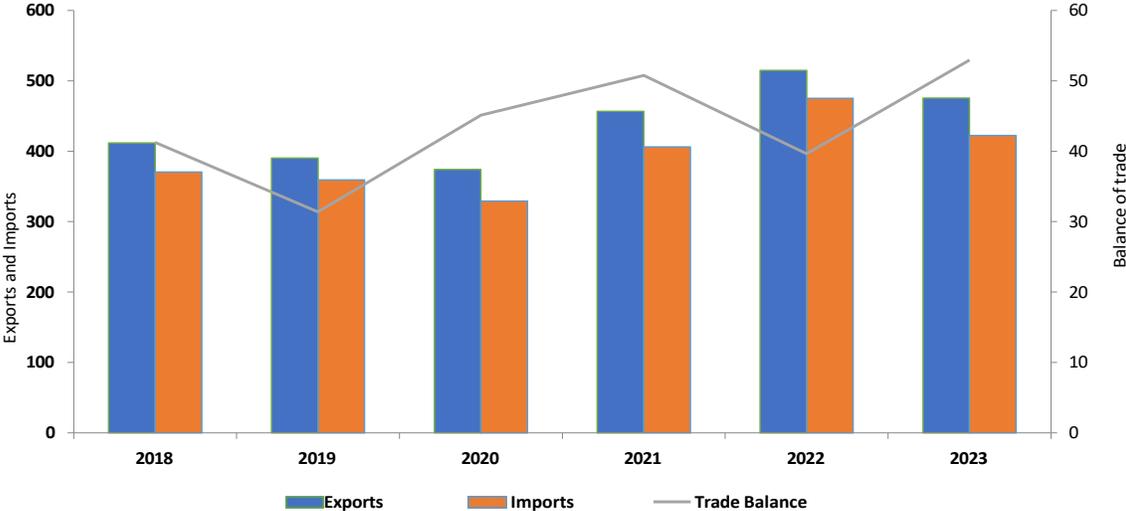
**Table N°11: Macroeconomic Indicators, Year 2023**

GDP (billions of US\$)	501
Real GDP growth (%)	1,1%
Estimated real GDP growth for 2024 (%)	2,6%
Population (millions of people)	5,9
GDP per capita (PPP) (US\$)	141.554
(Exports+Imports)/GDP	303,4%
Unemployment Rate	1,9%
Current Account Surplus (Deficit) (% of GDP)	19,8%
Fiscal Deficit	3,5%
Inflation (end of period)	3,7%

Source: Directorate of Studies, SUBREI, with figures from IMF (WEO, October, 2024) and TradeMap.

**Foreign Trade**

**Graph N°11**  
**Singapore's Foreign Trade: Exports, Imports and Trade Balance 2018-2023 (US\$ billions)**



Source: Directorate of Studies, SUBREI, with figures from Global Trade Atlas.

Singapore is an economy that has been characterized by its high openness to trade for several decades. Trade in goods and services as a percentage of GDP has been historically high, reaching 303% in 2023. It also had a current account surplus of 19.8% of GDP that year.

The trade exchange of goods amounted to US\$897 billion in 2023, with an average annual growth of 2.8% between 2018 and 2023. The surplus in the trade balance stands out, after recording US\$52 billion in 2023. Shipments grew at an average annual rate of 2.9%, compared to imports that grew by 2.7%.

