

## sustainability REPORT 2017

## arauco

renewables for a better life

# SUSTAINABILITY REPORT

## arauco

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#### CHAIRMAN'S STATEMENT

For ARAUCO, 2017 was a year filled with challenges, and all of them guided our vision of contributing to improve people's lives by developing forestry products that meet the challenges of a sustainable world.

That is the main subject addressed in this report and it provides an understanding on how we manage our business, where an essential part of it is to aim for development while taking into account the requirements of shareholders, employees and the communities where we maintain operations, especially considering our core as a business that generates products based on a renewable resource.

One of the milestones in 2018 was the presentation of our new corporate identity. We knew that the business, as well as our surroundings, had experienced major changes in over 40 years, and that we couldn't remain oblivious to this evolution. We were certain that it was necessary and positive to renovate our identity in order to convey our business activity and how we embrace new challenges in a simpler, more appealing and direct way.

In addition, special emphasis was placed on the development of initiatives considered to be strategic for the company. The most outstanding among them was the acquisition of assets for plywood production that used to belong to Masisa, in Brazil; progress on construction of the panel mill in Grayling, USA and the signature of the purchase agreement for panel mills that belonged to Masisa in Mexico, which is subject to compliance with certain conditions that should be met during 2018. All these projects strengthen our position in the markets where we're present.

Also, authorities approved the Dissolving Pulp project at our Valdivia pulp mill, which will place the company at the forefront of innovation as the first producers of this type of pulp in Chile.

However, 2017 was not free from difficulties. At the beginning of the year we had to face one of Chile's most devastating fires in history. As a company, we lost nearly 72,000 hectares of

forest plantations and 15,000 hectares of native forest. The El Cruce sawmill burned down and many workers lost their homes. It was a very tough way to start the year, and overcoming this emergency required everybody's work and commitment.

These fires hit us hard. That's how we launched the Forestry Renovation Plan in Chile called "deRaíz", which set 14 measures that were developed in a joint effort that involved communities, authorities, public and private institutions and international experts, with the certainty that collaborative work is key to meet challenges.

In spite of the difficulty this meant for the company, we kept on moving forward in terms of local development and contributing to the value chain in the communities where we maintain presence. As an example, the dual education system of Campus Arauco in Chile was initiated.

All of these developments allow us to become a global actor and are the result of work performed with high standards by workers of excellence, who are a fundamental pillar in order to reach the accomplishments with which we have earned global recognition.

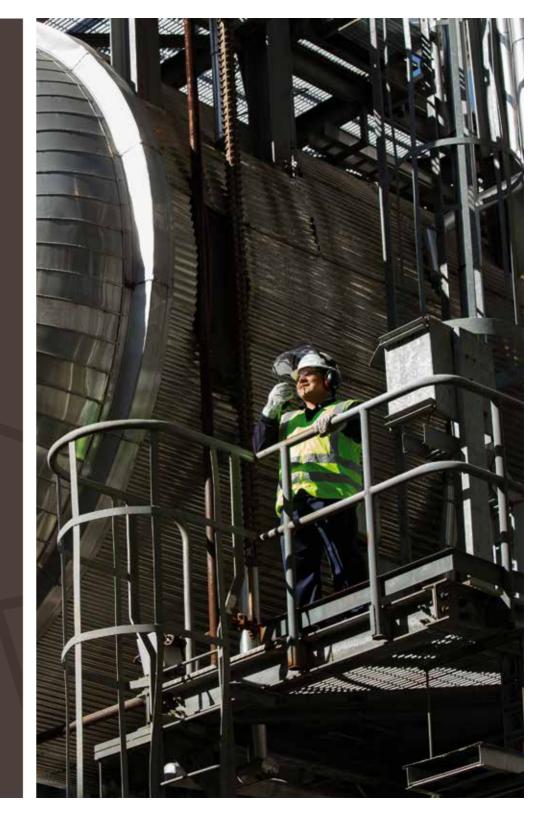
In 2018 we expect to continue to embrace new and demanding challenges under a comprehensive perspective, creating products of excellence based on renewable forest resources, with the certainty that this is how we can contribute to a better world and to people's quality of life; by reinforcing our work and commitment in terms of safety; by ensuring we maintain productivity with excellence in service; by working toward efficient integration between the different countries in which we maintain operations, and by deepening our commitment to sustainability.

I would like to invite you to learn more about this report, which contains information on the company's projects and developments during 2017.

Manuel Enrique Bezanilla ARAUCO Chairman









# ABOUT

~

We are a global and

diversified company

in the forestry industry.



With our work and innovation, we develop renewable products through the forestry, pulp, wood, panel and clean and renewable energy businesses.

 $\mathbb{Z}^{\mathbb{Z}}$ 

We generate quality products for the paper, construction, packaging, furniture and energy industries, that inspire the creation of solutions aimed to improve the lives of millions of people, providing quality service to our customers.



Part of our growth is based on the generation of economies of scale and competitive advantages that are sustainable in time.

### R.

We are committed to being an active agent in the economic and social development where we maintain operations.



ARAUCO's forestland and facilities are certified to national and international standards in regard to the management of aspects related to corporate governance, the environment, quality, the protection of health and safety and responsible forest management.







**1.7 million** hectares (4.2 million acres) of forestland in South America.

Production facilities in 10 countries.



Over **15,000 workers** guided by one vision and shared values.

Products sold by representatives, sales agents and sales offices in

33 countries

Logistics and distribution chain management ensures supply to distribution centers and points of sale through

240<sup>ports</sup>



#### GERMANY \*\* • 4 Panel Mills • 1 Thermally fused laminate processing facility SPAIN \*\* • 2 Panel Mills • 1 Sawmill PORTUGAL \*\* • 2 Panel Mills • 1 Resin manufacturing and thermally fused laminate processing facility • 2 Panel Mills SALES OFFICES SALES REPRESENTATIVES • Singapore • South Africa • USA • Colombia Canada Venezuela Turkey • Holland • South Korea • China • Peru • Australia • Syria Chile • Taiwan Egypt Mexico • Jordan • Japan • United Arab Emirates Colombia • Iran Brazil • Saudi Arabia India

- Argentina
- Middle East
- Australia

- Kuwait
- Bahrain
- Oman
- Malaysia

- Pakistan
- Sri Lanka
- Bangladesh
- Indonesia
- Thailand

\* Includes 50% of the operations, land and plantations.

\*\* SONAE ARAUCO operations.

#### SUSTAINABILITY REPORT 2017 ABOUT US

#### SUSTAINABILITY STRATEGY

We work to build an economy based on renewable resources, which we use to develop products that improve the quality of life of millions of people around the world, through the sustainable management of our operations and by creating maximum value from our forestland.



Combining science, technology and innovation to unfold the full potential of our plantations.



Responsibly managing our operations using the best environmental practices and promoting the safety and development of ARAUCO's members.



Developing high standard, quality oriented products and materials that always aim to be the superior choice for our customers.

#### $\bigcirc$

Being a virtuous actor in the areas where we maintain operations, in order to become an active agent for their social and economic development.

#### OUR VISION

To contribute to improve people's lives by developing forest products for the challenges of a sustainable world.



We produce and manage renewable forest resources.



We are a global company that embraces the challenges of participating in global markets.



We create products that improve people's lives.

#### OUR Values

**Safety** always a priority

**Commitment** X we work with passion

Excellence and Innovation we want to be the best

**Teamwork** together we're more



**Good Citizenship** we respect the environment and create value



## CORPORATE GOVERNANCE

ARAUCO is a closely held corporation that is subject to certain information and disclosure requirements which apply to publicly traded companies. While the company's initial foundation dates back to October 28, 1970, when it was constituted by a public deed registered before Santiago Public Notary Ramón Valdivieso Sánchez, the corporation Celulosa Arauco y Constitución S.A., as it is known today, was established in September 1979, through the merger of companies Celulosa Arauco S.A. and Celulosa Constitución S.A., which were founded by Corfo, the Chilean Economic Development Agency.

Since then, the company operates under the legal name Celulosa Arauco y Constitución S.A. Today, 99.98% of ARAUCO is owned by Empresas Copec S.A., a holding company with primary interests in the forestry sector, in fuel distribution businesses, and in the fishing and mining sectors.

The key mission of the Board of Directors of Celulosa Arauco y Constitución S.A. is to maximize the company's value through social, environmental and economically responsible management. The Board is comprised of nine members who hold office for three years, and can be reelected. No Board Member holds an executive position within the company.

The Board regularly meets with the Chief Executive Officer and the President & Chief Operating Officer, who provide updated information on the company's management and ARAUCO's business areas. Under Chile's Corporation Law, ARAUCO must hold a Shareholders Meeting at least once a year.

On April 25, 2017, Mr. Jorge Bunster Betteley became ARAU-CO's new Board member, after Mr. José Rafael Campino resigned his position as Board director on November 20, 2016.

## SHAREHOLDERS

Empresas COPEC S.A.

113,134,814 SHARES: 99,98%

CHILUR S.A.

24,746 SHARES: 0.02%

ANTARCHILE S.A.

95 SHARES: 0.00%

## BOARD OF DIRECTORS

MANUEL ENRIQUE BEZANILLA Chairman of the Board

ROBERTO ANGELINI First Vice Chairman

JORGE ANDUEZA Second Vice Chairman

JORGE BUNSTER ALBERTO ETCHEGARAY JUAN IGNACIO LANGLOIS FRANCO MELLAFE EDUARDO NAVARRO TIMOTHY C. PURCELL



ARAUCO'S Board designates the company's Senior Management members, who are responsible for the implementation of actions relating to the company's economic, social, and environmental performance, as well as occupational health and safety, and work relationships. MATÍAS DOMEYKO Chief Executive Officer

CRISTIÁN INFANTE President & Chief Operating Officer

CAMILA MERINO Senior Vice-President Forestry, replacing Álvaro Saavedra in September 2017

FRANCO BOZZALLA Senior Vice-President Pulp and Energy

ANTONIO LUQUE Senior Vice-President Timber and Panels

GONZALO ZEGERS Senior Vice-President International and Business Development

CHARLES KIMBER Senior Vice-President Commercial and Corporate Affairs

GIANFRANCO TRUFFELLO Chief Financial Officer

ROBINSON TAJMUCH Senior Vice-President Comptroller

#### **IVÁN CHAMORRO**

Senior Vice-President Human Resources, Environment, Occupational Health and Safety, replacing Camila Merino in September 2017.

#### **FELIPE GUZMÁN**

General Counsel

In addition, the company's management abroad is headed by:

- Pablo Mainardi, ARAUCO Argentina, Argentina.
- Pablo Franzini, ARAUCO do Brasil, Brazil.
- Kelly Shotbolt, ARAUCO North America, United States and Canada.
- Diego Wollheim, Montes del Planta, Uruguay.
- Rui Correia, SONAE ARAUCO.



## CORPORATE BEST PRACTICES MANAGEMENT

The directors, executives and workers of the company and all its subsidiaries are inspired by ARAUCO's vision and values, and must fulfill company commitments and guidelines, especially those outlined in the Code of Ethics and the Market Disclosure Manual.

In addition, Argentina operates under the "Code of Corporate Governance", which promotes business ethics and sets the foundation for sound management and supervision of the company. In Brazil, the company is also governed by a Code of Commercial Conduct. Likewise, at ARAUCO North America, employees are trained in the Company's principles through the LEAD (Leadership for Enhancement and Development) program.

ARAUCO has a Fraud Reporting Procedure in place to receive, investigate and, if needed, act upon reports submitted by employees, customers, suppliers, shareholders and third parties related to violations of the company's Code of Ethics, including but not limited to reports concerning irregularities found in audits, accounting and internal controls. Reports can be anonymously made by filling in the form that is available on the intranet or at ARAUCO's website (www.arauco.cl).

In addition, ARAUCO continues to implement the Crime Prevention Model (CPM) program established by Celulosa Arauco y Constitución S.A. and its subsidiaries, through Crime Prevention directors who are designated by the Boards of ARAUCO's different companies.

During 2017, work was performed in Chile to monitor and follow-up on the Crime Prevention Model, new controls were put in place and the risk matrix was updated. The company also created a register of conflicts of interest between ARAU-CO employees and workers of State-owned businesses.

In addition, actions were taken to implement the model in the company's foreign subsidiaries. Crime Prevention directors were appointed for the United States, Colombia, Brazil, Argentina and Mexico; a policy was outlined to regulate this matter based on local legislation; and controls were put in place to mitigate the risk of crimes such as money laundering, financing of terrorism, bribery and receiving stolen goods.

The company continued to create awareness on this matter by providing e-learning courses for 90% of the employees who were designated as training targets, and new dissemination strategies were set to be developed in 2018. Concerning the model's certification, the external certifying body produced its second revision report, which contained no major observations.

Also, a campaign was developed in 2017 to disseminate the company's Code of Ethics, which will continue in 2018. The campaign involved e-mails, posters, office TV screen transmissions, videos presenting the Code's core aspects, publications on the company's website, and other initiatives. This campaign is currently being implemented in Chile, and will later continue in USA, Brazil and Argentina. The company also has a Compliance with Free Competition Principles and Regulations program in place; a Finance Policy, which provides a single document containing the treasury policies that guide ARAUCO and its subsidiaries; and a Community Contributions Policy in Chile, which established the procedures through which ARAUCO approves and makes contributions that directly benefit the community by means of donations, commodates and endorsements.

#### REPORTING PROCEDURES

Corporate good practice mechanisms include confidential fraud reporting systems, available at ARAUCO's website.

The company's Code of Ethics, as well as the Crime Prevention Model, have reporting structures in place for all countries where ARAUCO maintains operations. The procedure provides a confidential and anonymous reporting mechanism for workers and people outside the company, in relation to their observation of actions performed by company workers and executives.

## RISKS AND CHALLENGES

ARAUCO is exposed to a number of different risks, which can not only affect the company's financial performance, but its sustainability as well. To minimize the impact and probability of the risks it is exposed to, the company has a Risk Management Policy in place, a Corporate Risk Management Framework and a Corporate Risk Matrix for high impact risks. These policies and procedures are based on international Risk Management standards such as ISO 31.000 and COSO ERM. The development of the company's business continuity plans is based on standard ISO 22.301.

In terms of operational risks, the production of an industrial mill depends on people, inputs, processes, and equipment that are essential for operational continuity. Wood, water, steam and electric power are inputs whose lack can put a stop on the regular operation of a process area or even an entire industrial forestry complex. Likewise, factors outside the operation, such as natural disasters and forest fires, constitute risks.

Based on the operational risks identified during 2014-2015, ARAUCO has been executing specific work plans to prevent the occurrence of, or reduce the impacts on its facilities, resulting from serious and fatal accidents, natural disasters, fires, environmental damage, climate change, odor emissions and temporary production halt of its industrial facilities.

The risk scenario at a global level is not separate from the local context. In 2017, our forestland and neighboring communities were significantly affected by forest fires caused by a combination of extreme weather conditions and the absence of rainfall in Chile's central and southern areas. As a result, ARAUCO strengthened its fire prevention and suppression measures, its relationship with nearby communities, its forest management, and more, by implementing a number of initiatives (see outstanding case study #deRaíz).

In addition, in terms of our industrial complexes, ARAUCO continued to execute the investment plan set forth for 2016-2017, which involved significant improvements in fire combat and protection; improvements in maintenance programs, and the reinforcement of the technical competencies and equipment of our industrial firefighting crew.



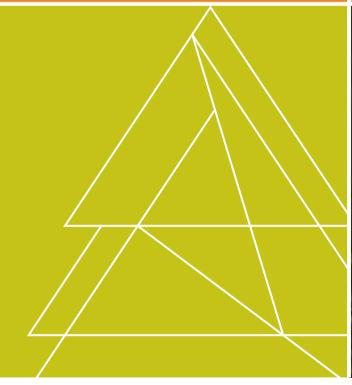
#### OUTSTANDING CASE STUDY

## ARAUCO PRESENTS A RENEWED VISUAL IDENTITY

ARAUCO presented its new visual identity in 2017, which aims to express the company's evolution in more than 40 years with the theme **"Renewables for a better life".** The new visual identity is based on a system that generates greater closeness and differentiation by means of a simple and global visual language that transfers from the corporate world to products that are in contact with customers and end consumers. The new visuality arises from the company's corporate identity and story, which is sustained by the renewable origin of its resources, the development of products and solutions that improve people's lives, and the company's global essence. Soon to celebrate 50 years, ARAUCO has become internationally recognized, and is experiencing continuous and dynamic growth guided by high management standards.

