

# LATAM

## CLEANTECH25

SUSTAINABLE INNOVATION MAKING  
AN IMPACT IN LATIN AMERICA



SUPPORTED BY:



**Breakthrough Energy**  
Fellows

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# FOREWORD

## 2024

Anthony DeOrsey  
Research Manager

“CLIMATE CHANGE IS A GLOBAL ISSUE THAT DEMANDS SOLUTIONS FROM EVERY REGION. LATIN AMERICA PRESENTS A UNIQUE OPPORTUNITY FOR CLIMATE TECH INVESTMENT WITH ITS RICH RENEWABLE RESOURCES, CRITICAL MINERAL RESERVES, AND EXPANDING NETWORK OF INNOVATORS. BY SUPPORTING CLEANTECH GROUP’S WORK TO SPOTLIGHT PROMISING COMPANIES IN THE REGION, BREAKTHROUGH ENERGY AIMS TO ACCELERATE THE DEVELOPMENT OF SOLUTIONS THAT WILL LEAD TO A GLOBAL CLEAN ENERGY FUTURE.”

BREAKTHROUGH ENERGY FELLOWS



# FOREWORD 2024

Anthony DeOrsey  
Research Manager

In 2018, Cleantech Group launched our first regionally-specific annual report – the APAC Cleantech 25 – with the hypothesis that the Asia-Pacific region would capitalize on its strengths in manufacturing and scale economics to quickly become a global boundary-pusher in cutting-edge cleantech innovation. That hypothesis was borne out in rapid fashion, perhaps even sooner than we had estimated.

Since then, cleantech innovation has experienced a global renaissance, thanks partially to a more supportive policy environment in large economies but mostly to the ability of entrepreneurs to rally new stakeholders to the table – nevertheless, a continually shifting policy landscape in the largest western economies has brought the steepness of the global implementation challenge into sharper focus.

As of writing, the world is on track to miss the Paris Agreement's 1.5°C warming target, making two concepts clear: we need to be stacking climate adaptation and resilience efforts on top of the mitigation efforts, and we need to leave no regional stone unturned in the search for solutions. From our perspective, this was the time to begin a concerted effort to increase engagement with the cleantech innovation ecosystem in Latin America and bring a global spotlight to solutions that are poised to solve regional challenges in Latin America today, but tomorrow can be scaled to global markets.

Latin America is credited with 5.5% of global industry value added and 6.3% of global GDP, but is responsible for only 3.5% of global CO<sub>2</sub> emissions (UNIDO). With demand for materials to build the new energy economy growing consistently, the LATAM region finds itself with a once-in-a-generation opportunity to not only play a central role in supplying these materials, but pioneering resource efficiency in the extraction and treatment of these materials. Similar to how we have observed the APAC region move across the value chain from new energy products manufacturing to materials innovation, we see Latin America as a potential proving ground for sustainable mining and mine waste-to-value technologies.

Despite being responsible for so little of the world's greenhouse gas emissions, Latin America is already experiencing an average warming trend of around 0.2°C per decade (World Meteorological Organization) and the increasing intensity of storms is creating ever-increasing economic damage (2023 Hurricane Otis caused an estimated \$12B in damages).

## “ THE LATAM REGION FINDS ITSELF WITH A ONCE-IN-A-GENERATION OPPORTUNITY

Latin American entrepreneurs are responding – this inaugural list reflects that urgency with a quarter of the list offering some innovation for resilience against coastal sea rise, natural disasters, or shifting agricultural threats.

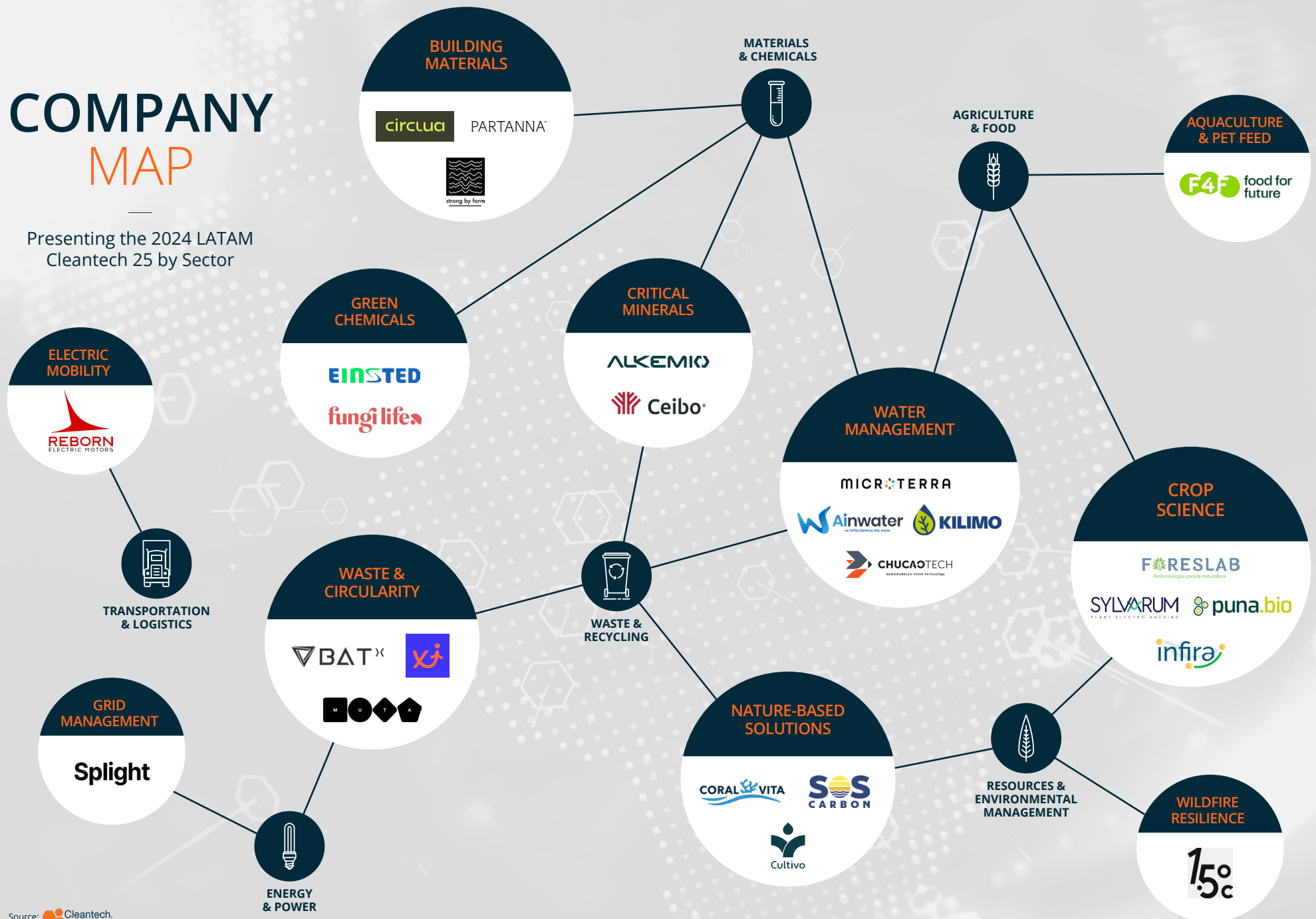
The urgency faced and answered by Latin America's cleantech innovators is a lesson for the world in the attitude that will be necessary to meet the next phases of the climate change fight. I predict that, when looking back on this inaugural list in the 2030s, we will be struck by the foresight displayed by these innovators in 2024. We extend our thanks to our partner in launching this report, Breakthrough Energy Fellows, and to the network of experts that supported in development of this list.

And with much excitement,  
we congratulate the first-ever  
LATAM Cleantech 25 award recipients!



# COMPANY MAP

Presenting the 2024 LATAM  
Cleantech 25 by Sector



Source: Cleantech Group

# TREND WATCH

Anthony DeOrsey  
Research Manager





## CLEANTECH INNOVATION IN LATIN AMERICA – NOW IS THE TIME

It is our pleasure to bring you this inaugural edition of the LATAM Cleantech 25. This region represents an emerging ecosystem of cleantech innovation that, while not traditionally producing world-leading cleantech companies, is positioning itself for an important role in the cleantech themes of the future.