## Foreign Trade with Chile

**Table N°11**  
**Chile-Singapore Foreign Trade 2018-**  
**2023 (US\$ millions)**

	2018	2019	2020	2021	2022	2023	Average Growth Annual 2018-2023
<b>Commercial Exchange</b>	<b>153</b>	<b>151</b>	<b>120</b>	<b>139</b>	<b>270</b>	<b>180</b>	<b>3,3%</b>
<b>Exports (FOB)</b>	<b>58</b>	<b>69</b>	<b>48</b>	<b>57</b>	<b>189</b>	<b>86</b>	<b>8,4%</b>
Total mining exports	0,2302	0	0	0	0	24,4	154,0%
Copper	0,2240	0	0	0	0	24,4	155,4%
Other mining	0,0062	0	0	0	0	0	-
Total forestry, livestock fishery exports	5,1	4,9	3,5	2,9	2,0	2,9	-10,5%
Fruits	4,6	4,8	3,5	2,9	1,9	2,6	-10,8%
Total industrial exports	52	64	44	54	187	59	2,4%
Salmon-free processed foods	11,1	12,4	11,2	12,4	24,5	15,0	6,3%
Salmon	17	18	16	12	34	20	3,7%
Bottled wine	9,4	8,9	6,5	5,3	6,0	5,2	-11,2%
Cellulose	0	0	0	0	0	0	-
Forestry and wood furniture	0,6	0,002	0,1	1,5	0,9	0,04	-41,5%
Chemicals	13,3	22,0	5,6	21,1	120,7	15,3	2,9%
Metal products, machinery and equipment	0,6	1,1	4,2	0,5	0,7	1,2	14,3%
<b>Total non-mining and non-cellulose exports</b>	<b>57</b>	<b>69</b>	<b>48</b>	<b>57</b>	<b>189</b>	<b>62</b>	<b>1,5%</b>
<b>Total imports (CIF)</b>	<b>96</b>	<b>82</b>	<b>73</b>	<b>82</b>	<b>82</b>	<b>94</b>	<b>-0,3%</b>
<b>Total imports (FOB)</b>	<b>92</b>	<b>79</b>	<b>69</b>	<b>76</b>	<b>74</b>	<b>89</b>	<b>-0,7%</b>
<b>Balance of trade</b>	<b>-35</b>	<b>-10</b>	<b>-22</b>	<b>-19</b>	<b>115</b>	<b>-3</b>	<b>-</b>

Source: Directorate of Studies, SUBREI, with figures from the Central Bank of Chile (\*): Includes bleached and semi-bleached conifer and eucalyptus pulp.

Chile's bilateral trade with Singapore totaled US\$180 million, after registering an average annual rise of 3.3% between 2018 and 2023. Of note is the 8.4% increase, on average, in exports, with shipments of US\$86 million, and imports of US\$94 million, all during 2023.

Exports are led by industrial shipments, with US\$59 million, among which food accounted for 41% of total exports in 2023. This was followed by shipments of chemical products, with US\$15 million. There were also shipments of mining products, particularly copper, with US\$24.4 million in 2023.

## Thailand

Thailand is an upper middle-income economy in Southeast Asia that has been moving towards a higher level of economic development in recent decades. The increase in growth has been driven by the policy of opening up industrial export markets.

The rapid expansion is evidenced by the significant average annual GDP growth of 4.6% between 1980 and 2023. This has helped to generate more jobs, reduce the country's poverty and move from an agrarian economy to one with a greater importance of the service sector, with a 59% share of GDP in 2023. , per capita product at purchasing power parity at the global level will amount to US\$23,981 in 2023.

This is mainly due to the importance of tourism in the economy, as a source of job creation, investment, tax revenues and foreign exchange. Meanwhile, the manufacturing sector has been declining in recent years, after accounting for 30% of GDP in 2023.

From a macroeconomic perspective, inflation and unemployment rates have been historically low, with a fiscal deficit of 2% of GDP in 2023, due to increased public spending following the pandemic to stabilize the economy.