# hello





# diduco

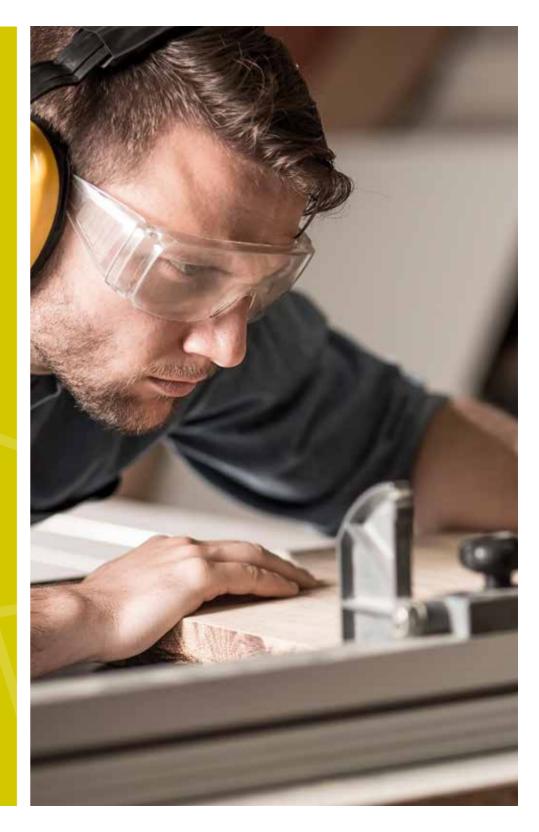






## renewables for a better life





## GLOBALIZATION AND EFFICIENCY



ARAUCO'S forestry activity is the foundation of all the company's business units in Latin America. The raw materials for our industries come from a renewable resource and our forestry operations require responsible management, which demands that we take on a commitment to sustainability, the environment and community development.

ARAUCO's forestland in Chile, Argentina, Brazil and Uruguay is managed in accordance with Responsible Forest Management practices, and is primarily allocated for its own industrial needs. These forests are sustainably managed and the company's production processes are certified to the highest standards at the global level. The company duly protects its native forests as well as areas containing high social and environmental values.

1.7 million hectares (4.2 million acres) of forestland in Chile, Argentina, Brazil and Uruguay Native forest and protected areas account for **26%** of the forestland, which is conserved for current and future generations.

**24.6 million m<sup>3</sup>** of harvested logs

**6.9 million m<sup>3</sup>** of logs, chips and material for fuel were purchased from third parties.

**31.5 million m<sup>3</sup>** were distributed for the company's own production and 3 million m<sup>3</sup> were sold to third parties.

72,300 hectares (178,657 acres) planted during 2017.

## MILESTONES IN 2017

- The 4<sup>th</sup> FSC<sup>®</sup> follow up audit was successfully conducted in Chile (Forestal Arauco FSC License Code: FSC – C108276).
- The company lost 72,000 hectares (177,915 acres) of forest plantations and 15,000 hectares (37,065 acres) of native forest in Chile due to wild fires during the 2016-2017 season (refer to outstanding study case #deRaíz).
- Forestal Misiones in Argentina obtains PEFC Certification.

- The CERFLOR-PEFC Certification is obtained in Brazil.
- FSC<sup>®</sup> Certification audit conducted in Mahal and Novo Oeste, in Brazil (for a total area of 60,883 hectares [150,445 acres] and a planted area of 39,644 hectares [97,962 acres]). The certification was issued on February 8, 2018 (FSC-C131921).
- 50,748 hectares (125,401 acres) were integrated into the FSC<sup>®</sup> certification of Arauco Forest Brasil Sengés/C. Tenente (FSC-C010303), from the Vale do Corisco process.







The woodpulp produced by ARAUCO is present in people's daily lives because it is the essential raw material used to manufacture different types of writing and printing papers, tissue paper, packaging material, filter paper, fiber cement products, diapers and feminine hygiene products, and more.



#### SUSTAINABILITY REPORT 2017 GLOBALIZATION AND EFFICIENCY

#### pulp mills in Chile

in Argentina

#### in Uruguay

through a joint venture between ARAUCO and Swedish-Finnish company Stora Enso **3.7 million tons of bleached** and unbleached softwood pulp, bleached hardwood Eucalyptus pulp and fluff pulp were produced in 2017.

Sales for US\$ 2,451 million in 2017.

Products were mainly sold in Asia and Europe.

#### WOODPULP PRODUCTION BY PRODUCT (in ADMT)

(As of December 31, 2016)

Product	2015	2016	2017
Bleached Pine (BSK=BKPR+BKPT)	1,422,139	1,531,089	1,441,910
Bleached Eucalyptus (BEK)	1,528,236	1,526,333	1,662,565
Unbleached Pine (UKP)	454,304	429,947	435,051
Fluff	198,460	208,129	155,153
Total	3,603,139	3,695,498	3,694,679

# MILESTONES IN 2017

- In Chile, the Board of Directors approved the undertaking of the Dissolving Pulp project in Valdivia (refer to outstanding case study Projects and Investments).
- ARAUCO celebrated its 40-year business relationship with China with an event attended by the company's chief executives and pulp business customers.
- Investments were made in Argentina aimed at operational improvements to optimize the mill's performance and costs. In addition, new products were developed in L2 Fluff.
- In Uruguay, the Environmental Permit for Operation was renewed for three years and an increase in annual production was authorized from 1,300,000 ADMT/year to 1,520,500 ADMT/year.



ARAUCO is one of the primary producers of wood at the global level, manufacturing a wide variety of sawn timber products, plywood, fiberboard and particleboard, remanufactured wood and mouldings with different finishes, appearances and value adding processes, for the architecture, design, construction, packaging and remodeling industries. The company has a production capacity of 12.4 million m<sup>3</sup>.

ARAUCO'S MDF, MDP, HB and Plywood panels supply the furniture and construction industries, and are known for their wide range of products, availability and quality. ARAUCO's timber offers solutions in terms of quality and resistance for the construction, furniture and packaging industries. The company's mouldings, sold under the Truchoice brand, provide a decorative finish in homes and other spaces.

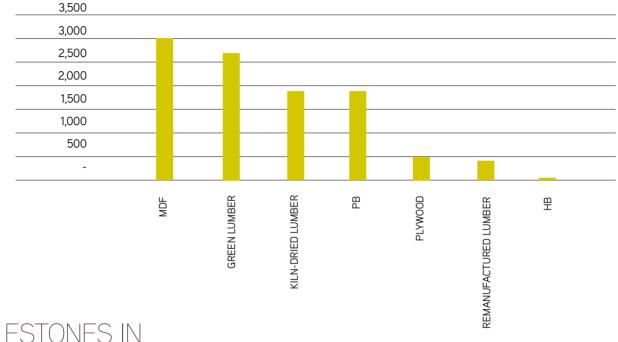


Sales for US\$ 2,625 million in 2017.

Sales mainly concentrated in USA, Brazil, Europe and Asia.

#### 2017 WOOD PRODUCTION BY PRODUCT

(Thousands of m<sup>3</sup>)



# MILESTONES IN 2017

- Acquisition of the Montenegro Mill, in the State of Rio Grande do Sul, and Ponta Grossa Mill, in the State of Paraná, in Brazil (refer to outstanding study case Projects and Investments).
- Construction of the new Grayling MDP panel mill continued in Michigan, United States (refer to outstanding study case Projects and Investments).
- Purchase agreement for MASISA assets located in Mexico (refer to outstanding study case Projects and Investments).
- Loss of the El Cruce sawmill in Constitución, Chile, due to fires during the 2016-2017 season (refer to outstanding study case #deRaiz).

- Two industrial facilities in Portugal were damaged by serious wild fires in mid-October. Both facilities gradually resumed operation.
- Work that was being done to strengthen planning processes and improve the level of customer service continued throughout the year.
- The Impeccable Operation project was extended to Argentina and Brazil.



More than 20 years ago, and in keeping with its commitment to high environmental standards, ARAUCO embraced the challenge of producing clean, renewable energy from forestry biomass, which issues from virtuous cycles with nature. Guided by the provisions of the Clean Development Mechanism (CDM) of the Kyoto Protocol, the company has been investing in additional power generation capacity, exceeding the usual practices of the industry.

In doing so, the company meets its own energy needs and contributes surplus energy from its industrial facilities to the power grids of the countries where it maintains operations.

industrial facilities and 2 back-up units in Chile

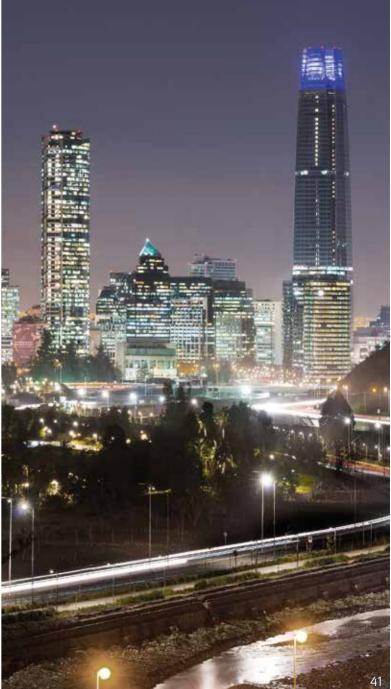
power plants in **Argentina** 

power plant in Uruguay

ARAUCO is one of Chile's primary Renewable Energy (NCRE), with an installed capacity of 606 MW and a capacity of 209 MW of surplus energy that is supplied to the

In Argentina, the company has an installed capacity of 78 MW.

In Uruguay, the company has an installed capacity of 82 MW.



#### SUSTAINABILITY REPORT 2017 GLOBALIZATION AND EFFICIENCY



## **GHG** EMISSION REDUCTION PROJECTS

ARAUCO has five cogeneration power plants in Chile and one in Uruguay (through a joint venture with Stora Enso), registered as greenhouse gas (GHG) emission reduction projects with the Clean Development Mechanism of the Kyoto Protocol, with an annual offset of about 650,000 tons of CO<sub>2</sub>. In addition, the Viñales cogeneration project is registered under the Verified Carbon Standard (VCS) and performed its first issuance on January 3, 2017, for 96,119 Verified Carbon Units (VCUs).



# MILESTONES IN 2017

- In Chile, energy generated by the company's power plants totaled 3,071 GWh.
- Total physical sales in Chile of 1,504 GWh; 3,3% less than in 2016.
- In November 2017, two of Chile's primary electric grids were connected: the Great North Interconnected System (SING in Spanish) and the Central Interconnected System (SIC in Spanish). Their fusion resulted in the National Electric System (SEN in Spanish), extending from Arica to Chiloé, which supplies energy to over 97% of the country's population.
- In Chile, the company's power plants produced an energy surplus of 900 GWh, which accounts for 1.2% of SEN's total energy generation. The company's installed power accounts for 0.9% of the system's total installed power during the same time period
- In Chile, Arauco Bioenergy became a member of the Chilean Association of Renewable Energy (Asociación Chilena de Energías Renovables A.G.), which promotes the generation of Non-Conventional Renewable Energy (NCRE).

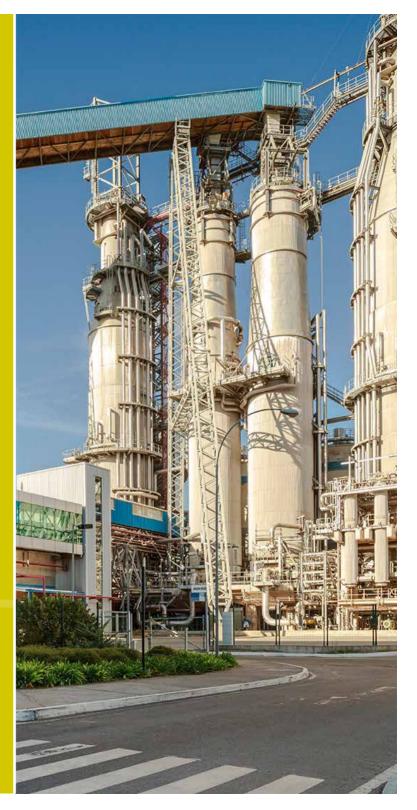
- In Argentina, the company generated a total of 523 GWh.
- In Uruguay, the company generated a total of 1,283 GWh.
- Sale of 602,121 CERs, registered under the CDM standard, in the voluntary market.
- At the global level, by 2017, ARAUCO has contributed 7.36% of emission reductions under the residual biomass-based energy generation projects category, registered to the CDM standard.
- Sale of 493.659 CERs, registered under the CDM standard, to Vattenfall Energy Trading Netherlands N.V.
- 457,309 CERs were issued under the Clean Development Mechanism (CDM) standard, for a total accumulated issuance of 3,956,502 CERs.

# FINANCIAL PERFORMANCE

During 2017, the company generated a profit of US\$270 million, 24% more than in 2016. This was due primarily to an improved economic performance resulting from the growth of Chinese, North American and European markets, as well as the growth of emerging economies, which increased the demand for ARAUCO products.

# EBITDA for 2017 was US\$ 1,366 million





In 2017, ARAUCO signed a seven year loan agreement for US\$ 300 million for the construction of the Grayling panel mill in USA. In addition, the company issued two bonds in the US market for US\$900 million. These funds were primarily used to partially buyback three current bonds, for a total of US\$741 million and the remaining amount was set aside for other corporate purposes.

#### **FINANCIAL INDICATORS**

#### (in US\$ million)

	2015	2106	2017
Sales	5,147	4,761	5,238
EBITDA	1,282	1,052	1,366
EBITDA Margin	24.9%	22.1%	26.1%
Net Income	368	218	270
Financial Debt	4,305	4,481	4,274
Net Financial Debt	3,805	3,889	3,687
Financial Costs	263	258	288
Investments	468	665	654
Net Debt/EBITDA	2.97	3.70	2.70
EBITDA/Interests	4.88	4.07	4.75

# **ECONOMIC VALUE GENERATED AND DISTRIBUTED AS OF DECEMBER 2017** (in US\$ million)

	2015	2016	2017
Total income			
Net sales	5,147	4,761	5,238
Income from financial investments	50	30	20
Income from sales of fixed and intangible assets	6	19	9
Economic value generated	5,203	4,810	5,267
Operational cost / production cost*	2,831	2,791	2,842
Payment to capital suppliers	1,355	1,034	1,787
Wages and benefits	538	533	563
 Taxes**	130	46	-31
Investments in the community ***	11	10	13
Economic value distributed	4,865	4,415	5,174
Economic value retained	338	396	93

\*Refers to cost of sales net of depreciation, and wages.

\*\*Includes expenses from income tax.

\*\*\*Includes donations, contributions and scholarships.

#### SUSTAINABILITY REPORT 2017 GLOBALIZATION AND EFFICIENCY

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#### INVESTMENTS

In 2017, the company invested US\$ 654 million, primarily for the construction of the Grayling panel mill in USA.

#### LOCAL SUPPLIERS

In order to support local development, ARAUCO has developed a network of local suppliers located in areas in which the company maintains forestry and industrial operations. They

provide quality products and services such as raw materials, input materials, spare parts, equipment and numerous services, contributing to the social and economic development of their regions. During 2017, the company made purchases from local suppliers for a total of US\$1,262 million in all countries in which ARAUCO operates.

	Purchases from local suppliers (in US\$ million)	% of total purchases from ARAUCO suppliers in 2017
Chile	991	64%
Argentina	5	7%
Brazil	141	67%
North America	124	23%



Innovation is an essential part of ARAUCO's strategy, and involves the combination of ideas, technology, process optimization, creativity and ventures to develop new and improved solutions that meet people's needs and initiatives that aim to further social and environmental sustainability.

## BIOFOREST EXCELLENCE AND RESEARCH

Specialized knowledge allows research to be transformed into innovation. In 1990, ARAUCO created Bioforest, a scientific technology research center to develop and apply the best technologies that maximize the production of the company's forest and industrial resources, conducting research for the Forestry, Pulp and Wood business areas in the different countries where the company operates.

highly specialized researchers Technological network for open collaboration with experts in the different areas in which the research center operates.