Regional capabilities in biotechnology and horticultural sciences especially are beginning to transfer into the South + Central American and Caribbean cleantech innovation ecosystems – a development that will become increasingly critical in the face of compounding climate adaptation needs.

Fig. 1: Cleantech Venture & Growth Investments & Deal Count by Industry Group, Global

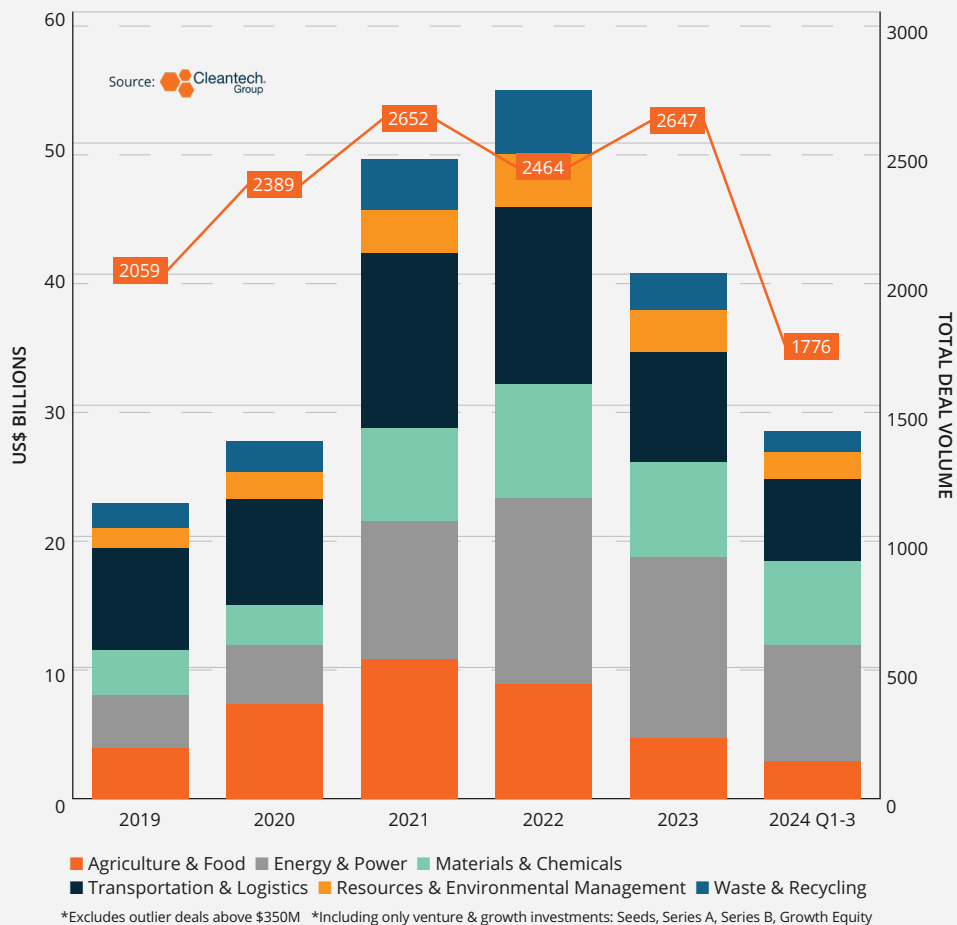
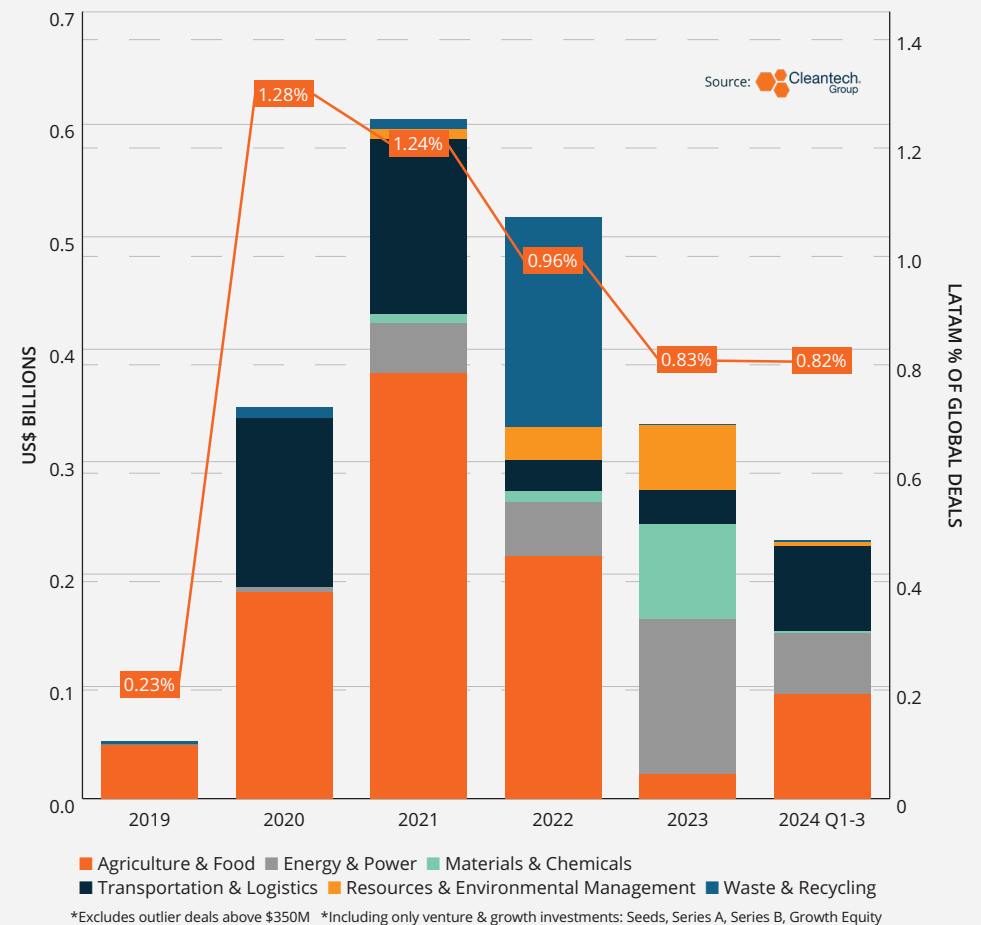


Fig. 2: Cleantech Venture & Growth Investments & Deal Count by Industry Group, Latin America