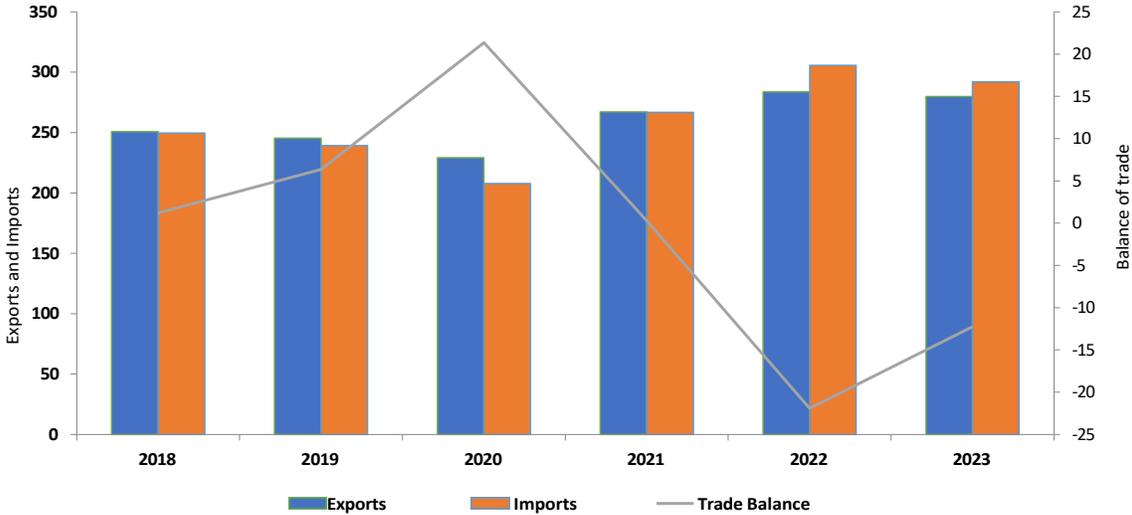
**Table N°12: Macroeconomic Indicators, Year 2023**

GDP (billions of US\$)	515
Real GDP growth (%)	1,9%
Estimated real GDP growth for 2024 (%)	2,8%
Population (millions of people)	70,2
GDP per capita (PPP) (US\$)	23.981
(Exports+Imports)/GDP	136,1%
Unemployment Rate	1,0%
Current Account Surplus (Deficit) (% of GDP)	1,4%
Fiscal Deficit	-2,0%
Inflation (end of period)	-0,8%

Source: Directorate of Studies, SUBREI, with figures from IMF (WEO, October, 2024) and TradeMap.

**Foreign Trade**

**Graph N°12  
Thailand's Foreign Trade: Exports, Imports and Trade Balance 2018-2023 (billions of US\$)**



Source: Directorate of Studies, SUBREI, with figures from Global Trade Atlas.

From the external sector point of view, Thailand's current account surplus is noteworthy, after registering 1.3% of GDP in 2023. Also noteworthy is the country's trade openness, with trade in goods and services as a percentage of GDP reaching 136% that year.

The trade exchange of goods amounted to US\$571 billion in 2023, with an average annual growth of 2.7% between 2018 and 2023. In recent years, the trade balance turned into a deficit, after registering US\$12 billion in 2023. While shipments grew at an average annual rate of 2.2%, imports grew by 3.2%.

## Foreign Trade with Chile

**Table N°12**  
**Foreign Trade of Chile and Thailand**  
**2018- 2023 (US\$ millions)**

	2018	2019	2020	2021	2022	2023	Average Growth Annual 2018-2023
<b>Commercial Exchange</b>	<b>1.384</b>	<b>1.057</b>	<b>861</b>	<b>1.271</b>	<b>1.518</b>	<b>1.247</b>	<b>-2,1%</b>
<b>Exports (FOB)</b>	<b>417</b>	<b>378</b>	<b>368</b>	<b>517</b>	<b>666</b>	<b>648</b>	<b>9,2%</b>
Total mining exports	177	188	196	279	406	400	17,8%
Copper	167	185	191	274	394	370	17,3%
Other mining	10,2	3,3	5,5	4,7	12,5	31	24,6%
Total forestry, livestock fisheries exports	18,7	16,6	15,8	15,9	15,6	19,1	0,4%
Fruits	16,0	13,6	13,4	13,9	13,4	14,7	-1,6%
Total industrial exports	222	173	156	222	244	229	0,6%
Salmon-free processed foods	50,9	37,5	47,1	50,1	38,2	32,2	-8,7%
Salmon	87	69	55	50	103	83	-1,1%
Bottled wine	5,7	6,4	4,7	4,7	9,5	9,9	11,8%
Cellulose	1,3	18,2	1,1	1,0	1,4	0,8	-9,2%
Forestry and wood furniture	8,4	3,720	2,9	11,6	10,6	6,03	-6,4%
Chemicals	20,8	4,8	12,2	6,9	7,3	5,1	-24,4%
Metal products, machinery and equipment	2,1	1,1	1,4	1,2	1,4	4,1	14,3%
<b>Total non-mining and non-cellulose exports</b>	<b>239</b>	<b>171</b>	<b>171</b>	<b>237</b>	<b>259</b>	<b>247</b>	<b>0,7%</b>
<b>Total imports (CIF)</b>	<b>967</b>	<b>679</b>	<b>493</b>	<b>754</b>	<b>852</b>	<b>599</b>	<b>-9,1%</b>
<b>Total imports (FOB)</b>	<b>903</b>	<b>640</b>	<b>462</b>	<b>690</b>	<b>750</b>	<b>547</b>	<b>-9,5%</b>
<b>Balance of trade</b>	<b>-485</b>	<b>-262</b>	<b>-94</b>	<b>-173</b>	<b>-84</b>	<b>101</b>	<b>-</b>