Bioforest participates in a number of national and international organizations that are at the leading edge of industrial-forestry scientific knowledge.

## **BIOFOREST** MILESTONES

- Production of information to reduce the impact on plantations affected by fire:
  - or silviculture priorization matrix for tree establishment, to maximize soil protection.
  - Selection of 14 prioritary water basins where intensive management was applied to control soil erosion (go to outstanding study case #deRaíz).
  - Ecological restoration priority assigned to all tree stands in ARAUCO's forestland, with emphasis on areas that were affected by fire.
  - Approval for the use of wood affected by fire in particleboard and MDF panels.
- First assessment for the use of drones in the application of weed-killers on forestry sites.
- Confirmation that fungi *Fusarium* circinatum is not transmitted by anchoring stakes used in the nursery.

- The tissue culture lab began operating in Argentina. Bioforest's labs made the first delivery of *in vitro* embryo.
- A bioacoustic monitoring technique for birds, amphibians and bats was assessed.
- Development and transfer of a software tool that uses satellite images for the automated monitoring of harvesting progress.
- Options for the treatment of effluents in pulp mills were evaluated.
- Treatments were developed for MDF and particleboard, to reduce emissions to the levels required by the US market.
- A synthetic and a natural adhesive were developed for particleboard. Both are formaldehyde-free.





#### SUSTAINABILITY REPORT 2017 GLOBALIZATION AND EFFICIENCY

Promotion of the use of wood in construction

Sustainable management and protection of native forests

**Innovation** in panels

Driving projects on Social Innovation and Shared Value

ANACLETO ANGELINI. UC INNOVATION CENTER

## INNOVA ARAUCO

Innovation is an essential part of ARAUCO's strategy, and involves the combination of ideas, technology, process optimization, creativity and ventures to develop new and improved solutions that meet people's needs and initiatives that aim to further social and environmental sustainability.



# MILESTONES IN 2017

- Creation of a strategic alliance with Etex Group to develop new construction solutions for timber and improve the habitability and sustainability of building.
- Development and implementation of 5 prototypes from the 2016 open Innovation challenge, with Safety as the theme; execution, implementation and launch of 4 prototypes from the 2017 open Innovation challenge, under the theme 'how to become a more agile and efficient business'.
- Launching of subsidiary Arauco Nutrientes Naturales SpA, to scale the sale and internationalization of the product portfolio in retail and the industrial ingredients business.
- Export of Freeze Dried Maqui to South Korea and Indonesia.
- Maqui-based finished products were launched: flavored waters, nectar, a soft drink and capsules combined with Omega 3.
- Sale of +Maqui in over 2,800 points of sale in Chile, and sales tests conducted in USA and Spain.

#### SUSTAINABILITY REPORT 2017 GLOBALIZATION AND EFFICIENCY

# OUR PRODUCTS

ARAUCO uses brands for relevant product-market categories all of which are backed by the ARAUCO corporate brand. The company aims to be recognized in the market as an expert n significant segments and to make processes easier for customers (go to www.arauco.cl).

	TIMBER	PULP
PRISM		
WESTO		
	arauco	
ARAUCOPLY		arauco
HILam		CITCUCO Silver Star / 明星 BKP
		<b>CITCUCO</b> Bright Star / 明星 EKP
		Gold Star / 金星 UKP
		<b>CITCUCO</b> Soil Star / 土星 UKP FC
		CFCUCO Vood Star / 木星 APSA BKP

#### **PRODUCT LABELING**

The labeling and marketing-communication processes related to ARAUCO's products follow the regulations of the country of origin as well as of the country of destination. The purpose of labels is to communicate the features, composition and technical specifications of the company's products. ARAUCO also complies with the regulations and standards set by each country.

#### CUSTOMER SATISFACTION

All of ARAUCO's businesses have developed Complaint Management Systems to respond to customer requirements. Communication mechanisms range from telephone calls to direct contact. Everything is managed through standardized systems which allow follow-ups and the improvement of operations, products and services, through either ongoing improvement or as a means for the production of annual plans.

During 2017, a survey was conducted to measure direct customer satisfaction in North America, South Korea and Argentina. 435 people replied and 85% of survey respondents rated ARAUCO in overall terms as good or very good, while 86% rated product quality as good or very good.

#### CUSTOMER ENGAGEMENT

During 2017, the company continued to develop customer engagement activities. In Latin America, ARAUCO actively participated in the most important design and architecture fairs, such as Expoconstruction and expodesign, and the Colombian Congress of architecture, both in Colombia; Mextropoli, in Mexico; Expodeco and Casacor, in Peru; 100 Showrooms and Wood Week, in Chile; FIMAR and Fitecma in Argentina; and fairs AWFS, NAWLA, and WMS, in North America.

The company also participated in fairs featuring furniture manufacturers and builders, such as Sodimac, which is simultaneously held in Chile, Peru, Colombia and Argentina; the Yo constructor fair, in Peru; and hardware fairs such as Chilemat and MTS, both held in Chile.

In addition, Araucoply celebrated 20 years in the North American market with a number of activities that ended with an event at NAWLA. The implementation of a loyalty program for Prism TFL distributors was completed and the company launched an online tracking platform for customer orders.

Over 200,000 melamine samples distributed to furniture manufacturers, designers and specifiers across all markets.

More than 20,000 people trained.

25% increase in Facebook followers and 30% increase in registered website members.



#### **NEW PRODUCTS**

- In Argentina, the company launched the Urban line of Faplac melamines in 2 designs: Street and Home.
- In Mexico, Vesto launched the Trends collection with 2 new designs: Expresso and Moscato, also including a Natural matte finish.
- In Chile, Vesto launched the Expresso design to complete its Trends collection, and Araucoply launched a new line of plywood, Araucoply Master Furniture.
- In North America, 2 lines of writing boards were launched under the Fibrex brand (Chalkboard and Whiteboard). Also, Millwork Primed Shiplap in finger joint was launched in all Home Depot stores.
- SONAE ARAUCO brand was launched.

ARAUCO also implemented a digital strategy in 2017, which involved the integration and organization of the company's digital platforms centered around one only objective, which is to have a more direct relationship with customers, end consumers and the community. This, in addition to an improvement of online contents and tools, resulted in a 43% increase of members and use of the digital cut optimizer doubled compared to 2016, which resulted in a 23% increase of visits to the company's website, and an outstanding 80% increase of visits to www.araucosoluciones.com.

#### OUTSTANDING CASE STUDY

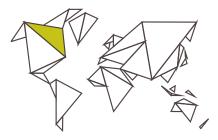
# PROJECTS AND INVESTMENTS

At ARAUCO, we are a global company that evolves and participates in world markets, permanently embracing new challenges to strengthen our offer.



CONSTRUCTION OF GRAYLING PANEL MILL, UNITED STATES This project, located in the State of Michigan, involves the construction of one of the largest particleboard mills in North America and one of the world's most productive mills. The purpose is to improve production chain logistics and support the growth of customers in Midwestern United States.

By December 2017, the construction process was 40% advanced. The mill is expected to initiate operations during the second half of 2018, with a production capacity of 800,000 m<sup>3</sup>, of which about 300,000 m<sup>3</sup> will be laminated with melamine paper.



#### CAPACITY OF

 $800,000\,m^3$ 

OF PARTICLEBOARD PANELS AND STATE OF THE ART TECHNOLOGY

#### ASSET ACQUISITION IN MEXICO

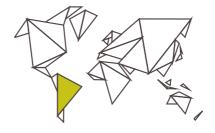
Purchase agreement for MASISA assets in Mexico, involving three industrial complexes located in Chihuahua, Durango and Zitácuarolos, which combined include three particleboard (PB) lines, an MDF panel line, three TFL lines, a chemical plant to process resin and formalin, and a veneer line.

The transaction for **US\$ 245 million** should materialize during 2018, once a number of prior conditions that are customary in this type of operation are fulfilled.

# ANNUAL CAPACITY OF 519,000 m<sup>3</sup> OF PARTICLEBOARD (PB) 05 MDF PANELS

ASSET ACQUISITION IN BRAZIL This operation includes the purchase of two panel mills owned by MASISA in the states of Rio Grande do Sul and Paraná, in Brazil.

This acquisition will consolidate ARAUCO as the world's second largest panel producer and increases product offer for the international market.



## ANNUAL INSTALLED CAPACITY OF

# $800,000\,m^3$



## DISSOLVING PULP AT VALDIVIA PULP MILL, CHILE

This project will allow the company to innovate with greater value added products, in the context of an increasingly competitive global pulp market. By using existing processes and facilities, and making a few adjustments, ARAUCO will be able to produce dissolving pulp, a product that has a number of applications in the textile and food industries, the manufacture of cellophane and flexible packaging, and a wide range of other industrial uses.

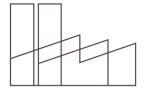
In addition, the project will increase the electricity delivered to Chile's power grid, reaching an energy surplus of about 55 MW.

MILLION INVESTMENT

#### MODERNIZATION AND EXTENSION OF ARAUCO MILL (MAPA), CHILE

This project aims to increase the annual production capacity of pulp at industrial complex Horcones, from 800,000 to 2.1 million tons.

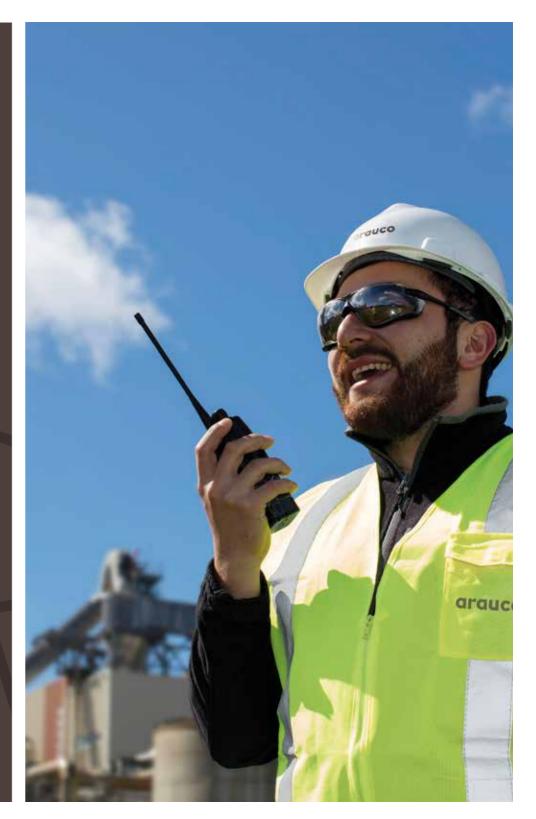
It is a major project for Chile and the Biobío Region because it will drive energy into the area's economy, and renovate and increase the efficiency and production of our facilities.





# MILLION ANNUAL TONS OF PULP





# PEOPLE OF EXCELLENCE

OUR TEAM ARAUCO's business strategy also involves working with People of Excellence, because they provide the company with a distinctive brand in terms of an organizational culture inspired by the values of Safety, Commitment, Excellence and Innovation, Teamwork and Good Citizenship.

In order to move forward with this challenge, work is conducted on a number of aspects, such as, ensuring that performance management is at the center of decision-making; counting on workers that are prepared and trained to meet new challenges; fostering open, efficient and timely organizational communication; and promoting a healthy organizational climate, with room for participation that encourages involvement.

# 15,379

employees

Employment generated through contracting businesses:

contract workers

#### WORKFORCE

Workforce	2015	2016	2017
Workers	14,748	14,239	15,379
Indirect contract workers (contracting businesses)	21,041	22,165	21,208

### ARAUCO WORKFORCE BY GENDER

Workforce	20	)15	20	16	20	)17
	Women	Men	Women	Men	Women	Men
TOTAL	1,826	12,922	1,675	12,564	1,857	13,522
Executives	50	396	67	383	71	427
Professionals and technicians	1,015	3,606	892	3,300	984	3,469
Workers	761	8,920	716	8,881	802	9,626



## RECRUITMENT

ARAUCO aims to offer the best labor conditions so as to attract talent and recruit people who have the capacities and competencies to successfully fulfill their different roles. The company has a Recruitment and Selection Policy in place that safeguards the fairness and efficiency of the process. people were hired in 2017 in the different countries where ARAUCO operates.

Consolidated turnover rate of

ARAUCO promotes equal opportunities in its work teams and rejects any form of discrimination. In Chile, the company is a member of the Inclusive Businesses Network (REIN in Spanish), a private association endorsed by SOFOFA that organizes and participates in activities that aim to strengthen inclusion. This is an addition to a number of initiatives that address the recruitment and development of people with disabilities.

During 2017, students with visual, learning, and motor disabilities were employed as interns in Santiago offices; and an alliance with the municipal office for labor inclusion (OMIL in Spanish) of Quillón, in addition to work done with Aramark, resulted in the employment of people with disabilities at the Nueva Aldea complex.

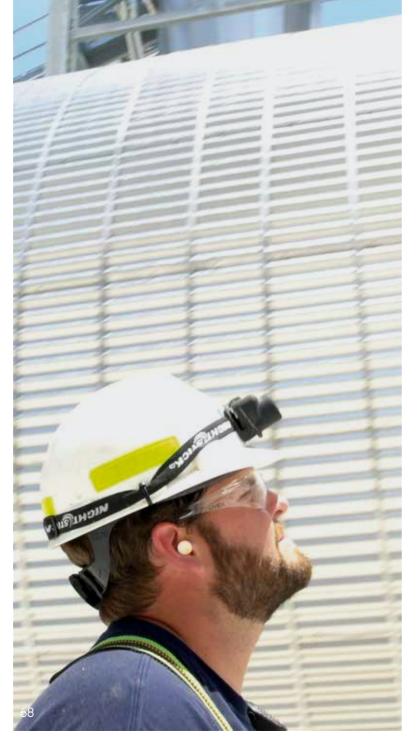
The company also makes an effort to favor local employment during the recruitment and hire processes. To do so, it maintains direct communication with the municipal offices for labor inclusion and with industrial education public schools located near the company's operations. Local employment is also promoted through the following initiatives:

• Work training offered to neighbors who live near the company's industrial complexes, with the purpose of providing a future recruitment opportunity; • Tendering new projects, in which ARAUCO commits a percentage of total workforce to local hires (for example, project MAPA);

• Improving employability by offering training courses to the community that strengthen their skills and work education.

• Promoting Mapuche employment among indigenous communities located near ARAUCO forestland. The company's forestry operations conduct engagement and consultation processes, through which they inform the communities about upcoming activities and are offered specific training programs to participate in.

In Brazil, the company complies with the assigned quota for disabled people, providing them with available opportunities. There are 84 employees with disabilities working in different areas of the company, who are shown respect for their individuality and limitations, to further their development. SUSTAINABILITY REPORT 2017 PEOPLE OF EXCELLENCE



#### COMPENSATION AND BENEFITS

ARAUCO provides its employees with wages and benefits in accordance to the market, considering opportunities for each person's development in relation to their performance.

Every year, the company reviews the compensation structure in order to adjust the wage levels to the dynamics of the labor market in each country. In addition, ARAUCO set a base pay that exceeds the minimum legal wage, according to the conditions of each country.

ARAUCO also offers its employees additional benefits, which vary according to the business, country and reality of each area of operation. These benefits include food, transportation, life and health insurance, scholarships, and agreements with retail stores, local institutions, and others.

# MILESTONES IN 2017

- For the first time, Campus Arauco students in Chile participated in recruitment processes for internships and student thesis, and were hired to work in the different facilities.
- The recruitment and hire process for workers who will participate in the Dissolving Pulp project in Valdivia, Chile, began in November.
- In Argentina, a third production shift was added at Zárate particleboard mill and a fourth production shift was added at Piray MDF mill.
- In North America, ARAUCO initiated the first stage of the "Company of Choice" initiative, which aims to achieve a broader commitment from workers, provide them with more training and empowerment to develop confidence, productivity and reliability and become a better supplier for customers.

- In North America, a new compensation strategy was designed to include market variables, career plans and position levels.
- In North America, a work team for the new Grayling mill was assembled.
- At Moncure mill in North America, 55 workers were terminated due to a restructuring process.
- In Brazil, the Opening Doors project was implemented to make ARAUCO known among university communities and create a talent pool to supply the company's need for interns and analysts.