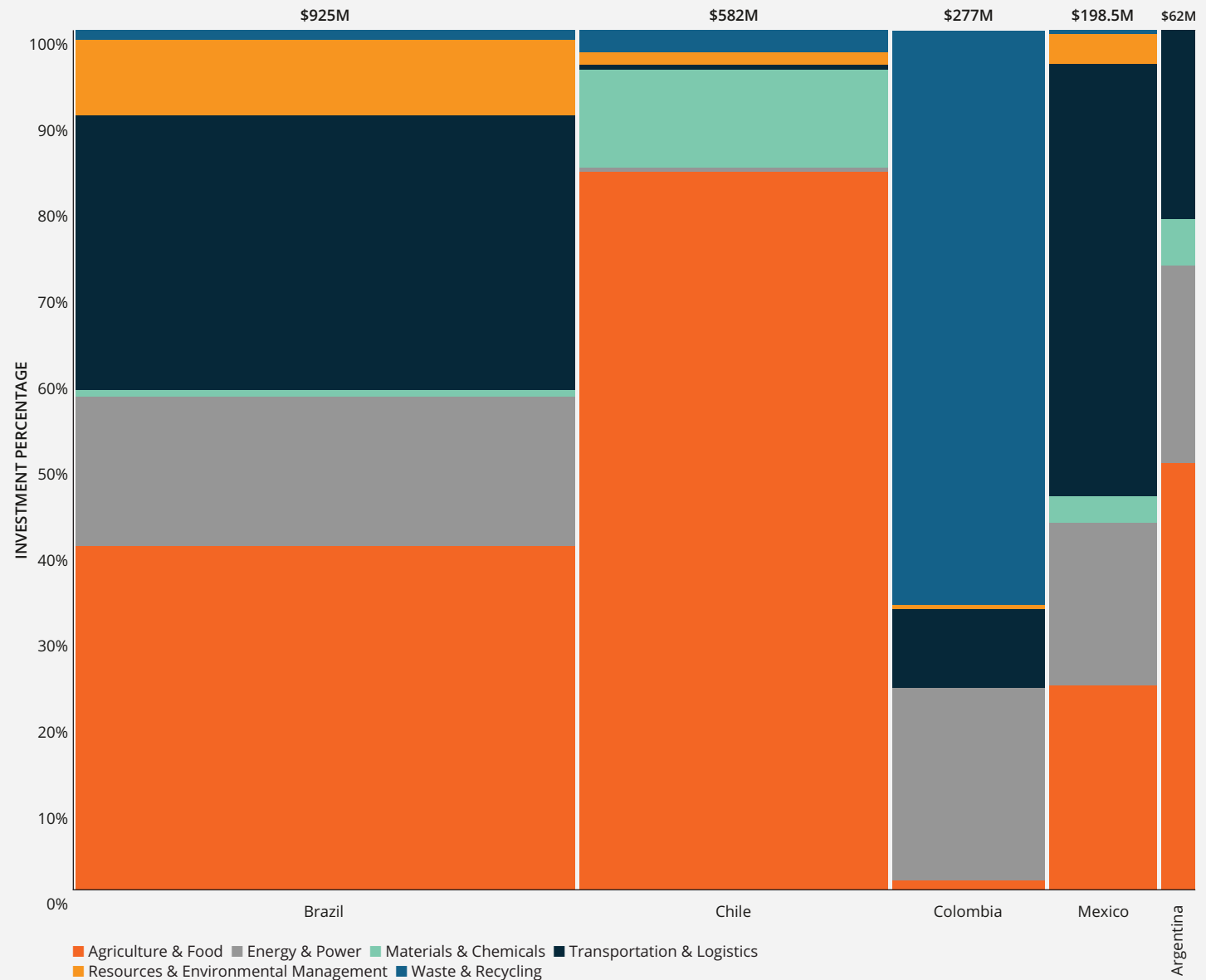




Not surprisingly, Chile and Brazil play most prominently in the records of venture and growth investments in Latin America over the past few years. The export strength of both Chile and Brazil in agricultural products and crucial industrial materials (Chile in lithium and copper, Brazil in steel) give these countries an invaluable link to global demand markets that embeds itself in the DNA of innovators launching ventures. This dynamic presents itself in the LATAM Cleantech 25 companies:

- **Ceibo** (Chile) has developed copper extraction techniques capable of recovering copper in reserves with low ore concentration by leveraging a proprietary bacteria treatment for heap leaching.
- **ChucacTech** (Chile) has developed equipment that uses nanobubbles to increase recovery of valuable minerals in mines (copper, gold) and also has applications in offshore and onshore aquaculture.
- **Circlua** (Brazil) is using recovered mining waste to replace highly polluting clinker in cement production.

Fig. 3: Cleantech Investments and Industry Group 2019-Q3 2024, LATAM Top 5



\*Excludes outlier deals above \$350M \*Including only venture & growth investments: Seeds, Series A, Series B, Growth Equity

Source: Cleantech Group

While Latin America has traditionally had an undersized role in global cleantech innovation, we see two critical developments that are shifting optimism – the strengthening of the Latin American cleantech innovation ecosystem, and the relative youth of the region's innovators.

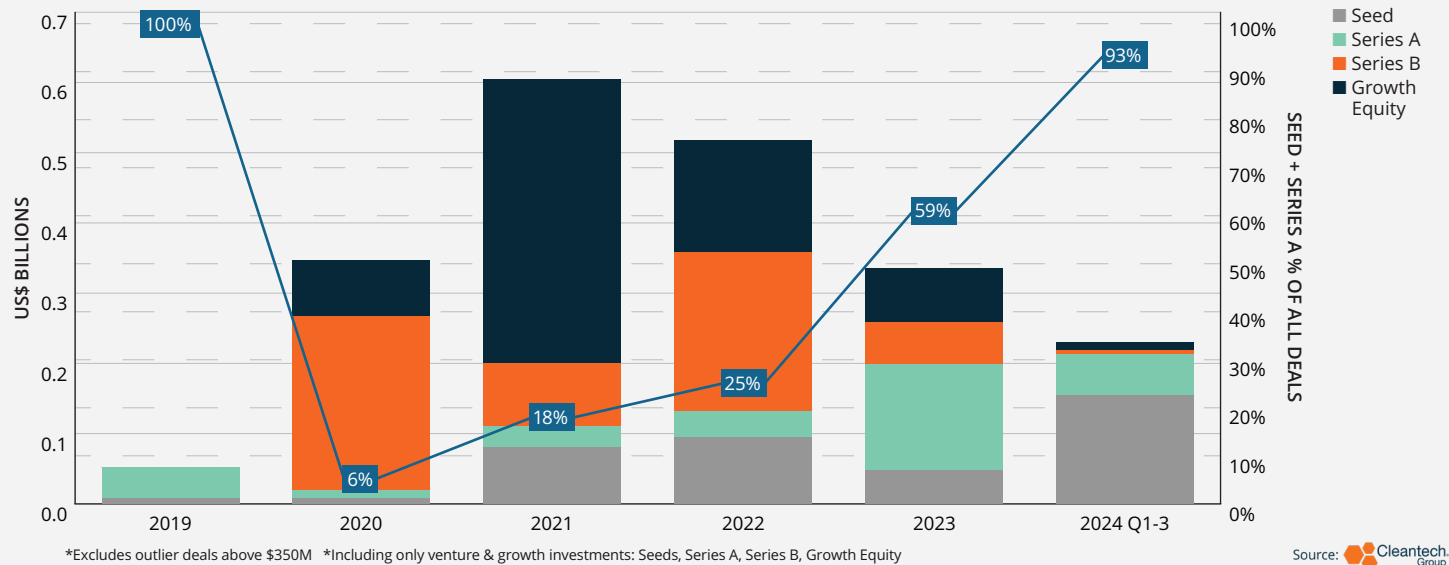
The cleantech innovation ecosystem in Latin America is evolving into a network of pan-LATAM funds and entrepreneurial support organizations providing the fabric across the continent, complementing country-specific actors supporting inbound and outbound innovation in their respective countries. This is reflected in the mix of this year's expert panelist group (see Fig. 4), with public-private partnerships (e.g., [Fundación Chile](#)) and corporate-backed funds (e.g., [Vale Ventures](#) – Brazil, [Vista](#) – Argentina) as key international nodes of innovation.