Source: Directorate of Studies, SUBREI, with figures from the Central Bank of Chile (\*): Includes bleached and semi-bleached conifer and eucalyptus pulp.

Trade between Chile and Thailand totaled US\$1,247 million in 2023, with exports of US\$648 million and imports of US\$599 million, highlighting the trade surplus that year.

Exports experienced an average annual growth of 9.2% between 2018 and 2023, with copper shipments standing out, but also industrial shipments, which accounted for 37% of the total. Of the industrial shipments, salmon exports stand out according to amount, followed by processed foods.

## Vietnam

Vietnam is a Southeast Asian economy with a large population of 100 million people that has been incorporating economic reforms that have allowed it to rapid economic growth in recent decades and to overcome extreme poverty.

Between 1980 and 2023, GDP expanded at an average annual rate of 6.5%, which is explained by its focus on manufacturing export markets. This contributed to a per capita GDP per capita at purchasing power parity of US\$14,982 in 2023.

From the point of view of sectoral structure, it should be noted that the service sector has been increasing after concentrating 46% of total value added (at constant 2015 prices) in 2023.

The country enjoys macroeconomic stability, with inflation of 3.6%, unemployment of 2.0% and a fiscal deficit of 2.5% of GDP in 2023. Additionally, it is worth noting the very good external position, reflected in the current account surplus in most years in recent decades, as reflected in the surplus of 5.8% of GDP in the year 2023.

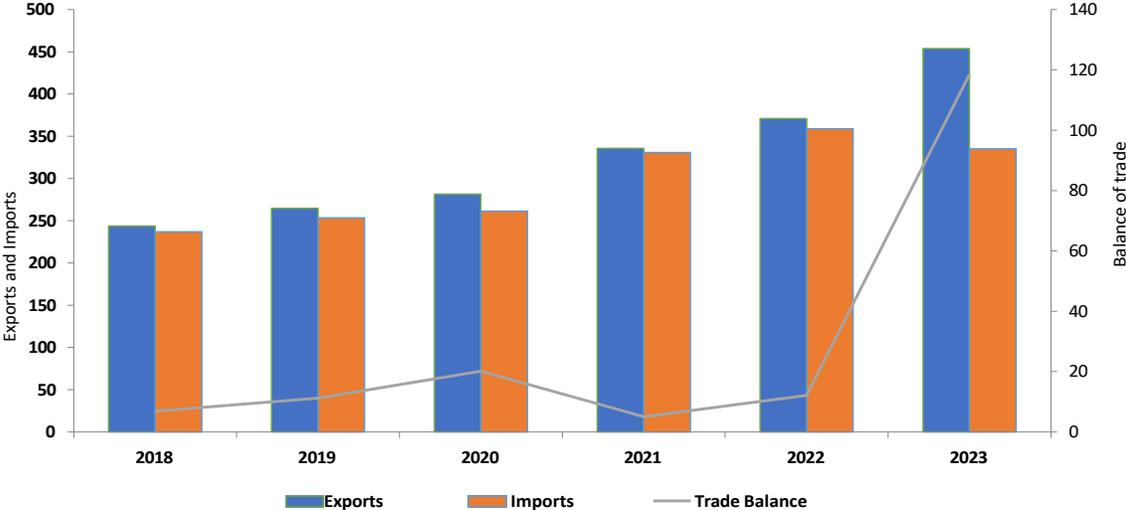
**Table N°13: Macroeconomic Indicators, Year 2023**

GDP (billions of US\$)	434
Real GDP growth (%)	5,0%
Estimated real GDP growth for 2024 (%)	6,1%
Population (millions of people)	100,3
GDP per capita (PPP) (US\$)	14.982
(Exports+Imports)/GDP	193,1%
Unemployment Rate	2,0%
Current Account (Deficit) Surplus (% GDP)	5,8%
Fiscal Deficit	-2,5%
Inflation (end of period)	3,6%

Source: Directorate of Studies, SUBREI, with figures from IMF (WEO, October 2023) and TradeMap.