## COMPREHENSIVE DEVE-LOPMENT



## COMPREHENSIVE DEVELOPMENT

ARAUCO furthers comprehensive growth of its workers through a number of programs for training and development to contribute to the formation of teams of excellence.

#### TRAINING AND LEARNING

ARAUCO's challenging goals, and the company's high level of specification for each job position require a training and learning plan ranging from technical instruction courses to the development of soft skills and leadership.

In addition, ARAUCO aims to implement a participatory training strategy between business areas in order to share best practices on technical instruction and improve training process reporting.

#### TRAINING INDICATORS BY COUNTRY

	CHILE	ARGENTINA	BRASIL
MH of training performed	142,352	19,468	140,000
Average training hours	16.05	NA	NA
Participants	4,593	1,064	2,254

NA: Not available

#### PERFORMANCE MANAGEMENT

ARAUCO has placed performance management as a key process in the decision-making process that guides the development of its workers. Performance assessments are conducted using a tool that aligns the competencies and desired behaviors of workers with the company's corporate values. In addition, it determines employee compliance with individual objectives. This process, which includes at least one annual formal feedback meeting with each worker, analyzes strengths and opportunities for improvement, visualizes training needs, recognizes good performance and identifies people with potential.

#### PERCENTAGE OF THE WORKFORCE THAT PARTICIPATES IN PERFORMANCE ASSESSMENTS

	2015	2016	2017
Chile	50%	78%	93%
Argentina	5%	38%	50%
Brazil	10%	10%	0%*
North America	32%	28%	40%

\*By virtue of the purchase and integration of Masisa assets in Brazil, the assessment was postponed for February/March 2018.

#### INTERNAL MOBILITY

ARAUCO promotes and supports the interest shown by workers in their search for improved career development opportunities within the company. The commitment and support of supervisors is essential to motivate and identify people who have the potential for development or mobility and are interest in their professional growth. Vacant positions are filled by internal recruitment processes or a combination of internal and external processes. Job contests are announced through internal communication mechanisms to guarantee equal access to information for all employees.

#### INTERNAL MOBILITY INDICATORS

	N° of internal contests announced	N° of workers with mobility (includes direct promotion)	% of vacancies internally filled
Chile	147	545	41%
Argentina	10	66	11%
North America	NA	NA	NA
Brazil	20	164	7%

NA: Not available.

# MILESTONES IN 2017

- In Chile and North America, implementation of the ARAUCO People system was completed. This system integrates people management processes in a single platform.
- In Chile, team maturity management training was provided to leaders within the company.
- All workers in Chile participated in the performance management process.
- In Chile, the Tutor Training program provided knowledge and teaching tools to 48 workers at the Horcones Industrial Complex and the El Colorado mill, who can now provide on-site support to the learning process of students who are members of the dual education program at Campus Arauco (go to outstanding study case Campus Arauco dual education strategy).
- A new technical training system was created in Chile, based on competencies required for the Pulp Business.

- In Argentina, the training and development procedure was unified for the operations, panel and pulp units and office headquarters.
- In Brazil, a resume pool platform was acquired for Internal Mobility processes, and ARAUCO's Linkedin site was enhanced to recruit job candidates.
- The Industrial and Forestry Technical School Program in Brazil, continued to build module 2 for specification, and to plan the Forestry Technical School.
- Extension of the leadership training program in Brazil, for supervisors and assistant supervisors, and production of a guide for ARAUCO leaders.
- In Brazil, the development programs for trainees and interns were restructured and their objectives were redefined.



Having a positive organizational climate is essential for ARAUCO's business. It encourages employees to attain organizational objectives and goals.

#### ORGANIZATIONAL CLIMATE

A good labor climate is part of the business strategy, because it requires people that are committed to their work and to the company's development.

Climate surveys are now established as a global process that helps to provide an understanding of the organization, find strengths and opportunities for improvement and provide leaders with information to optimize team management.

ARAUCO conducted an Organizational Climate Survey in 2017 for all its workers in Chile, Brazil, Argentina, North America and sales offices in Mexico, Colombia and Peru.

During 2018, the company will continue to work on issues that have opportunities for improvement and will continue to implement a supervision system for leaders to foster communication, review and analyze results, and provide support in the definition of an action plan and assessment.

# MILESTONES IN 2017

- In Chile and sales offices in Peru, Colombia and Mexico, the survey registered a 3 point increase and participation in the climate survey increased by 94%, with a total of 7,944 respondents.
- In Argentina, the percentage of favorable answers increased by 7 points and participation increased from 72% to 76%.
- In Brazil, the survey registered an increase of 4 percentage points in favorable replies.
- In the United States, the survey was taken by 1,172 people, which accounts for 73% participation. Favorable responses increased by 1 point.

#### ORGANIZATIONAL CLIMATE INDICATORS

	2015		. 20	2016		2017	
	Participation	Global result	Participation	Global result	Participation	Global result	
Chile and sales offices	90%	67/100	91%	69/100	94%	72/100	
Argentina	-	-	72%	61/100	76%	68/100	
Brazil	94%	79/100	95%	78/100	92%	82/100	
North America	51%	67/100	74%	68/100	73%	69/100	



## ORGANIZATIONAL COMMUNICATION AS THE FOUNDATION FOR COMMITMENT AT ARAUCO

The company seeks to foster open, timely, transparent communication as a key element to maintain the organization aligned and committed to new challenges, and to express the desired organizational culture through the company's corporate values.

The company provides a wide range of internal communication mechanisms in the different countries of operation, such as intranet, bulletin boards, local magazines, ARAUCO's newsletter "Voces" (Voices), a cell phone app, e-mails, posters, and videos. The purpose is to ensure timely and efficient communication of all information of interest to workers.

# MILESTONES IN 2017

- Development of the Comunica+ program, an initiative for supervisors that aims to provide them with tools that facilitate their role as communicators with their teams.
- Face-to-face executive meeting, attended by the company's different country executives to learn about projects being developed and new challenges.
- Implementation of meetings between executives and their teams to communicate ARAUCO's new visual identity system.
- In Chile, the company performed a migration of the intranet to the platform "personas.arauco.cl", to keep all the information and management tools integrated within a single system.
- In Chile, the company started the development of a digital communication strategy on social networks, which was also shared with workers so that they could join and learn about ARAUCO through Facebook, Twitter and YouTube.
- Involvement Committees began operating in Chile, which aim to find instances for workers' participation and involvement in local development initiatives promoted by the company.
- The ARAUCO Spirit recognition program was implemented in Chile for its sixth consecutive year. During this edition, 225 individuals were nominated by 1,125 workers, and 4,480 workers voted to choose ARAUCO Spirit winners.

- In Argentina, the ARAUCO Spirit program continued to be implemented by each Site/Business area, choosing winners for each corporate value.
- In Brazil, the ARAUCO Spirit program had 80 nominees and 12 finalists.
- The company held the second edition of the ARAUCO open innovation challenge to receive ideas aimed at becoming a more agile and efficient company. A total of 254 ideas were submitted from Chile, Argentina and Brazil, and 1,766 people interacted in the platform.
- All ARAUCO workers participated in a program to become fire prevention ambassadors. The campaign reached an audience of about 25,000 people.
- In Brazil, the Communicating Leadership program was extended to all supervisors and assistant supervisors: 123 professionals were trained in 6 meetings.
- In 2017, ARAUCO implemented Internal Communications strategic planning to provide greater visibility to the company's challenges, contribute to the development and practice of the Communicating Leadership role and to build a sense of pride for Being ARAUCO.





ARAUCO promotes mutual respect, openness and transparency as aspects that guide its relationship with workers, negotiating groups, unions and their representatives.

To promote a good relationship, the company fosters an environment of collaboration and participation, in accordance to the Code of Ethics, internal regulations and current labor laws.

In Argentina, the company maintains a fluid relationship with labor unions, which includes planned meetings and a predetermined agenda. These are part of a joint work minute, which end in "agreement acts" between both parties. Issues are addressed and differences are analyzed together, to find a balance that nurtures a long-lasting relationship.

In Brazil, the company complies with the regulations established in its collective agreements and its current labor legislation. Any substantial changes are negotiated in advance with the respective unions. All units are covered by collective union agreements that establish mandatory prior negotiation.

#### COLLECTIVE AGREEMENT INDICATORS

	N° of unions	% of workers in collective bargaining agreements
Chile	26	64%
Argentina	4	49%
Brazil	6	100%



ARAUCO works with contractor businesses, especially for Forestry business development.

Every month, the company certifies that contracting and subcontracting businesses comply with labor obligations, through OVAL, an organization certified by the Chilean National Standards Institute.

ARAUCO offers its contracting businesses a number of programs to increase the competitiveness of their services and to contribute to the development of their operations in a safe and productive manner.

In addition, the company develops initiatives so that contracting businesses can comply with the proper labor conditions, in accordance to ARAUCO standards:

- Monthly performance assessment of contracting businesses, addressing different aspects: safety, production, labor, and others.
- Every two years, the company assesses the organizational climate of forestry workers and business owners to gather their perceptions and provide support in the design and implementation of action plans.
- Induction process for all contractor businesses, with about 7,000 workers trained.
- Business Development is a training program offered to business owners on issues such as employee selection, internal communications and labor rights and obligations.
- A toll-free 800 number is available to contractors allowing them to directly submit questions, concerns, reports or complaints.
- The company requires contractors to comply with a new standard for wages –above the legal minimum wage– and provide mandatory life insurance for all contractor workers and subcontractor workers, with full coverage.
- Social management program to support the well-being and quality of life of workers and their families. Plans

include: remedial education, ophthalmologic, dental, kinesiology programs, and other initiatives. The program also provides contractors with counsel on social management issues.

- Remedial Studies Program through which 119 forestry workers advanced their education and 57 earned their high school diplomas in 2017.
- The company's Housing Plan provides support to workers and community members with housing solutions built according to high technical and social standards.
- 62 businesses and over 180 people have participated in the Development Program for Site Supervisors of harvesting and thinning businesses. The program awards a Site Supervisor Diploma, given out by certified technical training organization (OTEC) Virginio Gómez.

In Brazil, contractor businesses must comply with ARAU-CO guidelines that apply to their businesses, and contractor workers must adhere to a formal commitment of compliance with ARAUCO regulations. To ensure proper compliance with these guidelines, the company offers information and training on the matter.

## OUTSTANDING CASE STUDY

# FIRST STEPS OF THE DUAL LEARNING STRATEGY AT CAMPUS ARAUCO

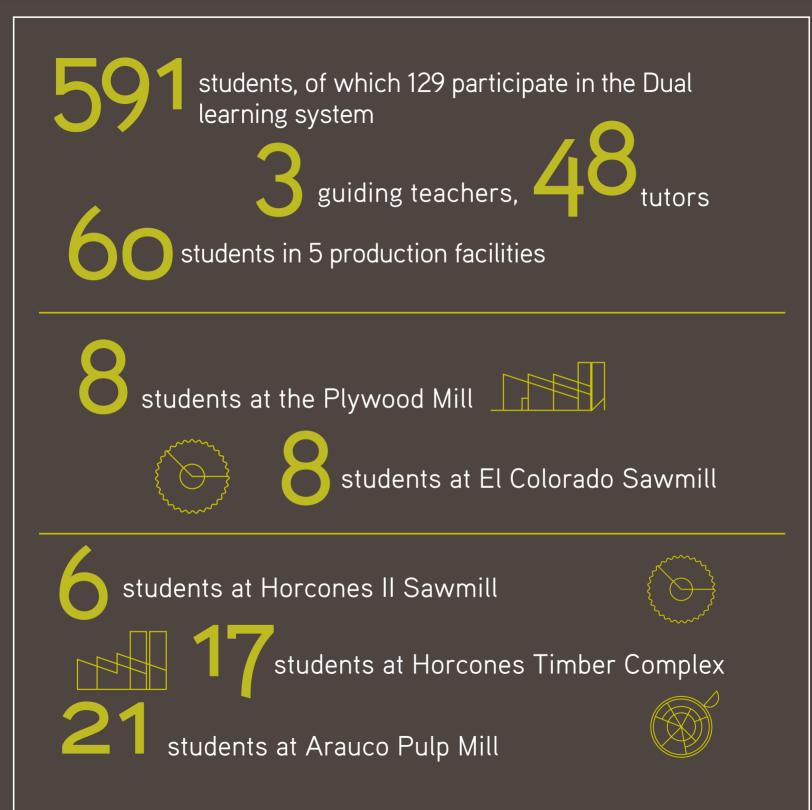
Campus Arauco, which opened its doors in 2016, started with an alliance between Duoc UC and ARAUCO. This initiative involves a quality learning system available to young people and the community that offers career majors related to the area's production sector.

One of the teaching methods used on campus is the Dual system, which is based on a German education system that was adapted to Chile's reality with the support of the Chilean German Chamber of Commerce (Camchal), whose primary strong point is education in a real work environment, combining hands-on practice with learning.

The first students to enroll in this system started the dual learning process in two majors: Electricity and Industrial Automation Technician and Electro Mechanical Maintenance Technician in Industries.

This on-the-job system allows students to learn both in the classroom and at ARAUCO's industrial facilities. In addition to teachers at Campus Arauco, this learning system includes workers from our own production facilities who have received training in pedagogical knowledge and tools to support the on-site education process of students. These workers become teaching guides who are responsible for the academic process management and for tutors, who transfer practical knowledge to students, providing on-site feedback to each one on their learning progress.

The team is comprised of 3 teaching guides who are fully dedicated to education development and 48 tutors from the Pulp Mill, the Horcones Timber Complex, Horcones II Sawmill, El Colorado Sawmill and the Plywood Mill. In addition to performing their regular tasks, all these workers transfer good practices. This academic body (teachers, guiding teachers and tutors) were especially trained at Duoc UC to implement this learning strategy.









# OCCUPATIONAL HEALTH AND SAFETY

# SAFETY

Because we are certain that the company's real value is in its people, ARAUCO has decidedly moved forward to make Safety a first priority.

Building a safety culture based on the value of people and teamwork has led us to outline a corporate safety management system termed "Together for a better life", which is guided by three principles: empowered workers, safe teams and work well done (see outstanding study case Safety Management System).

In 2017, ARAUCO accomplished a 5.6% reduction in the accident frequency rate, a 2.8% increase in accident severity rate 1 and a 31.6% increase in accident severity rate 2.

Also, 8 facilities registered accident frequency and severity rates at World Class level: panel mills Bennettsville, Eugene, Malvern, Biscoe, Carolina, and Duraflake; Araucaria chemical plant, and Bioforest. In addition, 11 facilities are rated at a superior level.

However, during this same reporting period, the company suffered the loss of José Luis Rivas, Electrocontrol Technician at Valdivia Pulp Mill, due to a fatal accident in the workplace.

In addition, the company suffered the loss of three contract workers who were providing services to ARAUCO: Miguel Muñoz, choker setter for Kupal, a company that provides services to the Forestry Business area; Mario García, FRP assistant at Invenio, subcontracting company for SK Comsa; and Mauricio Paredes, chainsaw operator assistant for Bias, a company that provides services to the Forestry Business area.



#### ACCIDENT FREQUENCY RATE BY BUSINESS AND COUNTRY

	Forestry	Pulp	Wood	CONSOLIDATED
Chile	5.8	4.5	4.7	5.2
Argentina	2.1	8.8	7.0	4.9
Brazil	1.9	-	1.8	1.7
North America	-	-	1,6	1,6
Consolidated	5.0	5.3	4.2	4.4

# MILESTONES IN 2017

- In Chile, the company launched "Together for a better life", a corporate safety management system (see outstanding study case Safety management system).
- The Pulp Business reinforced the use of the Standard Work Sheet (HTE in Spanish) and the identification and improvement of unsafe conditions found by workers, by follow up of SAP work orders.
- Nueva Aldea Pulp Mill developed and implemented the "Safety Monitors" project to prepare and empower workers from different areas to act as observers and reinforce compliance with the organization's safety standards and procedures among coworkers.
- Implementation of a Safety Culture Survey at Licancel and Arauco Pulp Mills in Chile, in a joint effort with the National Safety Association (ACHS).
- Initiation of a pilot project at Valdivia Pulp Mill in Chile to include risk management in task planning, in a joint initiative with ABS Consulting firm.
- In a joint effort with ACHS, the company developed a Safety leadership standard program for leaders in the Pulp and Forestry businesses to be implemented in 2018.
- Active matrix maturity assessment to learn about adherence and use of this tool in risk management in the Wood business in Chile.
- The Wood Business in Chile determined a single and focused structure for the execution of safety observations and inspections.