Fig. 4: Organizations of Expert Panelists

Source:  Cleantech Group

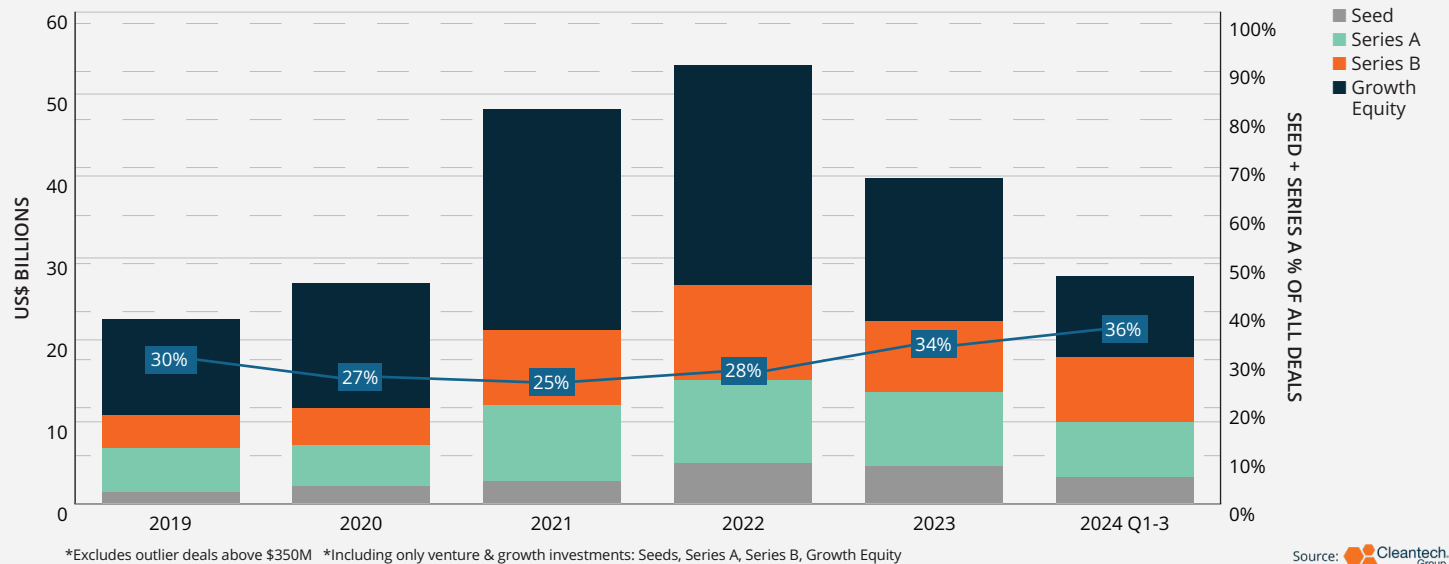
EXPERT PANELISTS					
					
PAN-LATAM		CHILE	CARIBBEAN		
					
Cleantech Incubator / Accelerator		Public-Private Partnership		Export Agency of the Barbados Government	
					
Cleantech Ecosystem Builder		Early-stage Venture Firm		Technology Summit	
					
Impact Innovation Network		Oxford's Global Innovation Consultancy		Integrated Impact Investment Firm	
					
Global Early-stage VC Fund		Early-stage VC Fund for LatAm Startups		Argentinian Energy Company	
			MEXICO		
Cleantech Consultancy & Market Intelligence Provider			ARGENTINA	Metal & Mining Corporation	
			BRAZIL		

Fig. 5: Investments By Stage, Latin America



We have noted in previous analyses that – if using venture capital investments as a proxy – the global cleantech innovation ecosystem has gotten younger in recent years. This is partially a result of a more challenging investment environment where larger late-stage rounds are riskier, but also a matter of more new companies launching. This trend is especially pronounced in Latin America, which has skewed even younger than the rest of the world in recent years.

Fig. 6: Investments By Stage, Rest Of World





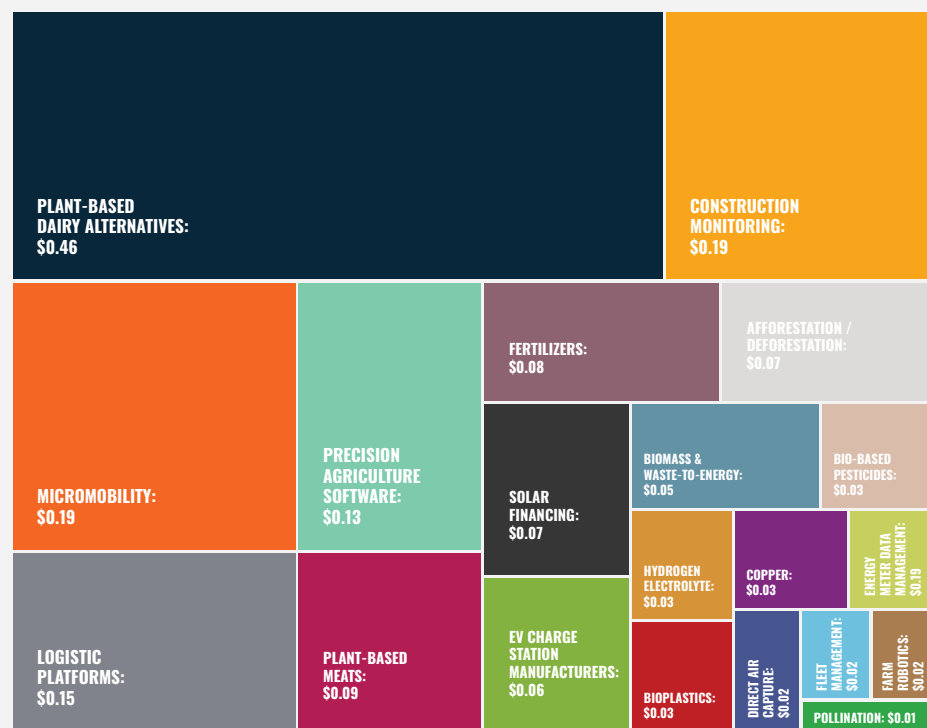
### A UNIQUE IDENTITY OF LATIN AMERICAN CLEANTECH INNOVATION EMERGES

The mix of companies receiving investment in Latin America differs significantly from that of the rest of the world. There is an observably high percentage of Agriculture & Food innovation in Latin America, there is also a significant presence of companies developing solutions for protection of natural resources and leveraging nature-based solutions to reduce climate hazards. Some examples from this year's LATAM Cleantech 25:

- **Coral Vita** (Bahamas) uses onshore coral farming to restore degraded coral reefs, accelerating the reef re-growth process providing an important hedge against negative ecological (and economic) impacts of climate effects on oceans.

- **Umgrauemeio** (Brazil) provides in-situ computer vision paired with satellite imaging to detect wildfire outbreaks in forests and streamline reaction times.
- **Cultivo** (Mexico) uses satellite imagery to identify natural investments for carbon offsets and ecosystem services.
- **SOS Carbon** (Dominican Republic) has developed a novel vessel that collects sargassum quickly and cheaply without ecosystem damage – supporting ocean life development and leveraging the carbon and methane capturing properties of sargassum.

Fig. 7: Top Cleantech Investment Sectors 2019 – Q3 2024, Latin America (\$B) – Total = \$1.74B



\*Excludes outlier deals above \$350M \*Including only venture & growth investments: Seeds, Series A, Series B, Growth Equity

Source: Cleantech Group

Fig. 8: Top Cleantech Investment Sectors 2019 - Q3 2024, Rest of World (\$B) – Total = \$47.2B



\*Excludes outlier deals above \$350M \*Including only venture & growth investments: Seeds, Series A, Series B, Growth Equity

Source: Cleantech Group

### AGRICULTURE & FOOD: NICHE ADVANTAGES BEGINNING TO SHOW

While the LATAM share of global cleantech investments averages at around 1% of global deals, the region's Agriculture & Food innovators are more visible within the global numbers (albeit with high volatility year-to-year). It is not surprising with such an emphasis that Agriculture & Food innovation would play such a prominent role in LATAM cleantech innovation – agriculture, forestry, and fishing have comprised **6% or more of value added to GDP since 2020 in the region**.

We can observe innovation that may advance the scalability of emerging approaches (see Chile's **Food for Future** improving on the insect biomass conversion process for animal feed) but also novel approaches to agricultural productivity (see **Sylvarum** using electrostimulation in indoor farming to “program” metabolic properties).

Of note is that biotechnology capabilities in Latin America are emerging as a source of strength in novel agricultural approaches, but also in adjacent industries. With certainty, a strong knowledge research base in biotechnology will provide a valuable platform for innovation in the region, especially as climate adaptation and resilience imperatives will demand more adaptable horticultural systems, and resource scarcity will require the ability to produce alternative inputs to industrial processes.