**Foreign Trade**

**Graph N°13**  
**'s Foreign Trade: Exports, Imports and Trade Balance 2018-2023 (US\$ million).**



Source: Directorate of Studies, SUBREI, with figures from Global Trade Atlas.

The degree of openness of the economy is significant, with a ratio of foreign trade in goods and services as a percentage of GDP of 193% in 2023. This is evidenced by the high growth rates of trade in goods, totaling US\$788 billion in 2023. Trade expanded by an annual average of 10.4% between 2018 and 2023.

The greater dynamism of trade in goods was reflected in the average annual increase in exports, which expanded at an average annual rate of 13.2% in the same period, compared to a 7.2% growth in imports.

## Foreign Trade with Chile

**Table N°13**  
**Foreign Trade of Chile and Vietnam**  
**2018- 2023 (US\$ millions)**

	2018	2019	2020	2021	2022	2023	Average Growth Annual 2018-2023
<b>Commercial Exchange</b>	<b>1.010</b>	<b>1.037</b>	<b>1.079</b>	<b>1.603</b>	<b>1.842</b>	<b>1.523</b>	<b>8,6%</b>
<b>Exports (FOB)</b>	<b>294</b>	<b>246</b>	<b>231</b>	<b>282</b>	<b>409</b>	<b>322</b>	<b>1,8%</b>
Total mining exports	57	40	7	48	156	60	1,1%
Copper	53	38	3	29	139	47	-2,4%
Other mining	4,2	1,9	4,1	18,5	17,4	14	26,7%
Total forestry, livestock fishery exports	12	22	15	19	19	19	10,2%
Fruits	11	19	12	18	16	15	6,6%
Total industrial exports	225	184	209	215	234	242	1,5%
Salmon-free processed foods	59	43	58	49	51	57	-0,6%
Salmon	40	35	44	40	55	69	11,5%
Bottled wine	12,8	10,9	5,4	5,4	9,7	4,7	-18,2%
Cellulose	3,8	6,9	9,0	12	11	15	30,9%
Forestry and wood furniture	79	68	71	76	65	59	-5,7%
Chemicals	5,9	4,8	7,0	5,9	6,2	7,3	4,3%
Metal products, machinery and equipment	3,7	3,6	2,3	0,3	0,1	0,6	-29,8%
<b>Total non-mining and non-cellulose exports</b>	<b>233</b>	<b>199</b>	<b>215</b>	<b>222</b>	<b>241</b>	<b>247</b>	<b>1,2%</b>
<b>Total imports (CIF)</b>	<b>716</b>	<b>791</b>	<b>847</b>	<b>1.322</b>	<b>1.433</b>	<b>1.201</b>	<b>10,9%</b>
<b>Total imports (FOB)</b>	<b>683</b>	<b>761</b>	<b>809</b>	<b>1.234</b>	<b>1.298</b>	<b>1.149</b>	<b>10,9%</b>
<b>Balance of trade</b>	<b>-389</b>	<b>-515</b>	<b>-577</b>	<b>-953</b>	<b>-889</b>	<b>-827</b>	<b>-</b>

Source: Directorate of Studies, SUBREI, with figures from the Central Bank of Chile. (\*): Includes bleached and semi-bleached cellulose from conifers and eucalyptus.

In 2023, Chile's trade exchange with Vietnam totaled US\$1,523 million, with an average annual increase of 8.6% between 2018 and 2023. Of exports, relevant are industrial shipments, after concentrating 75% of the total, among which food and forestry products and wood furniture stand out.

Chilean imports from Vietnam totaled US\$1.201 billion in 2023, with an average annual dynamism of 10.9% between 2018 and 2023.