- Implementation of an Industrial Self-management system (SAGI in Spanish) for permanent service providing businesses in the Wood and Pulp businesses in Chile, and Forestry Self-management (SAGF) for the Forestry Business, so that these companies can systematically self-manage their level of development in terms of their capacity for prevention.
- A risk management workshop was implemented in the Wood Business in Chile for the role of supervisor and Occupational Health and Safety teams.
- Safety inductions were implemented for new workers; training on operational procedures was offered to workers in general roles working on production processes; and training on Corporate Operational Standards was provided to the role of supervisor.
- Training was provided to forestry contractors on the creation of their own safety plans, according to the established minimum structure.
- As part of the Lean management process, boards with safety indicators were implemented during the performance dialogues of the forest plantation harvesting operations at different work sites. These boards are managed daily.
- Implementation of control lists on SharePoint platform for forestry operations.
- The SBC safety behavior pilot program was implemented in the Forestry business, which involves self-evaluations performed by each worker regarding preventive actions and safety conditions.

# OCCUPATIONAL HEALTH

ARAUCO promotes the well-being of its employees, fostering health and safety at the workplace and a positive organizational climate to ensure the company's competitiveness, productivity and sustainability.

ARAUCO is determined to ensure the regulatory framework for Occupational Health in all its processes; to generate healthy working conditions that increase employee top performance; to promote illness-free operations and healthy workers; and to promote a health culture that encourages a healthy lifestyle.

The company's main health risks are occupational noise-induced hearing loss and work-related musculoskeletal disorders from exposure to repetitive movements, required postures and use of force.

These risks are mitigated by correctly identifying the agent and where it is present; by performing workplace assessments with the insurance mutual to implement control measures that reduce risks. In addition, workers exposed to risk conditions are included in the medical surveillance program of the insurance mutual.

In addition, the company provides workers with ongoing training on the risks that they are exposed to, so that they can act accordingly to reduce work-related disease risks.

As of 2017, the company implemented a program called "Healthy Culture" that promotes health and quality of life in all its facilities in Chile. The purpose is to foster conditions that encourage the healthy and comprehensive development of all ARAUCO members during their time with the company.

The core aspects of the "Healthy Culture" program aim to generate healthy work environments that reduce the risk of work-related diseases and accidents; to count on healthy workers that have the required energy to perform their work well; to count on healthy workers who can suitably perform all their tasks and approve occupational exams; to complement the action plans related to psychosocial and climate surveys, generating greater worker involvement and leadership among supervisors on issues related to the health culture, and to promote an alcohol and drug-free workplace.

The program's implementation is based on health culture committees assembled at each facility. These committees are in charge of coordinating and validating interventions made at the workplace, ensuring worker representation and the pertinence of the actions taken.



## CulturaSana VIVE SANO, HAZLO FÁCIL

#### FAMILY

Celebrations with healthy options; Contests for kids; Cooking workshops, and Activities for workers' children (vacations).

#### HEALTHY WORK ENVIRONMENT

Aims to comply with Occupational Health protocols set by the Ministry of Health; to ergonomically improve work conditions and to comply with occupational exams and epidemiological surveillance.

#### FOOD

Changes in cafeteria layout, activities and healthy options; educational tips and useful advice.

#### PHYSICAL ACTIVITY

Arrange the different sports activities (including facilities and sports clubs) into the Healthy Culture program; suggest family-oriented sports activities.

#### ALCOHOL AND DRUG-FREE WORKPLACE

Formation of Prevention Teams and training for Joint Committees; Dissemination of the Policy, and Education on related risks, advice and suggestions.

# MILESTONES IN 2017

- In Chile, the company implemented the first stage of the Healthy Culture program, which involved awareness. The diagnosis stage and production of an action plan will be developed in 2018.
- In Argentina, the company implemented a computer information tool that records and analyzes health related data.
- Training was provided to Occupational Health and Safety teams of the Wood business in Chile, on Industrial Health and Occupational Health Protocols.

SUSTAINABILITY REPORT 2017 OCCUPATIONAL HEALTH AND SAFETY

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# JOINT COMMITTEES

ARAUCO maintains Joint Committees on Health and Safety (CPHS in Spanish) in Chile Argentina, Brazil and North America which identify, analyze and prevent dangerous work-related accidents and illnesses. All of these countries, except Argentina, have legal bodies that regulate the actions of joint committees.

These committees follow four guiding principles: focus on high potential risks, find the root cause of the problem, work together and involve employees.

The company's purpose in relation to Joint Committees is for them to achieve full maturity during their operation, and excellence in their mission through the implementation of the corporate management standard for joint committees, making a material contribution to the consolidation of ARAUCO's prevention culture.

In Argentina, only two operation units are legally required to have joint committees, the remaining units voluntarily maintain these committees to promote worker involvement and innovative ideas. Such is the case of Safety Communicators at Piray Sawmill, where each area has a representative that relays information to his coworkers and serves as serves as a contact to submit concerns and issues of interest. Another important case is the committee at Misiones Forestry business, which allows representatives of service providing businesses to participate.

In Brazil, company facilities also have Ergonomic Committees, whose primary objective is to provide support to the ergonomic analysis of job positions.

### BUSINESS TYPE OF JOINT COMMITTEE

LEVEL OF DEVELOPMENT	Contractor	Internal	Total
PULP	19	10	29
EXCELLENCE	5	1	6
INTEGRATED	1	7	8
REGULATED	13	2	15
FORESTRY	30	5	35
EXCELLENCE	1	1	2
INTEGRATED	2	2	4
PLANNED	6	1	7
REGULATED	21	1	22
WOOD	15	14	29
EXCELLENCE	4	2	6
INTEGRATED		5	5
PLANNED	1	2	3
REGULATED	10	5	15
TOTAL	64	29	93

# MILESTONES IN 2017

- In Chile, ARAUCO held its 6<sup>th</sup> Annual Meeting of Joint Committees, attended by over 200 workers, during which the company presented its new corporate safety management system "Together for a better life" (see outstanding study case Safety Management System).
- ACHS updating and certification of the corporate management standard for health and safety joint committees.

- Audiovisual campaigns were implemented at Nueva Aldea sawmill in Chile, on key industrial safety rules.
- Implementation of the program "We're All Colorados" at El Colorado sawmill in Chile. The program aims to promote communication and integration among work teams through mass campaigns addressing internal workers and contract workers.

## OUTSTANDING CASE STUDY

# SAFETY MANAGEMENT SYSTEM

At ARAUCO, the heart of our business lies with the people that comprise it. That's why we've decidedly advanced to place the value of Safety as a first priority.

# **juntos** por una vida mejor

#### HOW DO WE DO THIS? THREE GUIDING PRINCIPLES

We have to be safe workers, who are responsible for our own self-care while being aware that we're not alone, that we need a team to provide conditions for our work: such as guidance, team spirit, and above all, mutual care. And this safe team isn't alone; it is part of an organization that provides conditions for work well done.



EMPOWERED WORKERS. I TAKE CARE OF MYSELF.



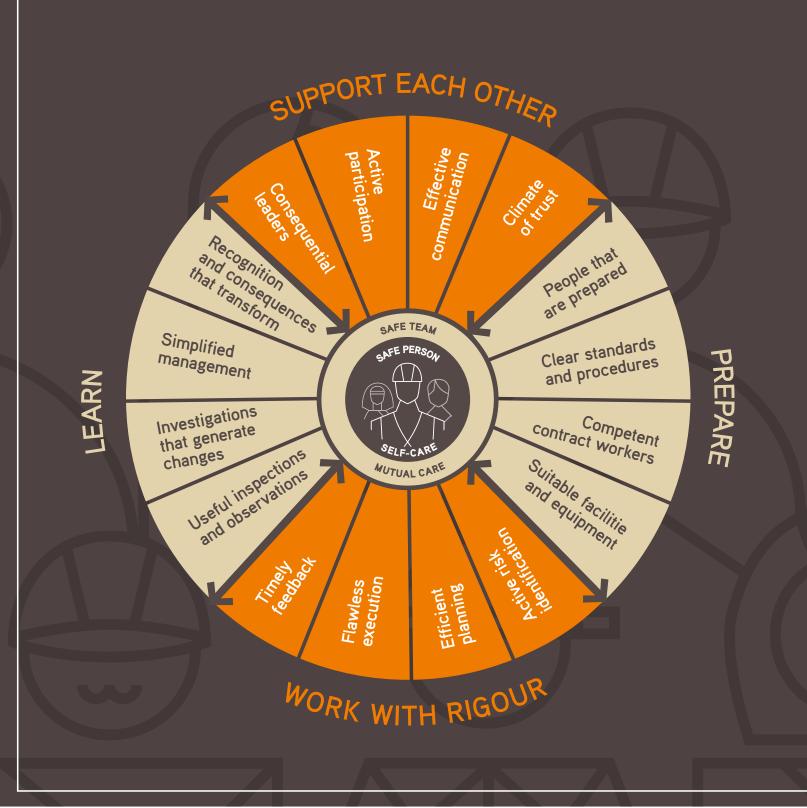
SAFE TEAMS. I TAKE CARE OF YOU AND I LET MYSELF BE TAKEN CARE OF.



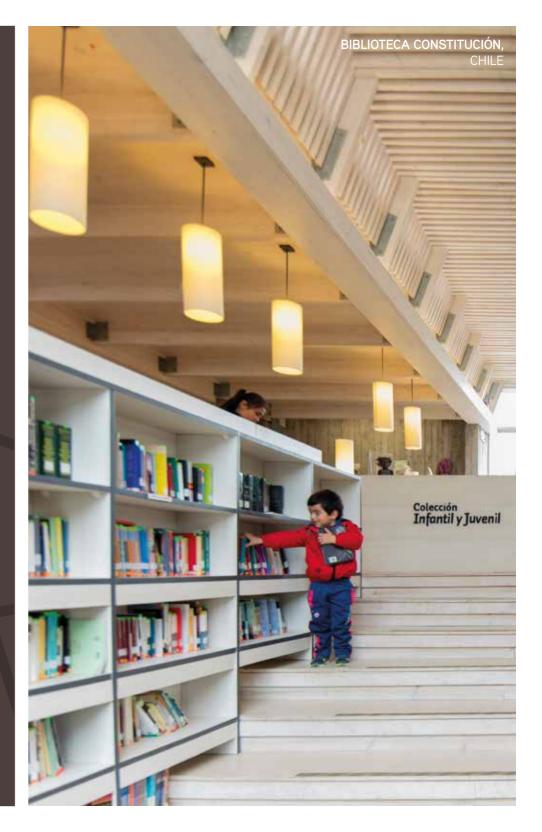
Keeping these principles in mind, the OHS Management System places each person that works at ARAUCO in a leading role with regard to his/her own safety and the safety of his/her coworkers.

#### SAFETY MANAGEMENT SYSTEM

The conditions provided by the organization can be summed up in four commitments and 16 areas of work that organize the initiatives, which have been determined by the contributions made by hundreds of workers from the company's different business area. This system is based on the empowerment of work teams, so that workers can take on a leading role regarding their safety, through self-care and caring for others.



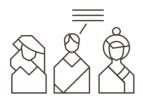




# COMMUNITY, PARTICIPATION AND DIALOGUE

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#### SUSTAINABILITY REPORT 2017 COMMUNITY, PARTICIPATION AND DIALOGUE



# COMMUNITY, PARTICIPATION AND DIALOGUE

ARAUCO's Local Development Strategy aims to contribute to the development of local communities through programs that generate shared value. This strategy employs a system based on the development of projects with high standards and technical excellence, cooperation and creation of alliances, work conducted from and for the territory, and dialogue and participation.

To do so, the company implements a number of projects that are classified in areas of work that are determined according to the reality of each country in which ARAUCO maintains operations, aiming to create opportunities for engagement that foster transparent and honest communication with different relevant actors.

The company maintains ongoing dialogue with its neighbors to detect and minimize possible negative impacts derived from its operations, and seeks opportunities to increase its contribution to local development. To do so, ARAUCO has identified areas in which to focus its activities, implementing initiatives that are mutually beneficial in response to the needs and realities of each country and locality.

In addition, the company's programs and efforts toward dialogue are implemented, measured and managed so as to generate results that add value to all stakeholders.

In Chile, the company applied the Local Reputation Index to priority communities, in order to assess its reputation and learn how their neighbors' evaluate the communes' present and future. This information became input material for the company's business management.





ARAUCO'S sustainability strategy considers participation and dialogue as essential tools to build a relationship with the company's different stakeholders. The primary objective is to engage with stakeholders through consultation and dialogue processes, open meetings and visits to company operations, thus fostering interaction, creating opportunities to learn about community needs, and receive and take in their concerns.

Over



initiatives were developed

More than





## Guide for Community Participation and Consultation - Chile

Involves the implementation of participatory processes to identify and manage the company's forestry operation impacts and build long term relationships based on trust.

participation

and consultation processes over



#### Forestry Dialogue - Argentina

The purpose of this initiative is to strengthen ties with the community in the region of Alto Paraná, in Misiones, creating a space to share ideas with the sector's different actors and to generate an agenda for the region's sustainable development.



#### **Dialogue with Piray neighbors**

Based on a number of questions and concerns raised by neighbors of Puerto Piray, the company decided to create an instance in which to hear their expectations and inform about the company's management in order to build trust, strengthen ties between the company and the community and to create shared value.



## Community engagement program for Guaraní indigenous people

This program aims to build a relationship between the company and this indigenous community based on respect for the Mbya guaraní culture, by facilitating access to, and use of, resources that are found on company grounds and that have been traditionally used by the Guaraní people.



## Myba guaraní communities

circulate and use resources found on company forestland



High Conservation Value areas (HCVA) have been declared

## Consultation and monitoring process of social impacts from operations - Brazil

This initiative focuses on identifying impacts derived from the company's forestry operation and involves pre-operation, during operation and post-operation of planting. Communities and their residents are kept informed throughout all planting stages and are consulted about possible impacts resulting from forestry management activities. They can also submit suggestions to reduce or eliminate impacts.

### Engagement with



## communities

impacted by the company's forestry area and 2 by its industrial area Dialogue mechanism and monitoring of social impacts with 7588 people SUSTAINABILITY REPORT 2017 COMMUNITY, PARTICIPATION AND DIALOGUE ARAUCO EDUCATIONAL FOUNDATION

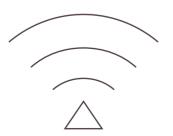
## COMMUNICATION CHANNELS AND RESPONSE MECHANISMS

ARAUCO has developed, and actively manages, a number of channels, platforms and tools to maintain ongoing and open communication with its different stakeholders, which facilitates the dissemination of information of interest and the timely reception of questions and concerns. Telephone lines, websites, e-mail addresses and social network accounts on Facebook, Youtube and Twitter are available to the public.

The Integrated Management System used in Chile, which involves a call-center and web platform received 3,682 contacts in 2017, of which 30% account for questions and 58% account for complaints or reports.

#### CHANNELS FOR CONTACT

CHANNEL	N° OF CONTACTS		
CHILE AND CORPORATE			
www.arauco.cl	70,908 visits		
@arauco_cl (Twitter)	2,339 followers		
Facebook.com/ ARAUCO	15,684 followers		
www.araucosoluciones.cl	99,563 members		
@AraucoSoluSost (Twitter)	2,313 members		
Facebook.com/AraucoSoclucionesSostenibles	254,656 followers		
Pinterest Soluciones Sostenibles	1,553 followers		
Toll free line 800 370222	3,215		
Contact form www.arauco.cl/comunidad	180		
Letters	109		
<u>E-mails</u>	86		
ARGENTINA			
<u>oll free line 0800 888-2772</u>	28		
info@araucoargentina.com	203		
BRAZIL			
institucional@arauco.com.br	39		
Telephone line	35		
Specific form	36		
Other contacts	25		
NORTH AMERICA			
www.arauco.cl	128,138 visits		





# CORPORATE COMMITMENTS **TO EXTERNAL** INITIATIVES

ARAUCO recognizes the value of working in partnership with other actors, particularly when addressing complex challenges that have multiple points of view. The company maintains a permanent relationship with academic institutions, NGOs and trade unions, with whom it aims to strengthen networks and multi-sector cooperation.