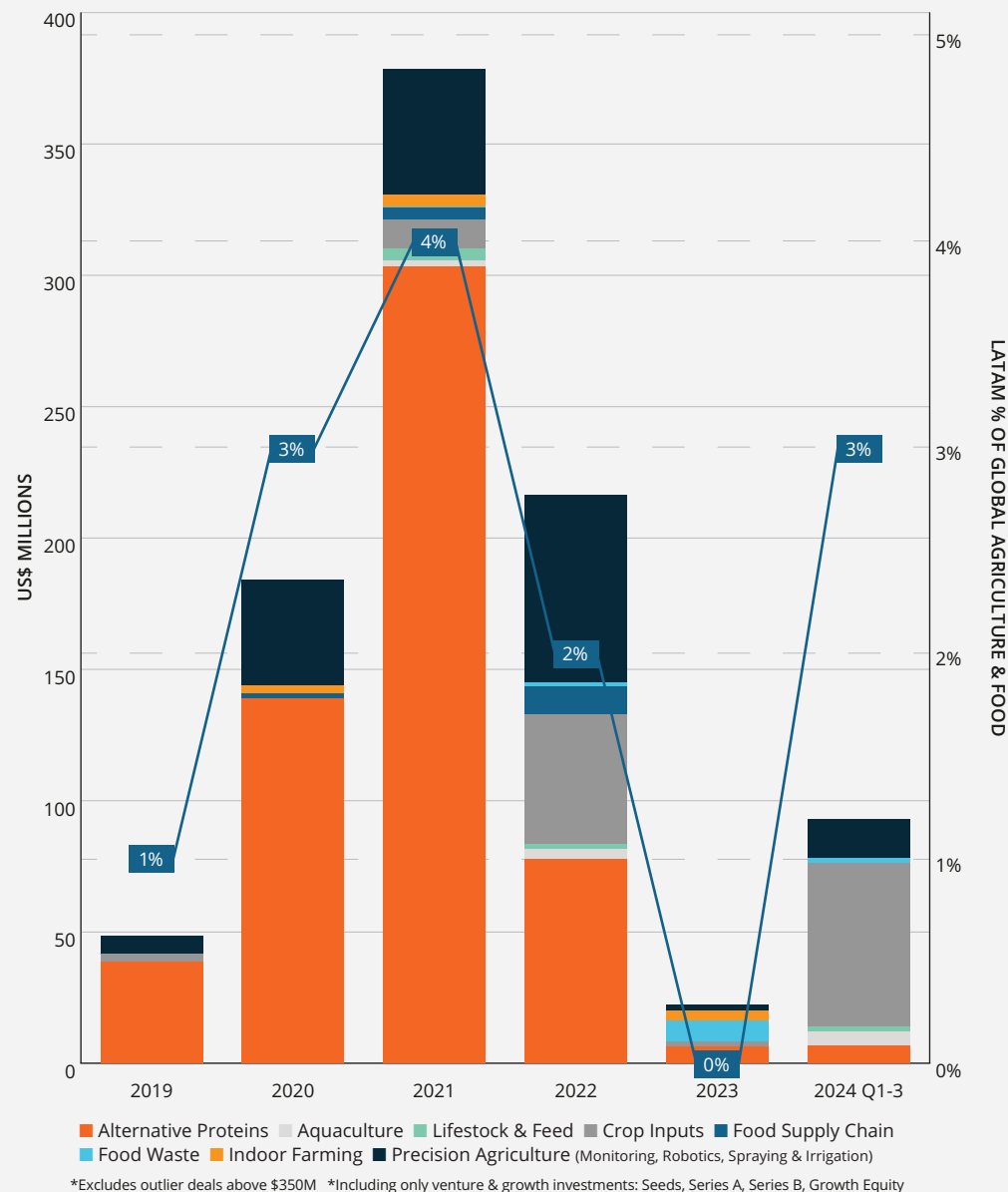
Some biotech for agriculture examples from this year's LATAM Cleantech 25:

- **FORESLAB** (Peru) is using biotechnology to improve native genetic diversity, allowing native plants and fruits to thrive.
- **Infira** (Argentina) is a plant genetics company developing perennial crops for improved resilience.
- **Puna Bio** (Argentina) is using microorganisms to make crops more resistant to extreme weather conditions and able to thrive in degraded soil.
- **Fungi Life** (Colombia) is producing 100% biodegradable biosurfactants derived from fungus for heavy industry and personal care products, reducing the need for petrochemicals in cleaning products development.

With much enthusiasm, we look forward to the development of these trends in Latin America, and to seeing these 25 companies grow to make a global impact. We extend a special thank you to the expert panelists who made this first iteration of the LATAM Cleantech 25 possible, and special congratulations to the companies named to the list.

Fig. 9: LATAM Investments in Agriculture & Food

Source: Cleantech Group





# CASE STUDY



## ABOUT

Country

**CHILE**

Employees

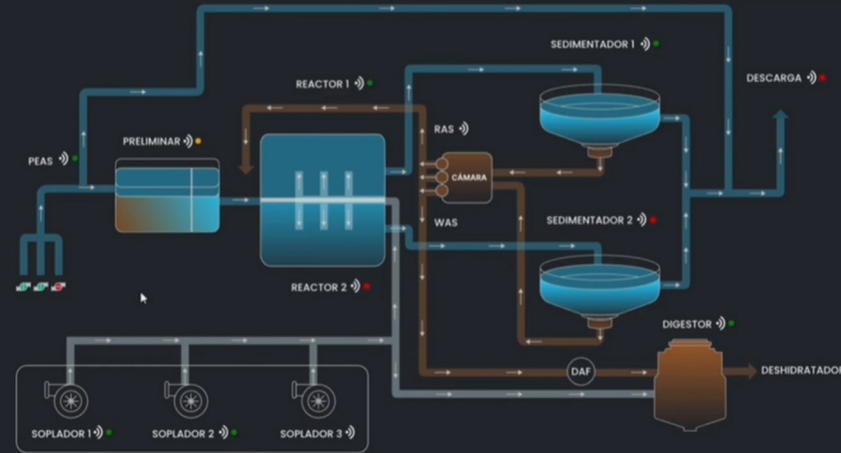
**21**

Founded

**2020**

TRL

**7**



## PROVIDING REAL-TIME ACTIONABLE SUGGESTIONS BEYOND THE DATA

“WE APPROACHED AN OPERATIONAL INEFFICIENCY PROBLEM THROUGH CHEMISTRY, BIOLOGY, AND DATA SCIENCE. WE SAW AN ABUNDANCE OF DATA BEING IGNORED AND WANTED TO USE IT TO ANALYZE OPERATIONS IN REAL TIME.”

**CAMILO HUNEEUS, CEO, AINWATER**

December 2024





## KEY FACTS

Ainwater's artificial intelligence algorithms provide utility and industrial clients energy savings of up to 30%

Ainwater's real-time data monitoring reduces water quality noncompliance events to zero

### What is the company and what do they do?

Ainwater is a software company specializing in liquid process monitoring, data analytics, and compliance automation. Moving beyond data insights, Ainwater provides real-time actionable suggestions for facility operators and engineers.

### How it works

Ainwater aggregates sensor data from facilities in the food & beverage, utility, or waste management industries. After setting output, energy efficiency, or contamination goals, Ainwater analyzes operations 24/7 and provides real-time action items for a facility's operations.

### Key differentiator

Ainwater's solutions are company specific. Each facility is paired with a curated software tool refined over several months to ensure return on investment in a six- to twenty-four-month period and optimal utilization of existing or new data sets. With data tailored to site specifications, Ainwater further differentiates themselves with specific action suggestions addressing process inefficiencies or hazards.

### Potential impact

Latin American companies and utilities struggle with energy availability, not labor cost. Addressing process inefficiencies immediately reduces energy waste and high operational costs. Ainwater also tracks water quality metrics and CO<sub>2</sub> emissions, making its software tools an optimal choice to ensure compliance with regulatory standards.

### Ambition/Next steps for company

With freshly raised funds, Ainwater plans to triple its commercial ventures in Latin America. Additionally, the company is exploring European and North American markets. Ainwater plans to explore specific technological niches including labor-saving software in these two new markets.

### Key things to watch in this space

Ainwater is a perfect case study for novel applications of artificial intelligence. The company capitalized on an abundance of data available in the slow moving, conservative engineering industry of manufacturing operations. With low costs as a software provider, Ainwater is commencing an aggressive scale up in several continents simultaneously.

### Why this company made the list

Ainwater specializes in improving manufacturing visibility through clear data and actionable insights. The company challenged slow-moving facility management by offering dramatic savings and they have delivered in spades from the outset on energy savings and compliance.



# CASE STUDY

ALKEMIO

## ABOUT

Country

ARGENTINA

Founded

2023

Employees

1-10

TRL

4-5



December 2024

## EMPOWERING RARE EARTHS MINERS WITH A MODULAR REFINING INNOVATION

“THE PRODUCTION PROCESS IS FUNDAMENTALLY BROKEN. WITH 90% OF REFINING CONCENTRATED IN A SINGLE COUNTRY AND ONLY TWO INDUSTRIAL COMPANIES OUTSIDE OF CHINA STRUGGLING TO REMAIN PROFITABLE, THE INDUSTRY IS PRIMED FOR DISRUPTION. THE OPPORTUNITY IS RIGHT IN FRONT OF US. BY INTEGRATING REFINING INTO THE MINING OPERATION, WE CAN UNLOCK A 60% INCREASE IN REVENUE FOR MINERS, PRIMARILY THROUGH REDUCED LOGISTICS COSTS AND THE ABILITY TO SELL A PRODUCT THAT IS 50% MORE VALUABLE. THIS IS WHERE ALKEMIO COMES IN. WE SERVE AS THE CRUCIAL LINK BETWEEN MINERS AND MANUFACTURERS. OUR INNOVATIVE, COST-EFFECTIVE, AND MODULAR REFINING PROCESS, POWERED BY SELECTIVE ADSORPTION TECHNOLOGY, IS DESIGNED TO FIT INTO A CONTAINER, MAKING IT EASILY DEPLOYABLE AT MINING FACILITIES.”

FRANCISCO MORRONE, CEO AND CO-FOUNDER, ALKEMIO


**ALKEMIO**

### KEY FACTS

The Rare Earth global supply chain currently faces severe bottlenecks, largely due to outdated, centralized, and capital-intensive refining technologies. These supply chains are mainly located in and dominated by China

Alkemio could boost profitability by over 60% by integrating refining into their operations. This increase comes from selling a more valuable refined product and reducing logistics costs by processing materials on-site

#### What is the company and what do they do?

Alkemio is developing a modular refining molecular complex that empowers miners to produce domestic rare earth metals through a cost-effective and easily deployable process in a bid to decentralize the market in which 90% of the refining capacity relies on China.

#### How it works

The company breaks down ore via organic acid leaching, solubilizes the solid material, and passes the leachate through a selective adsorption column. This technology selectively separates the different rare earths obtaining high-purity oxides in just one pass through the column, compared to more than 70 stages using the gold standard process.

#### Key differentiator

This is unique due to a column-based technology that uses selective affinity molecules to bind and release critical metals from complex solutions with high efficiency. It's a "container size" and easy to co-locate hardware, reducing costs, footprint, and hazardous waste. Incumbent processes use hazardous chemicals with multi-stage processes in large facilities that are complex, costly, and inefficient.

#### Potential impact

Critical metals and minerals are vital to achieving a sustainable energy transition, but their extraction and processing still pose significant environmental challenges. As technological advancements drive demand for critical minerals, the geopolitical stakes rise considerably. Securing domestic sources of these resources and building robust processing infrastructure are essential to overcoming these obstacles.

#### Ambition/Next steps for company

To scale up, Alkemio needs to validate that its technology doesn't lose efficiency levels in the molecular complex that they build. Its pilot plant is projected to be completed by 2026 in the U.S. In the medium-to-long-term, the company has plans to deploy three pilots in the U.S., South America, and Canada.

#### Key things to watch in this space

With the majority of the world's rare earth elements (REEs) being extracted and processed in a few countries, geopolitical risks arise. Disruptions in these regions due to political instability or trade restrictions could significantly impact the global supply of REEs. Brazil and Chile together make the 2nd world's biggest reserves of rare earths, but they were recently discovered, which drives a huge opportunity for the Western hemisphere.

#### Why this company made the list

Many clean technologies like wind turbines, electric vehicles, and solar panels rely on rare earth metals. As a result, for a cleaner future, we need more innovation around mining. It becomes so important to uplift innovations such as Alkemio's to reduce the ecological footprint of extraction and processing.





# CASE STUDY



## ABOUT

Country

**CHILE**

Employees

**45**

Founded

**2021**

TRL

**5-6**



December 2024

## INNOVATION TO ACCELERATE ACCESS TO COPPER RESERVES

“THE LOOMING COPPER SHORTAGE THREATENS TO DERAIL EV EXPANSION, RENEWABLE ENERGY PROJECTS, AND TELECOMMUNICATIONS ADVANCEMENTS. CEIBO’S INNOVATIVE TECHNOLOGIES ARE CRUCIAL TO AVERTING THIS CRISIS AND ENSURING A STABLE COPPER SUPPLY.”

**CRISTOBAL UNDURRAGA, CEO AND CO-FOUNDER, CEIBO**



## KEY FACTS

**Superior Recoveries:** Ceibo has demonstrated 70% copper recoveries in operational cycles running less than one year

**Environmental Impact:** Ceibo's approach decreases CO<sub>2</sub> emissions by 30% compared to concentrated copper production, demonstrating that increased copper production can be achieved alongside improved environmental stewardship

### What is the company and what do they do?

Ceibo is a Santiago, Chile-based company, focused on accelerating access to copper through an innovative technology platform that leaches sulfide ores, mimicking nature's ancient processes to expedite extraction. Ceibo's technologies can be used in many ways, including increasing the output of existing operations, extending the life of a mine, and enabling new brownfield and greenfield projects.

### How it works

The innovative leaching approach unlocks primary refractory chalcopyrite and sulfide ores. This process more quickly and effectively catalyzes the oxidation in the ore through electrochemical reactions, resulting in higher recovery rates in shorter operational cycles. In recent testing on over 20 chalcopyrite-rich ores, the technology, tailored to each ore body, recovered over 70% copper, a significant increase over traditional leaching methods.

Every mining operation is different, and the Ceibo team, having worked in mining and the construction of plants, works with each of their partners to tailor the solution to help them extract the most value based on the characteristics of their mine, including utilizing their existing infrastructure and their ore.

### Key differentiator

Ceibo's breakthrough mining technology enables faster extraction of ores that traditional mining, through hydrometallurgical or biochemical processes, cannot. By working with existing mines to reach these previously untapped ore sources, they're optimizing them with environmentally-friendly processes and mitigating the need to build additional mines with a much larger carbon footprint.

### Potential impact

Based on current projections, only 80% of the world's copper needs will be met in 2030 if current extraction standards and methods are maintained. Ceibo works hand-in-hand with current copper producers to meet these demands by providing a faster, cleaner, low-risk, yet high-tech solution to massively accelerate access to copper and increase yield in the short-term, helping to bridge the supply-demand gap the world will experience in the next decade. Ceibo is helping to meet copper demands and develop current and future environmental and energy technologies such as solar panels, EVs, grid infrastructure, and more, needed to reach net-zero goals.

### Ambition/Next steps for company

Ceibo's ambition is to bridge the supply-demand gap within the copper industry in the coming decade. They are in discussions with many of the top mining companies in the world and look forward to demonstrating how they can adapt their technologies to different mines and at scale.

### Key things to watch in this space

Copper is a critical mineral in the energy transition. With many countries around the world rapidly ramping up spending on climate technologies to hit 2030 carbon reduction targets en route to a 2050 net-zero goal, the demand for copper will only increase, as it is necessary to build many of these carbon-reducing projects and infrastructure. Ceibo is proof that decarbonizing mining operations doesn't need to come with tradeoffs in efficiency.