## SUSTAINABLE DEVELOPMENT GOALS AT ARAUCO

The Sustainable Development Goals are part of the 2030 Agenda for Sustainable Development. This agenda motivates countries and businesses to begin efforts to achieve the 17 Sustainable Development Goals (SDGs) during the next 15 years.

In its many initiatives for sustainability, ARAUCO has identified opportunities to increase its contribution to the following SDGs, integrating this challenge into the company's sustainability strategy.



#### PARTICIPATION IN PUBLIC POLICIES

ARAUCO participates in the discussion of issues relating to its business and to any of the aspects contained in its Sustainability Strategy. The company also presents its position regarding regulations that may influence its operations or economic performance through trade associations in which it participates in Chile, such as the Chilean Wood Corporation (CORMA) and the Chilean Federation of Industry (SOFOFA).

In Argentina, the company actively participates in the Argentinean Forestry Association, the Argentinean Pulp and Paper Producers Association, as well as in FSC® International and its national initiative. In Brazil, the company presents its ideas to national trade chambers, such as the Brazilian Trees Industry (IBÁ). Contacts in the Paraná area are made through the Association of Forestry Businesses of Paraná (APRE). In North America, ARAUCO offers input into the National Formaldehyde rulemaking process, the CARB ATCM rulemaking process and LEED workshops.

#### **MEMBERSHIPS**

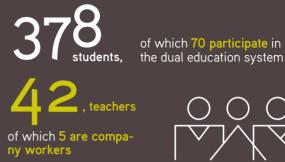
ARAUCO actively participates in more than 150 trade associations and social organizations in Chile, Argentina, Brazil, Uruguay, Mexico, Peru, Holland, the United States, Canada, Colombia and Australia. In addition, the company works closely with universities, communication media, scientific centers, NGO's and local governments.

## OUTSTANDING CASE STUDY COMMUNITY PROGRAMS

### **CAMPUS ARAUCO - CHILE**

A learning center that combines education with practical training at the workplace based on a strategic alliance between ARAUCO and Duoc UC. This initiative aims to create options for technical professional education.

#### Shared Value Program





#### Shared Value Program

**5 projects** implemented including

houses built

7 projects in different stages of design for a total of about

1.614 houses

3 projects that include

houses under construction



### WORKERS AND COMMUNITY HOUSING PROGRAM (PVT) - CHILE

In order to promote access to housing for workers, service-providing business workers and families living in the company's area of influence, ARAUCO provides support during the public housing application process. This initiative includes hiring third party experts and searching for and technically assessing land for housing purposes.

### ARAUCO EDUCATIONAL FOUNDATION - CHILE

Established 28 years ago, the Foundation aims to place teachers at the center, as essential actors in educational changes. This organization focuses on strengthening the competencies and practices of active teachers, which improves students' learning processes.

Over 5.100 teachers that annually serve about

children

Programs in 34 communes benefiting

schools



### ACERCA REDES FOUNDATION - CHILE

This initiative offers a quality work and meeting space, while promoting partnerships between local business people and technical, production, trade union, cultural, academic, corporate and commercial organizations. The purpose is to accelerate innovation processes and business partnerships that can significantly impact local development.

# <sup>Serves</sup> 13,800

users in hubs

located in Constitución, Curanilahue and San José de la Mariquina

Meeting areas that attract and connect capacities impacting business and local development





### CUCHA CUCHA NETWORK

This initiative aims to strengthen the local wine-producing businesses of Itata Valley (where Chilean wine originates), furthering the area's development to gain global recognition for its wines and tourism.

## RECONSTRUCTION PLAN SANTA OLGA - CHILE

After the fires during the 2016-17 season, ARAUCO signed an agreement with the Chilean government to work on the reconstruction of towns Santa Olga, Los Aromos and Alto Los Morán, in Constitución. The plan included a number of programs to provide drinking water supply, civil works, fire protection strips and firebreaks.

#### Drinking Water System,

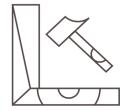
for Santa Olga, Los Aromos and Alto Los Morán

Land to build a nursery school and babycare

Soccer field in Santa Olga

90% of firebreaks

and strips with no compromised plantations have already been implemented



### CHARITY MARATHON - VOLUNTEERING ARAUCO - ARGENTINA

This initiative was launched ten years ago by a group of company volunteers, benefiting institutions located in the northern area of the Misiones province. It has become the area's most important social and sports event.

# **4,000**

joined the marathon in September 2017

300 volunteers



## CAPACIDAD DE



# FORESTA WORLD (TRAVELING VAN) - ARGENTINA

This initiative was conceived as a means to travel through the province and reach out to residents in towns where the company maintains operations or towns that are located far from larger urban centers. The van provides an entertaining way to teach neighbors about the forestry activity by using technology.

### **GREEN CLUB ARGENTINA**

This program aims to create awareness among children and promote the idea of sustainability, by giving them leading roles in caring for the natural resources of the province. The General Council for Education of the Misiones Province proclaimed this program as being of interest to the province.



### VISITS TO SAN JORGE NATURE RESERVE, ARGENTINA

The primary objective of scheduled visits to the Nature Reserve is to teach about the importance of native forest conservation through environmental education. In addition, this initiative aims to strengthen the relationship with stakeholders such as researchers, schools in the area, contractors and the company's own workers.

1,003 participants in 28 visits







### QUALITY OF LIFE IMPROVEMENT FOR COMMUNITIES - BRAZIL

This program aims to teach practical knowledge to communities surrounding ARAUCO's forestry management area in order to improve their daily lives.

### ONGOING TEACHER TRAINING PROGRAM - BRAZIL

This program provides ongoing training to teachers in the municipal education network in order to improve their teaching skills.

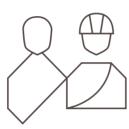
## **1,339** students participating in the municipal education network Developed in 7 municipalities

### **CULTURAL CIRCUIT - BRAZIL**

The cultural circuit provides opportunities for children in public elementary schools and the community to gain access to culture, knowledge and art, while disseminating ideas and values on education and environmental conservation. 11,600 students

and community members participated





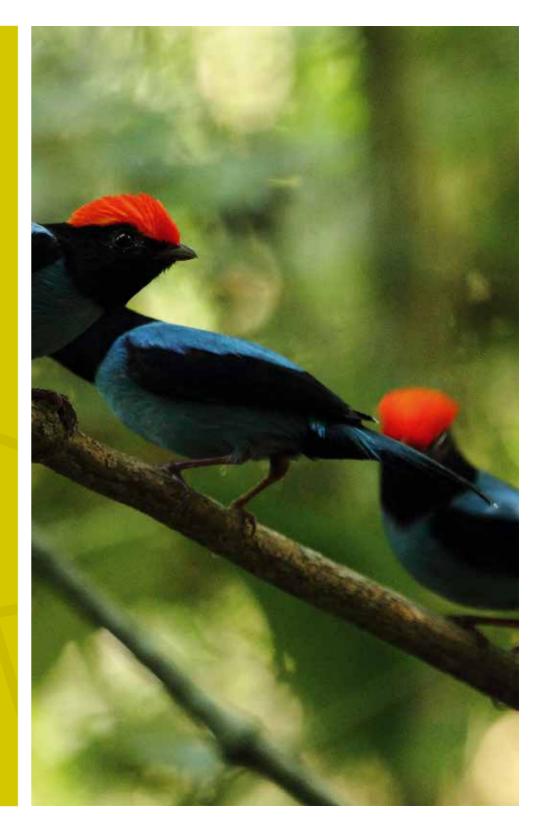
### COMMUNITY WORK PROGRAMS – NORTH AMERICA

By working with different organizations, ARAUCO has contributed to the development of projects that aim to improve the quality of life and access to opportunities for communities located near the company's facilities in North America. Company employees get involved in the design and/or implementation processes of these projects.

### EDUCATION NORTH AMERICA

ARAUCO aims to support technical schools that provide industrial training, donates materials and supplies, and encourages the development of projects that apply innovation within the company's facilities or other industrial operations. Active Support for programs in education





# ENVIRONMENTAL MANAGEMENT

# ENVIRONMENTAL MANAGEMENT

The manufacture of products derived from renewable resources, our global presence, the sustainable management of resources and the implementation of management standards that ensure ongoing improvement of our environmental performance are the foundation of the company's environmental management.

In addition, the company's leadership position in optimization of hydric resources, clean energy and carbon credits are some of the initiatives in place to face climate change.

ARAUCO's forestland fulfills the natural function of carbon storage, sequestering  $CO_2$  from the atmosphere and releasing oxygen into the air, thus contributing to reduce greenhouse gases and their effects.

The company also drives scientific research programs in a joint effort with universities, public institutions and NGO's; promotes innovation through project development and manages environmental monitoring activities related

US\$ 88.9 million Invested in environmental improvements during 2017

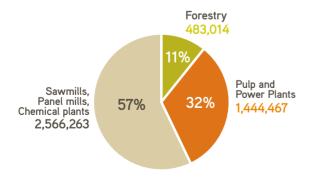
to biodiversity, air emissions, water basins, water bodies and research programs related to compliance with environmental commitments.

During 2017, ARAUCO measured its carbon footprints for 2015 and 2016, based on the GHG Protocol for scopes 1, 2 and 3. The highest volume of emissions is concentrated in Chile, where the company maintains the largest number of industrial facilities, followed by North America, where facilities consume electric energy from the grid and heat for processes is generated from natural gas.

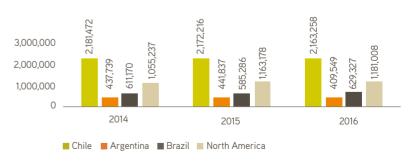
The consecutive measurement of the last three years has allowed ARAUCO to improve its understanding of the company's emission profile, and establish the foundation to outline initiatives for reduction. Initiatives for the Pulp business have shown different degrees of progress; the most outstanding one is the substitution of fuel oil #6 for tall oil in a few lime kilns. In addition, the pulverization of biomass to partially replace fossil fuels in lime kilns is being assessed for feasibility.

In the Timber business, work is being actively conducted to reduce the amount of resin used by cubic meter produced, because it affects scope 3; and in the Forestry business in Chile, the carbon footprint measurement allowed the company to accurately determine 357 different performances for 21 truck subtypes; and a pilot project was developed to reduce emissions and foster energy efficiency with contracting transport companies, which involves training for participants provided by the Chilean Energy Efficiency Agency.

# EMISSIONS BY BUSINESS tCO<sub>2</sub>e (2016)



# EVOLUTION OF EMISSIONS BY COUNTRY (tCO<sub>2</sub>e)





The production and management of renewable forest resources is the foundation of ARAUCO's business, and therefore caring for the environment and its natural resources is fundamentally important for the company.

Planning the forestry cycle is the foundation for the company's operation activities, timber sale and supplying its own industrial facilities. ARAUCO manages its forestland in adherence to responsible forest management, committing its operation to the highest international standards on environmental, social and economic matters.

In Chile, the company maintains an ongoing Monitoring and Assessment System in place, to establish work plans and specific actions that promote continuous improvement of its processes.

In Chile and Brazil, ARAUCO participates in the Forestry Dialogue, which joins forestry businesses, NGO's and other interested parties to discuss issues that are relevant to the forestry industry and promote actions for environmental conservation and restoration, and to improve relationships with local communities.

#### FORESTRY PROTECTION

#### Native Forest protection and value proposition

ARAUCO is committed to the protection of native forests on its land, understanding that the sustainability of its production processes is closely tied to the biodiversity and ecosystem services found on its territory.

In this sense, the company protects native forests and does not perform management activities beyond controlling invasive species. However, different options are being currently studied to increase the forest's value by placing emphasis on its contribution to communities. The purpose is to create hubs for local development –wherever feasible– based on non-timber forest products, high-value timber and tourism.

In Argentina, the company made a commitment to maintain native forests on its land through the implementation of the Native Forest Management Plan. Over 45,000 hectares (274,773 acres) of ARAUCO's native forests are located on mountains distributed across four large areas that have been designated as High Conservation Value Areas (HC-VAs), and about 68,000 hectares (168,031 acres) of natural vegetation comprised of woodlands that protect water bodies, slopes and wildlife corridors. In Brazil, these forests are protected by the Brazilian Forestry Code – Federal Law 12.651/2012, and are considered Permanent Preservation Areas and Legal Reserves.

#### **Biodiversity monitoring**

ARAUCO's forestland includes conservation areas that are distributed in sections of different sizes that are connected by protection zones located alongside water bodies. These remnant sections of vegetation are repositories of biodiversity and plantations that often act as buffers for the biodiversity they contain.

The challenge for ARAUCO is to maintain and improve the biodiversity resident in its forestland. To do so, the company implements a Biodiversity and Ecosystem Services Policy, which underlines the assessment and management of possible effects on biodiversity and ecosystem services derived from production. The company makes an ongoing effort to identify elements of biodiversity (species, ecosystems, large nuclei with little anthropogenic intervention, wetlands) and then produces management and monitoring plans that emphasize threat control.

The most critical and exceptionally important zones are designated High Conservation Value Areas. The company's commitment to non-conversion of native forests and its restoration program will allow conservation areas to increase in the future, benefiting threatened species, areas that are essential for biodiversity or very important to communities or interested parties.

In addition, an ongoing effort is made to monitor and identify the presence of threatened flora and fauna species in the company's forest plantations. Specific measures are taken when these species are found or seen in production areas.

For example, at Oasis, a facility owned by ARAUCO in Argentina, Marsh Deer can still be observed in the Paraná Delta. This is a critically endangered species that has been declared a "Natural Monument" (Law 12.209), which is the highest legal protection status granted to wildlife by the Province of Buenos Aires. ARAUCO participates in the Marsh Project, which aims to plan the sustainable development of this territory, establish forest management protocols that are compatible with this species conservation, determine biological corridors, guide vegetation restoration activities, monitor population tendencies and design an effective conservation strategy for this species.

In addition, ARAUCO participates in the Technical Scientific Committee for Marsh Deer, a group comprised of experts and members of different public and private institutions who are committed to the conservation of this species. Through a quick action protocol, the committee provides care to wounded or sick deer, and those in captivity, to successfully reintroduce them into their natural habitat.

#### NUMBER OF SPECIES INCLUDED IN CONSERVATION LISTS (IUCN AND OTHERS) FOUND ON ARAUCO LAND

	CHILE		ARGENTINA		BRASIL		
CATEGORY	FAUNA	FLORA	FUNGI	FAUNA	FLORA	FAUNA	FLORA
Critically endangered	13	7	-	-	1	-	1
Endangered	44	21	3	3	2	3	6
Vulnerable	38	21	3	5	2	10	10
Near threatened	20	17	5	7	2	32	6
Least concern	70	69	9	41		442	28*
Provincial protection	3	6	2	10	14	-	-

\*OBS - IUCN Least Concern (LC): A taxon is classified as Least Concern when it has been evaluated but it does not comply with any of the criteria that define categories Critically Endangered, Endangered, Vulnerable or Near Threatened. The Least Concern category includes taxa that are abundant and broadly distributed.

#### High Conservation Value Areas (AAVC)

ARAUCO's forestland contains multiple social and environmental values, some of which are especially significant and critically important, and are therefore designated as high conservation values (HCV). The company aims to maintain and improve these HCVs. To do so, once these values are identified, they are managed and monitored generally within zones designated as High Conservation Value Areas (HCVA). Following the recommendations of the High Conservation Values Network, high values are classified into **6 types** 

		% OF NATIVE FOREST OVER FORESTLAND	HIGH	HCVA'S		
COUNTRY	NATIVE FOREST SURFACE		CONSERVATION VALUE AREAS	BIOLOGICAL	SOCIAL, CULTURAL OR RELIGIOUS	
Chile	207,590 hectares 512,966 acres	19%	59,803 hectares 147,776 acres	37	91	
Argentina	118,400 hectares 292,572 acres	45%	55,772 hectares 137,815 acres	16	31	
Brazil	98,697 hectares 243,885 acres	40%	10,610 hectares 26,217 acres	10	6	

\*Brazil has 15 HCVA's in total, one of them combines characteristics of both a biological and social HCVA.