# CASE STUDY



## ABOUT

Country

**ARGENTINA**

Employees

**7**

Founded

**2020**

TRL

**4-6**

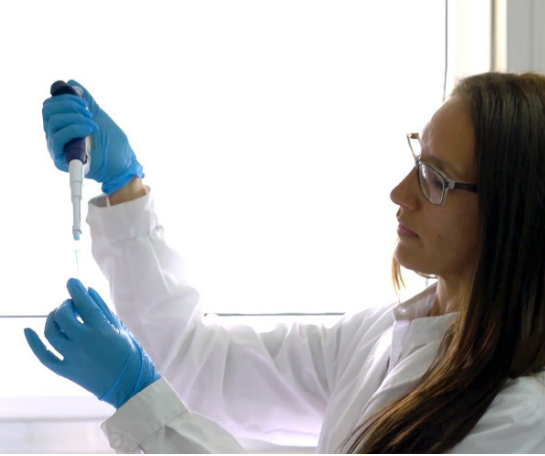


December 2024

## DEVELOPING PERENNIAL VARIETIES OF IMPORTANT COMMODITY CROPS

“PERENNIALITY IS A TRAIT PREFERRED BY NATURE. IF YOU COUNT ALL THE PLANT SPECIES WE HAVE IN THE WORLD, 95% ARE PERENNIALS. OUR PLANET SHOULD BE COVERED BY PERENNIAL PLANTS; HOWEVER, WE CHANGED THE LANDSCAPE BY COVERING THE WORLD IN CROPS WHICH ARE ANNUAL.”

**RENATA REINHEIMER, CO-FOUNDER & CSO, INFIRA**



## KEY FACTS

Infira's perennial crops can live 7x longer than conventional annual varieties, enabling more yield with fewer inputs

Perennial crops produce up to 3x as many seeds and 40x as much above-ground biomass compared to their annual cousins

### What is the company and what do they do?

Infira is an early-stage ag biotech start-up based in Santa Fe, Argentina. It is working to develop perennial varieties of important commodity crops, with an initial focus on rice.

### How it works

Humanity's key food crops, including rice, maize, soy, and others, are descended from wild plants that have been selectively bred over thousands of years to take their current form.

While this has led to improved yields, these crops have over time become annual, meaning that they die completely after each growing season. As a result, farmers must sow new crops every year.

The wild ancestors of these crops were perennial, meaning that they could grow over the spring and summer, 'die back' or lose biomass every autumn and winter, and then regrow from their rootstock the following spring.

Infira is using gene-editing technology to 'resurrect' the perennality inherent in these modern annual crops so that farmers need only plant them once to reap several years' worth of harvests.

### Key differentiator

Infira holds intellectual property around the method of gene expression it relies on to enable perennality, among other aspects of its technology. It aims to license to seed companies and engage in collaborations to develop new varieties.

### Potential impact

Annual crops need to be sown every year. This requires farmers to prepare the land and use a variety of inputs to provide optimal conditions for those seeds to become established.

Perennial crops would only need to be sown once every few years, theoretically driving resource efficiency through reduced input and water use, and reduced land management requirements.

These perennial crops also benefit the soil by developing more robust root systems over time that help to sequester carbon and combat erosion.

### Ambition/Next steps for company

Infira has piloted its perennial rice in an indoor farm setting and is now running small-scale field trials outdoors, while also seeking funding for its next phase of growth.

Beyond rice, it is looking to adapt its technology for other crops including alfalfa, sugarcane, soybean, and maize.

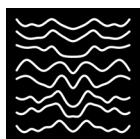
### Key things to watch in this space

Crop enhancement technologies, including novel genomic techniques and plant varieties that have been gene-edited for resilience, will be critical for climate change adaptation. Expect to see continued investment in this space, as well as a growing number of partnerships and strategic collaborations between crop genetics start-ups, seed vendors, and agrochemical providers.





## CASE STUDY



strong by form

### ABOUT

Country

**CHILE**

Employees

**23**

Founded

**2018**

TRL

**7**

## MAKING A NATURAL ALTERNATIVE TO HIGHLY POLLUTING MATERIALS

“OVER THE YEARS, WE’VE LEARNED THAT DRIVING RADICAL INNOVATION IN THE BUILT ENVIRONMENT MEANS TAKING RISKS AND DOING THINGS IN A COMPLETELY DIFFERENT WAY. WE’VE BROKEN MANY OF THE TRADITIONAL START-UP RULES, STARTING WITH A CORPORATE AS OUR FIRST ANGEL INVESTOR AND FOCUSING ON THE QUALITY OF SALES OVER QUANTITY. WE EVEN NAMED OUR FIRST TWO ROBOTS TINA AND TURNER, INSPIRED BY TINA TURNER’S ‘BREAKING ALL THE RULES’ ALBUM, WHICH PERFECTLY EMBODIES THE STRONG BY FORM SPIRIT.”

**ANDRÉS MITNIK, CEO, STRONG BY FORM**

December 2024





## KEY FACTS

90% wood content, lightweight and sustainable — one of the products, Woodflow-skin is composed of 88% wood, only 3mm thick, and weighs just 3.4 kg/m<sup>2</sup>. It offers a highly sustainable and lightweight alternative to traditional building materials like concrete, fiberglass, or solid wood, and up to 70% emissions reduction compared to steel and glass structures

Strong By Form's technology, Woodflow, reduces the amount of wood required for structural performance by 75% compared to traditional mass timber solutions, making it significantly more resource-efficient

### What is the company and what do they do?

Strong by Form developed Woodflow, a 3D wood technology that creates lightweight, high-performance components by mimicking the natural optimization processes of trees making it a natural alternative to highly polluting materials like steel and concrete.

### How it works

By blending material science with advanced optimization tools and digital fabrication techniques, Strong by Form crafts shapes and fiber architectures that withstand required loads using minimal material. Today, Strong by Form operates a robotic manufacturing plant and collaborates with industry leaders like BMW, VINCI, and Deutsche Bahn.

### Key differentiator

Strong by Form reduces timber consumption by 75% compared to engineered wood by working with wood strands rather than solid timber. This enables production of components that weigh just one-tenth that of concrete and makes Woodflow flexible enough to be manufactured at scale—millions of square meters—for construction, while also achieving the strength-to-weight ratio required to replace stamped metal in the automotive industry.

### Potential impact

There is a need to construct 13,000 buildings every day for the next 25 years to meet the global demands of the construction industry—the largest carbon emitting industry. Strong by Form developed a sustainable weather shelter with Deutsche Bahn using the Woodflow technology, reducing CO<sub>2</sub> emissions by up to 70% compared to traditional steel and glass shelters.

### Ambition/Next steps for company

Strong by Form is scaling through a licensing and joint venture model, enabling the creation of a global network of Woodflow manufacturers. It's also developing a cloud-based SaaS platform that will allow designers to upload their work to the Strong by Form cloud and receive optimized designs in Woodflow. This will create a full ecosystem around the technology, streamlining the design-to-manufacturing process.

In 2025, they plan to open a \$30M Series A funding round to scale operations and achieve large-scale industrial capabilities and grow sales.

### Key things to watch in this space

Strong by Form is in the early stages of market entry, having recently launched its first commercially available product, and following successful pilot projects such as the Deutsche Bahn weather shelter and CMPC cladding. Its focus is on finalizing the development of commercial products to expand into office and commercial buildings. Beyond construction, its aim is to break into working on automotive prototypes and aim to become a key player in the sustainable materials revolution across multiple industries.

### Why the company made the list

Strong by Form's products are versatile, serving both architectural and structural purposes. Its additive manufacturing process efficiently manages wood strands with a high degree of automation, generating almost no waste in the process, making its biocomposites a highly competitive natural alternative for construction.



THE 2024  
**LATAM**  
CLEANTECH25  
LIST



THE 2024 **LATAM CLEANTECH 25** LIST**AGRICULTURE & FOOD**

6 COMPANIES



3 COUNTRIES

COMPANY	DESCRIPTION	COUNTRY
 <b>F4F</b> food for future	Aquaculture and pet feed from insect biomass conversion	Chile
 <b>infira</b>	Perennial varieties of major crops that reduce input costs for farmers	Argentina
 <b>KILIMO</b>	Software platform for agricultural producers that provides information on how much to water	Argentina
 <b>MICROTERRA</b>	Onsite wastewater treatment system that turns fish farm wastewater into protein and clean water	Mexico
 <b>puna.bio</b>	Biological inputs for agriculture that reduce carbon emissions and restore degraded soil	Argentina
 <b>SYLVARUM</b> PLANT ELECTRO HACKING	Electrostimulation and AI technology that control the metabolism of plants in order to improve crop yields	Argentina

**ENERGY & POWER**

2 COMPANIES

2 COUNTRIES

COMPANY	DESCRIPTION	COUNTRY
 <b>BAT</b>	Technology that analyzes the health status of batteries to maximize their useful life	Colombia
 <b>Splight</b>	AI platform that provides grid management, energy efficiency, and performance solutions for energy sources	Argentina








## THE 2024 LATAM CLEANTECH 25 LIST

## MATERIALS &amp; CHEMICALS

7 COMPANIES





4 COUNTRIES

COMPANY	DESCRIPTION	COUNTRY
 Ceibo®	Copper extraction techniques that allow mining industries to access reserves of low ore concentration	Chile
 CHUCAOTECH NANOBUBBLES FROM PATAGONIA	Nanobubble technology solutions designed to improve processes in the aquaculture and mining industries	Chile
 circlua	"Clinker-free" raw material, based on the reuse of mining waste, through a process that consumes 100% renewable energy	Brazil
 EINSTED	Graphene oxide derived from converted CO <sub>2</sub> and methane	Argentina
 fungi life	100% biodegradable fungus-based biosurfactants for oil and gas, cleaning, cosmetics, agriculture, and personal care	Argentina
 PARTANNA™	Carbon-negative, drop-in replacement for Portland cement	Bahamas
 strong by form	Bio-composite materials from unfeasible wood and timber which are designed to replace steel and concrete	Chile

## RESOURCES &amp; ENVIRONMENTAL MANAGEMENT

4 COMPANIES

4 COUNTRIES

COMPANY	DESCRIPTION	COUNTRY
 CORAL VITA	Coral farms to breed endangered coral and restore degraded reefs	Bahamas
 Cultivo	Investment platform which identifies nature-based projects with potential for strong natural capital returns	Mexico
 FORESLAB Biotecnología para la naturaleza	Plant biotechnology to facilitate native genetic diversity to address the lack of supply for reforestation processes, ecological restoration, environmental compensation, and sustainable productive activities	Peru
 15c	AI-powered risk management and analysis solution in surveillance cameras that can detect fire outbreaks in forests and plantations in an average time of 3 minutes	Brazil




THE 2024 **LATAM** CLEANTECH 25 LIST**TRANSPORTATION  
& LOGISTICS**

1 COMPANY

1 COUNTRY








COMPANY	DESCRIPTION	COUNTRY
	Electric buses and shuttles intended to transform heavy-duty machinery into electric automotive	Chile

**WASTE & RECYCLING**

5 COMPANIES

4 COUNTRIES



COMPANY	DESCRIPTION	COUNTRY
	Artificial intelligence-assisted software that monitors and optimizes wastewater treatment operations to increase energy efficiency	Chile
	Bio-magnetic technology intended to transform electronic waste into quality battery-grade metals	Argentina
	Recycling services for used cooking oil and materials from solid waste streams	Colombia
	Cost-effective and responsible solutions for sargassum collection and disposal	Dominican Republic
	Returnable packaging and digital track and trace platform	Colombia

# ABOUT CLEANTECH GROUP

Cleantech® Group is a research-driven company that helps corporates, public sector, investors and others, identify, assess, and engage with the innovative solutions and opportunities that are related to the world's massive, and growing, environmental and climate challenges.

Our insights and expertise are delivered to clients all over the world through our Research, Consulting, Events, and Advocacy. We have been the leading authority on global cleantech innovation since 2002.

Contact us anytime, [info@cleantech.com](mailto:info@cleantech.com).



## RESEARCH

The solution to information overload, our research cuts through the noise to monitor the market and deliver the insight you need on the themes central to your goals on markets, innovators, investments, trends, and the future.



## EVENTS

Cleantech Forums empower corporate change-makers, investors, entrepreneurs, and innovative stakeholders to forge connections, change the narrative, make deals, and be part of an unforgettable experience.



## CONSULTING

To de-risk the future and seize opportunities, leaders need to understand the impact the emerging future might have – only when you clearly see what's coming can you plan for the future.



## ADVOCACY

Collective action and hyper-collaboration, moving at record speeds, are needed to bring together all key stakeholders to ensure that innovation can have impact at scale for the transformative changes needed to address the climate crisis.

# METHODOLOGY

## How we select the LATAM Cleantech 25

### THE QUESTION WE SEEK TO ANSWER

According to the global cleantech community, which 25 private companies located in the LATAM region today are most likely to make significant market impact over the next five to ten years? We answer this question in three phases:

#### PHASE 1: NOMINATIONS

Nominations come from five sources:

- The expert panel of 17 investor and multinational corporation representatives. See page 29 to learn more about these individuals.
- Our i3 platform, which tracks the investment and partnership history of thousands of relevant companies.
- Third-party awards where expert assessment has been applied.
- Our analysts, who cover Agriculture & Food, Energy & Power, Materials & Chemicals, Resources & Environmental Management, Transportation & Logistics, and Waste & Recycling.
- Public nominations from the global ecosystem, as well as additional data points from the Global Cleantech 100 nomination process.

#### PHASE 2: EVALUATION

Since our aim is to objectively synthesize and represent consensus, nominations are scored in a system rewarding companies that have multiple validations from our nomination sources. From this, a shortlist is created and sent to our panel of industry experts comprised of representatives from investors and multinational corporations. The panel votes positively or negatively based on their knowledge of the company's innovation, market, and ability to execute.

#### PHASE 3: THE FINAL 25

A combination of data from Phase 1 and Phase 2 are pooled and adjusted for geographic or other biases. Companies with the highest points overall make it to the final 25.

#### EXPLORING THE DEPTH AND BREADTH OF THE CLEANTECH COMMUNITY

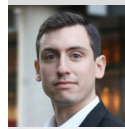
To create the list, inputs are collected from the LATAM Cleantech 25 expert panel, who are active in technology and innovation scouting and are regularly connecting with innovators in the region, as well as other sources.

For our inaugural year, the number of nominations from our expert panel, i3, awards and Cleantech Group totaled 216 from over 14 countries. These companies were weighed and scored to create a short list of 91 companies that were reviewed by the 17 members of Cleantech Group's Expert Panel.

**It's not just about ideas; it's about real-world solutions making a tangible difference.**

# EXPERT PANELISTS

17 leading specialists  
from across the LATAM  
region provided their  
inputs into the process



**Anthony DeOrsey**  
Research Manager  
Cleantech Group



**Gideon Blaauw**  
Regional Lead  
CleantechHUB



**Ismaela Magliotto  
Quevedo**  
Head Coordinator  
Climatech Chile



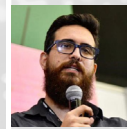
**Terrell Thompson**  
BLOOM Cleantech  
Cluster Manager  
Export Barbados (BIDC)



**Sebastián Burgos**  
Business Development  
Director  
Fundación Chile



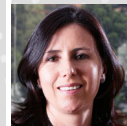
**Rafael Carmona Dávila**  
CTO & Co-Founder  
Green Momentum



**Federico Restrepo Sierra**  
Co-Founder  
and Director  
Impact Hub Medellín



**Andrés Pesce**  
CEO & Partner  
Kayyak Ventures



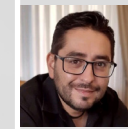
**Adriana Suárez Pardo**  
Co-Founder &  
Managing Partner  
MatterScale Ventures



**Valentina De Leo**  
Project Manager  
Mar+Invest  
New Ventures



**Lizi Peretti**  
Head of Sustainability  
& Latin America  
Regional Manager  
Oxentia



**Juan Manuel Uriá**  
Gerente General  
RecuSost SRL



**Lucía Montalvo**  
Partner  
Salkantay Ventures



**Kirk-Anthony Hamilton**  
Co-Founder  
Tech Beach Retreat



**Felix Steinberg**  
LATAM Coordinator  
The CATAL1.5°T Initiative



**Bruno Arcadier**  
Head of Vale Ventures  
Vale Ventures



**Federico Cristofani**  
VX Ventures Manager  
Vista Ventures



**Cleantech Group**  
Championing sustainable innovation.  
Catalyzing business opportunities

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**North America** | **Europe** | **Asia**  
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