#### SUSTAINABILITY REPORT 2017 ENVIRONMENTAL MANAGEMENT

# MILESTONES IN 2017

- In Chile, diagnosis and production of a Restoration plan for about 15,000 hectares (37,000 acres) of native forest and buffers affected by the fire in 2017.
- A rescue effort for the Ruil (*Nothofagus alessandri*) was developed. This is a critically endangered plant species endemic to Chile, whose relict populations were severely affected by wildfires. This initiative includes the collection of seeds and their growth in nurseries for future on-site propagation.
- Regular functioning of Consulting Councils for Restoration and High Conservation Values in Chile.
- A technical workshop on Protection Zones was organized featuring academics and other stakeholders, as part of the National Forestry Dialogue (DFN) in Chile.
- Natri, a company site where a number of amphibian species reside, was included into ARAUCO's restoration program.
- An ecosystem restoration program was developed for wetland Ciénagas del Name.
- Confirmation of the existence of a third population of Darwin's fox (*Lycalopex fulvipes*) at HCVA Valdivian Rain forest in Oncol, which is an addition to the two populations previously described in Chile (Nahuelbuta and Chiloé).
- In a joint effort with the Catholic University of Maule, the company conducted the first acoustic monitoring

of fauna in Valdivian coastal forests of the Los Ríos Region, in Chile.

- Environmental education program "Oncol, Living Classroom" continued throughout 2017. This initiative aims to contribute to the conservation of biological and environmental high values within the area.
- The presence of a remaining population of Fitzroya tres was recorded in the Corral area, which was included into the woodland surface of the High Conservation Value Area "Naguilán Forests".
- Implementation of a program for the Recovery of Watersheds, in Argentina. Between 2003 and 2017, the program allowed for over 3,000 hectares (7,413 acres) to become part of protective forest areas in different stages of succession.
- Studies and monitoring of fauna (mammals and birds) continued to be conducted in ARAUCO's natural forests in Brazil.
- Flora and fauna studies concluded in Mahal and Novo Oeste, as well as the identification of High Conservation Value Area Refugio das Antas.
- Inclusion of HCVA in Novo Oeste (Mato Grosso do Sul).
- An HCVA was added from Vale do Corisco, with 369 hectares (912 acres).



#### Forestland Protection and Forest Fire Prevention

ARAUCO strives to sustain the integrity of the company's forestland, protecting forest plantations as well as conservation set-asides and their biodiversity. To do so, the company has developed and implemented programs for the protection of forestland and for fire prevention and suppression.

The events that took place during the 2016-2017 fire season in Chile made it clear that there is a need to hasten the capacity to adapt to climate change. As a consequence, the company has further analyzed its fire prevention and suppression plan (see Outstanding Study Case #deRaíz).

ARAUCO addresses fire prevention from two angles: to reduce the number of fires and reduce their propagation once they are active. The company played a leading role in the creation of the first Community Prevention Network in Chile, a system that involves 247 committees within its forestland and that have produced local fire prevention plans with over 8,000 measures. The purpose is to reduce the number of fires, generate actions to reduce their propagation and have emergency protocols in place to deal with these situations.

Following this same line, the company developed the "Ambassadors for prevention" program, in which all ARAUCO employees communicate the basic measures for fire prevention to their acquaintances and/or service providing businesses, so that each can contribute to this effort.

During the 2017-2018 season, ARAUCO assigned



to the fire prevention and suppression budget of the forestry operation.

In Argentina, ARAUCO is a member of the Delta Consortium for Fire Prevention and Suppression, which implements 13 smoke detecting surveillance cameras covering an area of influence of about 60,000 hectares (148,263 acres) in the Provinces of Buenos Aires and Entre Ríos. Work is coordinated with public force organizations such as Volunteer Firefighters, Prison Officers, Provincial Police, and the Provincial Organization for the Sustainable Development of the Province of Buenos Aires. In addition, in a joint effort with forestry service-providing businesses, the consortium certifies firefighters, thus professionalizing this activity. To date, more than 20 certifications have been granted, forming the first professional firefighting squad of the Delta region.

In Brazil, actions taken to prevent forest fires involve providing training to fire combat leaders and squad members; a contact and support network comprised of other forestry businesses of the region to conduct surveillance and fire combat activities; forestland protection; resources, education campaigns and communication mechanisms. In addition, Mahal joined a firefighting campaign organized by REFLORE, the Association of Producers and Consumers of Planted Forests in Mato Grosso do Sul.

The company also maintains a Forestland Protection program that involves forest rangers and supervisors, who provide important logistic support to the Forest Fire Program and other areas, and a Phitosanitary Protection program whose activities are based on Integrated Pest Management. The purpose of this program is to prevent financial damage resulting from the presence of pests in the company's forestland and includes surveillance activities, diagnosis and control.

#### FOREST FIRE PROTECTION PLAN RESOURCES

TYPE OF RESOURCE	CHILE	ARGENTINA	BRAZIL
Lookout Towers	118	19	16
Surveillance and prevention staff	109	15	77
Fire squads	112	5	4
N° of firefighters and fire lookouts	1,650	62	129
Trucks	79	7	15
Skidders	10	79	4
Airplanes	14	10	14
Helicopters	14	14	20
Supporting vehicles	20	5	23
Total budget (in US\$ dollars)	\$37.7 million	750,000	3.4 million

#### LANDSCAPE

One of the relevant variables in planning the company's forestry operations is landscape, which is evaluated not only from a visual perspective but also as a combination of ecosystems that relate to each other in response to the influence of the interaction of soil, climate, geology, topography and human influence in the watershed, based on the use of soil, infrastructure and the way the landscape is inhabited.

In Chile, the objective so far has been to harvest adjacent extensions of land measuring less than 200 hectares (494 acres). In addition, in 2017, due to the Ecological Restoration Project that aims to replace over 25,000 hectares (61,776 acres) of forest plantations with native vegetation, the company decided to identify the best areas for this restoration; these areas must combine environmental, social and financial perspectives. The purpose is to maximize the provision of ecosystem services based on the restoration of forest plantations to native vegetation.

In Argentina, ARAUCO has been implementing isolated actions for more than ten years to minimize the visual impact of harvesting activities on tourist areas or nearby towns. In 2012, the company developed a procedure that has been subject to consultation with stakeholders on a number of occasions for its validation.

# MILESTONES IN 2017

- Organization and participation in the 2017 NGP International Tour in Chile. This edition's theme was landscape-scale restoration in areas affected by rural fires, in a new and changing context due to climate change.
- The first landscape-scale plan was developed in Chile, aiming to maximize the contribution of ecosystem services and biodiversity conservation. The plan involves the restoration of 25,000 hectares (61,776 acres) of forest plantations to natural vegetation.
- Trial establishment of fast growth raulí plantations which will increase the value of areas to be restored at the foothills of Valdivia, following a layout pattern of sites surrounded by naturally regenerating native vegetation.

#### WATER MANAGEMENT

One dimension of ARAUCO's Integrated Management System focuses on water management and the protection of watercourses, because, within the hydrological cycle, plants, soil and subsoil play an essential role in the regulation of water.

Though forest plantations such as native forests and other plant species absorb water to perform their biological processes, their foliage significantly reduces the erosive effect of precipitation on soil. In addition, the composition and structure of soil, combined with topographical conditions and precipitation, will greatly determine the availability and permanence of water in the system.

Regarding this issue, the challenge in Chile has been to promote and participate in a discussion with academics, NGO's and stakeholders on options to manage buffer zones or watercourse protection zones, collecting what has been learned for the past five years and the concerns of local stakeholders.

In addition to the implementation of management practices to prevent loss of soil and sediment dragging from the roads into watercourses, ARAUCO identifies all the areas in which water catchments are being used by local communities, detailing the type of infrastructure and number of people, allowing the company to anticipate potential problems due to a shortage of water. The Water Innovation Challenge monitors the summer season water flow of the basins that supply water to local communities, and prioritizes them. Some of the priority water basins have been designated as HCVs.

In addition, the company has been implementing the Ecohydrology project since 2016 to increase the efficiency of decisions made by the Forestry business in regard to water management. The project involves detailed measurements of the components of the water balance of plantations and native forest in different areas and the adjustment of hydrological models.

In Argentina, actions to recover water basins and other sensitive areas continued in 2017, adding 48 hectares (118 acres) that were disused from production and that are included into the recovery process of riparian areas. The company has recovered 3,179 hectares (7,855 acres) in 14 years.

In Brazil, the company has been implementing an ongoing monitoring program for water basins since 2011. The purpose is to assess the effects of land use and forestry management operations on the availability, quality and consumption of water.

#### ENVIRONMENTAL RESEARCH

ARAUCO conducts environmental research as part of a long term work strategy, aiming to better understand ecosystems and their function, and to advance in their adequate protection and management.

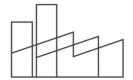
The company's current challenge in Chile is to revise the role of plantations within ecosystems, not only from the perspective of soil, but extended to multiple other ecosystem services. To do so, the company today has set the challenge of conducting joint research, such as the trial of acoustic monitoring methods to identify bird and amphibian species, the collection and analysis of sediment from lake Lanalhue to understand the historic process of erosion, and the plantation of selected raulí material in trials established within the company.

#### Environmental research programs or initiatives in 2017:

- Bioacoustic monitoring in Oncol park, Catholic University of Maule, Chile.
- Characterization of sediment origin in lake Lanalhue, Catholic University of the Holy Conception, Chile.
- Birds of prey study, University of Chile.
- Picoiquen fish study, University of Concepción, Chile.

- GEF project on threatened species in Chile, with the Environment Regional Secretariat and FAO.
- Revision of Chaura de Laraquete bibliography and herbarium, University of Concepción, Chile.
- Study on load capacity of Non-timber Forest Products, University of Concepción, Chile.
- Research on potential presence of amphibians y Study on Macroinvertebrates in HCVAs, in Chile.
- Epigean insects of Caramávida Study, University of Concepción, Chile.
- Environmental education on flora and fauna with teachers from Chue, on restoration of Los Corrales (Aula Verde consulting firm), in Chile.
- INFOR Restoration Trial, University of Freiburg and ARAUCO, in Chile.
- Swamp Project with Conicet, in Argentina.
- Project on Changes in the use of land and their effects on the diversity of birds in the Lower Delta of the Paraná river, with the National Agricultural Technology Institute, Argentina.
- Study on the diversity of fish in the Victoria Island establishment, with the Habitat and Development Foundation (NGO), Argentina.





## ENVIRONMENTAL MANAGEMENT AT INDUSTRIAL FACILITIES

Environmental management in industrial processes is a key topic for ARAUCO. The company centers its activities on environmental monitoring, regulatory compliance, and management and ongoing improvement, especially with regard to odors, air emissions, and liquid and solid waste.

In addition, the company has embraced the challenge of developing initiatives to add value to solid waste, conduct online research to determine the potential impact of climate change on its operations and the company's active participation in the development of environmental regulations in Chile.

In Argentina, one of the milestones of 2017 was the continuity and commitment to the fulfillment of goals agreed in the Industrial Reconversion Program signed with the Ministry of Ecology and Natural Resources of the Province of Misiones and the Ministry of Environment. The goals include the implementation of projects for the improvement of comprehensive environmental management activities in each operation.

#### ENVIRONMENTAL MONITORING

All of ARAUCO's facilities maintain environmental indicators related to the consumption of input material and raw material, solid and liquid waste generation, water and energy use, and others. The company also performs ongoing monitoring activities of effluents and emissions, and analyzes the quality of different matrices such as air, soil and water, to ensure fulfillment of its environmental commitments and suitable environmental surveillance.

The company's pulp mills conduct monitoring, surveillance and/or environmental research activities to properly follow-up on the quality of water bodies receiving treated effluents, fluvial as well as marine water bodies. These programs are implemented according to the frequencies and timelines previously determined by environmental authorities. The result of monitoring activities, as well as specific environmental information, is provided to environmental authorities as established in the respective Environmental Qualification Resolutions (RCAs). Environmental monitoring and follow-up activities are also conducted at the company's Timber business facilities.

#### WASTE MANAGEMENT

Waste generated by the company's industrial facilities is classified into hazardous and non-hazardous. The removal, transportation and disposal of hazardous waste is reported to respective authorities.

Reducing the production and end disposal of non-hazardous solid waste, as well as reusing it or adding value to it, are strategic objectives for ARAUCO.

The company has management plans and programs in place for hazardous and non-hazardous waste in all the countries where it maintains operations, complying with current regulations and ensuring proper waste disposal. The company works on materializing value-adding options for waste that have already been validated and on the development of new options. Waste that cannot be value-added will be disposed of in appropriate and duly authorized sites. Non-hazardous waste in the pulp industry primarily consists of ash, sand, solid waste from the caustification process, calcium carbonate, sludge from wastewater treatment facilities, bark that is unsuitable for burning and other similar items, which are mostly disposed of in the company's own non-hazardous waste containers. ARAUCO's objective regarding waste is to create new byproducts that serve, for example, as input material for other production processes. The company has strengthened and continues to work on research and development for new uses in projects, such as using ash, dregs and grits.

#### WASTE (TON) BY BUSINESS

BUSINESS	ASPECT	2015	2016	2017
Pulp	Hazardous waste	10,916	6,666	5,787
	Non-hazardous waste	387,894	391,374	358,024
Timber	Hazardous waste	6,927	4,525	4,093
	Non-hazardous waste	68,653	107,784	109,845

# MILESTONES IN 2017

- In the Pulp Business, 22% of the byproducts that could be disposed of were supplied to external businesses for value adding processes in alternative uses, such as agricultural soil improvement, composting, and others.
- Projects were developed in Chile in a joint effort with the University of Concepción, University of La Frontera and Austral University, to determine uses for dregs, grits, sludge and ash.
- In a joint effort with the University of Concepción and the Austral University of Chile, the company developed a fertigation project for forest plantations and fruit growers to analyze the potential use of secondary effluents from the Nueva Aldea mill in Chile.
- In Brazil, ash and sludge were mostly used in composting (accounting for 74% of total waste production). Of this amount, 1,406 tons of compost were used on ARAU-CO forests and 11,980 tons were used inside the facility for leveling.
- In Chile, the Mouldings unit of the Trupán Cholguán facility developed an ongoing improvement project that aims to make efficient use of the available resources by reusing raw materials. The project reduced the purchase of raw materials and reduced drawing paste waste by 100 tons.

#### ENERGY MANAGEMENT

By using biomass in its boilers, ARAUCO provides energy for its own industrial needs, as well as an energy surplus to the country's energy grid. In addition to energy generation, the company's recovery boilers recover inorganic compounds that are part of the process.

In keeping with ongoing improvement, ARAUCO promotes greater efficiency levels of its processes in order to reduce energy consumption and improve the company's environmental performance. For example, the goal in North America for 2020 is to reduce energy consumption per m<sup>3</sup> of produced panels by 5%, compared to the base line established in 2015. In a context where the energy offer is restricted, efficiency in the use and generation of renewable energy is a challenge for the company.

#### ENERGY CONSUMPTION (MILLION GJ)

BUSINESS	2015	2016	2017
Pulp	13.8 (5.1 GJ/ADt)	15.2 (5.0 GJ/ADt)	14.9 (5.0 GJ/ADt)
Timber	6.0	6.2	6.1

# MILESTONES IN 2017

- In Brazil, the company substituted the lamp model used in the Resin production area of Araucaria Mill to reduce electric energy consumption.
- In North America, electric energy consumption was reduced by 8% compared to the base line in 2015; and LPG, gas and propane fuel consumption for mobile equipment was reduced by 150,000 L.
- Energy monitoring equipment was installed at Bennettsville – MDF mill in North America to have better control over consumption.
- Gas flow meters were installed at Bennettsville PB mill in North America, to reduce consumption during electric energy peak demand.
- The Green Dryer Capital project was implemented in Duraflake, North America, to increase the dryer system's efficiency through eco-friendly drying.

- The Duraflake mill in North America participated in the Energy Trust of Oregon (ETO) project, by replacing the warehouse lights with High Bay LED lamps, and achieving an energy consumption reduction of about 48,000 kWh per year, which translates into a reduction of 23 tons of GHGs.
- LED lights were implemented in refiners and line buildings, and improvements were made to the heat exchange system of the steam recovery process at Eugene mill in North America, which reduced the use of natural gas.
- For a second consecutive year, fluorescent lights were replaced with low energy LED lamps at Malvern mill in North America.
- A control process for zero activity was established at St. Stephen mill in North America to reduce operational costs during periods of inactivity.

#### WATER MANAGEMENT

In light of the effects of climate change, ARAUCO considers the ongoing improvement and efficient use of water to be among the company's important tasks, as well as conducting monitoring activities in the watersheds that supply the company's facilities to assess the availability of this resource. The company maintains a number of initiatives in place to maximize the use of water and study the effects of climate change on the water basins that provide its supply.

#### WATER CONSUMPTION (MILLION m<sup>3</sup>)

BUSINESS	2015	2016	2017
Pulp	159 (53.2 m³/ADt)	158 (51.9 m³/ADt)	156.1 (51.9 m³/ADt)
Timber	4.8	7.2	8.8

### EFFLUENTS

A large percentage of the company's industrial mills generate liquid industrial waste, which is continuously monitored to ensure the right emission levels and regulated by specific environmental standards. All of the company's Pulp mills implement primary and secondary effluents treatment, and two of them include tertiary treatment: Valdivia on a permanent basis, and Nueva Aldea, when effluents are discharged into the river instead of the ocean.

Timber business mills also treat their effluents, either in pulp mill systems or their own treatment systems.

In Argentina, Piray mill treats its effluents in a biological reactor, sedimentator and equalization pool. The treated effluents are then discharged into the Los Angelitos creek. The Chemical Division Plant discharges its effluents into the Paraná river after biological treatment. The company's panel mills in Brazil and North America use biological treatment systems and their effluents are discharged into nearby rivers or water treatment systems.

#### WASTEWATER (MILLION m<sup>3</sup>)

BUSINESS	2015	2016	2017
Pulp	136 (44.3 m³/ADt)	130 (42.5 m³/ADt)	125 (41.6 m³/ADt)
Timber	4.1	4.9	5.3

# MILESTONES IN 2017

- Construction of the new Effluents Treatment Plant at Arauco Horcones Pulp mill in Chile. This facility is part of the MAPA project and involves a US\$ 166 million dollar investment.
- US\$ 11 million were invested on the implementation of projects for the renovation of effluent lines at Pulp mills Arauco Horcones and Licancel.
- A project was implemented at Trupán mill in Chile to increase the reliability of the industrial liquid waste discharge diffuser.
- A project to reuse effluents was implemented at Piray MDF Panel mill in Argentina.

- Consolidation of the initiative to reuse 50% of the effluents generated at Araucaria mill, Brazil.
- Pién mill in Brazil, reduced the consumption of effluents it generated by 3.9%.
- A basic pre-treatment system was installed at Duraflake mill in North America, to remove solids before being discharged into the tank, and a bio-filter was installed for final treatment before discharge into Murder Creek.
- In North America, significant profit was made at Albany mill through the management and reuse of wastewater, and at Eugene effluents were reduced by 45%.

#### AIR EMISSIONS AND ODORS

The company conducts ongoing monitoring of TRS gases emitted from its pulp mills and maintains operational controls in place to minimize TRS gas odor related to venting into the atmosphere.

At ARAUCO, particulate matter is controlled through mitigation equipment, such as scrubbers and electrostatic precipitators, whose efficiency is close to 100%. Fine wood-dust emissions produced at remanufacturing facilities and sawmills are reduced by using bag filters that collect the sawdust, which is then used as biomass fuel.

During 2017, the company developed the final stage for the implementation and startup process of capture and treatment systems for TRS gases, diluted as well as concentrated. These systems will be operational in March 2018 in all the company's facilities in Chile, as required by regulations. In the Timber business, the company's goals for 2018 are to improve the efficiency of the electrostatic precipitator of Trupán mill in Chile, and to install a bio-filter that will control the formaldehyde and methanol emissions of MDF dryers at Moncure MDF mill in North America, significantly reducing air emissions. In addition, during coming years the company will install a capture system for emissions that will substantially reduce events during operation, stops and startups in all the company's facilities in the United States.

### The company invested over

US\$33 million

in 2017, to improve the capture and treatment of TRS gases in Pulp mills in Chile.

#### **EMISSIONS**

	MEASUREMENT UNIT	2015	2016	2017
Pulp				
SO <sub>2</sub>	ton	4,542	2,075	2,350
NO <sub>x</sub>	ton	6,240	6,377	7,501
TRS	ton	40	27	30
Total particulate matter	ton	3,531	2,270	3,292
Timber				
SO <sub>2</sub>	ton	109	118	210
NO <sub>x</sub>	ton	2,379	2,650	3,434
MP10	ton	1,249	1,124	848
VOC	ton	2,782	2,313	2,115
СО	ton	7,537	7,845	6,647

\*In 2017, SO<sub>2</sub>, NO<sub>x</sub> and particulate matter air emissions for pulp mills in Chile were calculated according to requirements established in Resolution ex. N°55/2018 SMA which referred to the quantification of stationary source emissions subject to green tax. Therefore, the numbers for 2017 are not necessarily comparable to those reported in previous years.

#### SUSTAINABILITY REPORT 2017 ENVIRONMENTAL MANAGEMENT

### AIR EMISSIONS AND ODORS MILESTONES IN 2017

- The company invested US\$ 33 million in 2017 on improvement projects for the Capture and Treatment of diluted TRS gases in pulp mills.
- Odor emissions from TRS venting in pulp mills were reduced by 50%.
- At Licancel mill in Chile, the company initiated the normal operation of the system to capture, condition and burn the dissolving tank's diluted TRS gases.
- The company invested US\$ 8.5 million on a project to offset odors at Nueva Aldea mill in Chile.
- At Jaguaria mill in Brazil, the company installed a gas washing system in the impregnated plant, reducing formaldehyde emissions by 46% and burning 4,199 tons of sludge at the power plant.

- Replacement of the Oxidizer catalyst (equipment responsible for offsetting air emissions in the formaldehyde production area) at Araucaria mill in Brazil.
- In Argentina, the company revised the operational aspects of energy generation of the power plant boiler at Puerto Piray MDF mill and performed an intervention of its facilities and the implementation of a regular dialogue activity with the community of Piray.
- An emissions capture system was implemented at Eugene MDF mill in North America, that will substantially reduce events during the mill's operation, stop and startup.

#### LEAKS AND SPILLS

During 2017, three minor spills were reported in Chile. These incidents involved treated effluents and had no significant environmental effects; one occurred in the inner facilities of Arauco Horcones Pulp mill and two occurred in the sewage outlet pipe at Nueva Aldea Pulp mill.

The incident at Arauco Horcones mill was produced by a digger brought in by an external company that was working within the industrial area. The machine slightly cracked a treated effluents line and as a result the mill's operation was partially stopped to repair the damaged pipeline.

The two treated wastewater spills at Nueva Aldea Pulp mill's outlet pipe were minor incidents because they involved properly treated effluents and were caught early on. In both cases, specific action protocols were activated. In addition, during the last incident effluents were directed to the spill pool and tertiary treatment was initiated to be able to discharge the treated wastewater into the Itata river while the pipeline was being repaired. At Puerto Esperanza Pulp mill in Argentina, a weak black liquor storage tank overflowed, and a small percentage of liquid spilled into the Paraná river. The incident was duly controlled and reported to authorities. Assessments conducted by third parties concluded that the situation did not affect the quality of the river's water.

During cleaning activities in the Evojet MDF II building at Jaguariaíva mill in Brazil, urea came in contact with wastewater, which was discharged into the Sabiá river. Immediate action was taken, which involved cleaning the entire system. The incident was reported to environmental authority IAP. In addition, oil carryover to industrial effluents was detected at Piên mill, which required making adjustments to the industrial wastewater treatment facility to prevent this system from being affected. As a result, discharge parameters were not altered.

At Malvern mill in North America, water containing oil was discharged through a storm drainage and into an artificial reservoir. All the oil was absorbed by using feathers and absorbent pads.

### **RAW MATERIALS**

ARAUCO aims for the efficient use of raw materials in the company's industrial processes, promoting the use of environmentally friendly input material and optimizing its operation processes to maximize efficiency in the use of its primary raw material.

#### **RAW MATERIAL USE BY BUSINESS**

BUSINESS	ASPECT	MEASUREMENT UNIT	2015	2016	2017
	Fiber (pulpable chips)	Million dry tons	5.9	6.0	5.7
	Sulfuric acid	Kg/ADt	24.9	23.1	22.2
	Lime	Kg/ADt	13.0	14.4	14.6
	Oxygen	Kg/ADt	25.4	23.3	24.1
	Caustic soda	Kg/ADt	24.9	23.1	22.4
Dula	Sodium chlorate	Kg/ADt	24.9	26.0	25.7
Pulp	Hydrogen peroxide	Kg/ADt	3.4	3.5	3.5
	Sodium sulfate	Kg/ADt	7.4	2.9	6.6
	Soda ash	Kg/ADt	2.3	1.6	2.1
	Chlorine dioxide	Kg/ADt	14.3	15.1	14.9
	Methanol	Kg/ADt	2.2	2.8	2.5
	Steam	Kg/ADt	7.3	8.1	8.0

BUSINESS	ASPECT	MEASUREMENT UNIT	2015	2016	2017
	Fiber	Million m <sup>3</sup> ssc	13.6	13.3	12.8
	Urea Formaldehyde Resin	ton	346,693	397,673	373,699
	Melamine Formaldehyde Resin	ton	7,555	9,471	11,629
	2015 Phenol formaldehyde resin	ton	34,440	36,346	33,800
Timber	Formalin	ton	69,255	66,282	82,613
	Parafin	ton	15,626	16,780	19,880
	Methanol	ton	37,536	56,766	65,917
	Urea	ton	76,408	100,040	111,723
	Melamine paper	ton	21,720	27,034	25,503
	Caustic soda	ton	876	975	1,204
	Machine oil	ton	80	215	289

### FIRE PREVENTION IN INDUSTRIAL FACILITIES

ARAUCO maintains an ongoing improvement program in place for its firefighting networks in order to improve the company's response during potential emergencies. The primary objective is to fully protect people, the environment, and the company's industrial facilities. ARAUCO invested US\$ 83.2 million in stationary fire protection systems between 2011 and 2017. This includes protections for the company's Pulp and Timber business facilities in the countries where it operates.

### OUTSTANDING CASE STUDY

## #deRaíz : FOREST RENOVATION

Based on a comprehensive and long term perspective, ARAUCO created the "Forest Renovation Plan" to address the challenges that resulted from the learning experiences the company acquired after the wildfires that occurred during the 2016-17 fire season.

This plan was implemented with over 50 professionals, who were grouped into 14 technical teams that worked to design measures that will reduce the occurrence of fires, and protect populated and natural areas.

This initiative focuses on strengthening prevention and reducing the occurrence of fires; reducing the risk of large scale fire propagation; protecting populated areas and industrial complexes; strengthening the fire suppression system; recovering plantations and native forests affected by fires; and contributing to the quality of life of nearby communities.

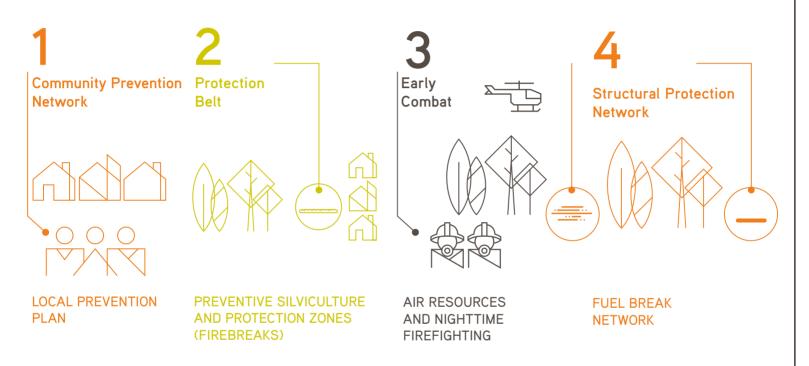




## COMPREHENSIVE STRATEGY FOR PREVENTION AND SUPPRESSION

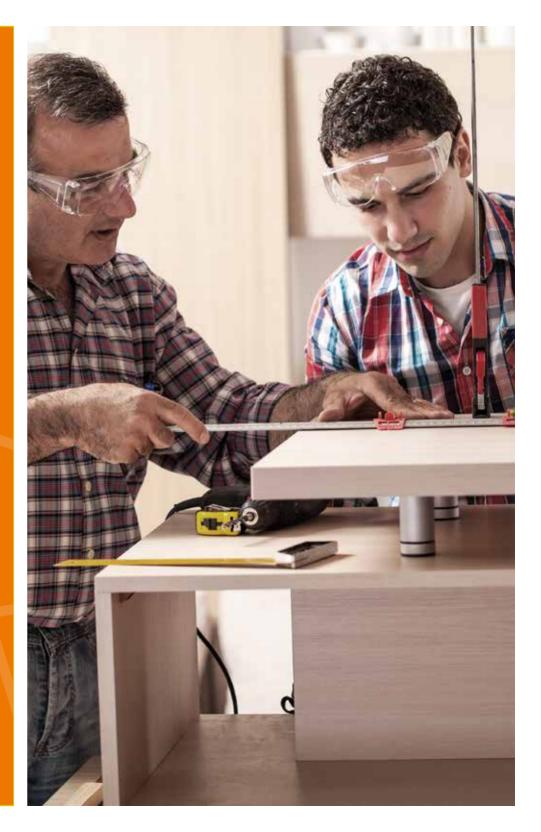
The Community Prevention Network articulates the creation of Local Prevention Committees comprised of neighbors, authorities and businesses that work together to prevent fires. Fire combat is strengthened by providing new resources for faster and more effective fire outbreak containment during its initial phase, by increasing air and land resources, adding night fire combat squads and increasing water capacity by 40%. The structural protection network aims to reduce fire propagation, facilitate combat and limit fire impact by implementing a network of fuel breaks. Creation of a protection belt that redesigns the layout of forest plantations located next to populated areas, where a fuel break strip is implemented and preventive silviculture actions are taken.

## COMPREHENSIVE STRATEGY FOR PREVENTION AND SUPPRESSION



The Comprehensive Strategy for Prevention and Combat is comprised of fundamental measures to contend with the new fire season, and involves 4 key components.









This is the eleventh consecutive year in which ARAUCO has published a Sustainability Report, covering the time period January 1 through December 31, 2017. The report was written using the Global Reporting Initiative (GRI) G4 guidelines, "in accordance" core option and presents information on ARAUCO's economic, social and environmental performance. This report can also be considered as a communication of progress regarding the company's commitment to the Global Compact.

Consolidated information on the company's forestry and industrial operations in Chile, Argentina, Brazil, the United States and Canada was revised, collected and presented for the production of this document. The performance of the operations in Uruguay and SONAE ARAUCO were not included because ARAUCO does not control these businesses and this report describes only corporations in which the company exercises control; however, operations and projects in Uruguay are described when relevant.

Data measurement techniques and calculations for social and environmental information are based on GRI protocols. Financial performance was reported using internationally accepted accounting standards such as the Financial and Reporting Standards (IFRS). This information is presented in US dollars and was calculated using the average dollar value during the reporting period.

The company did not hire an external body for assurance of this report.

### CONTENT DEFINITION

The development of the materiality process for this Report involved a systematic revision of the company's strategy, expressed in corporate presentations and articles published in internal media, in addition to the results of the company's climate survey.

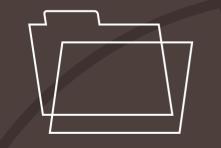
External sources of information were also revised, including issues raised by the company's stakeholders, particularly those identified through ARAUCO's Local Reputation Index (INRELA). News articles related to the company were also reviewed.

This consultation and review process enabled the company to identify a number of aspects that are relevant to different stakeholders and classified them into 7 broad. Material issues identified:

- Safety
- Globalization and efficiency
- Fire protection
- Waste
- Products
- Participation and dialogue
- Employment

#### AVAILABILITY

This year, 1,900 copies of the 2017 Sustainability Report were printed in Spanish and an additional 700 copies were printed in English. The Report is also available at our website www.arauco.cl.





# APPENDICES

AUA



### ACKNOWLEDGEMENTS AND AWARDS

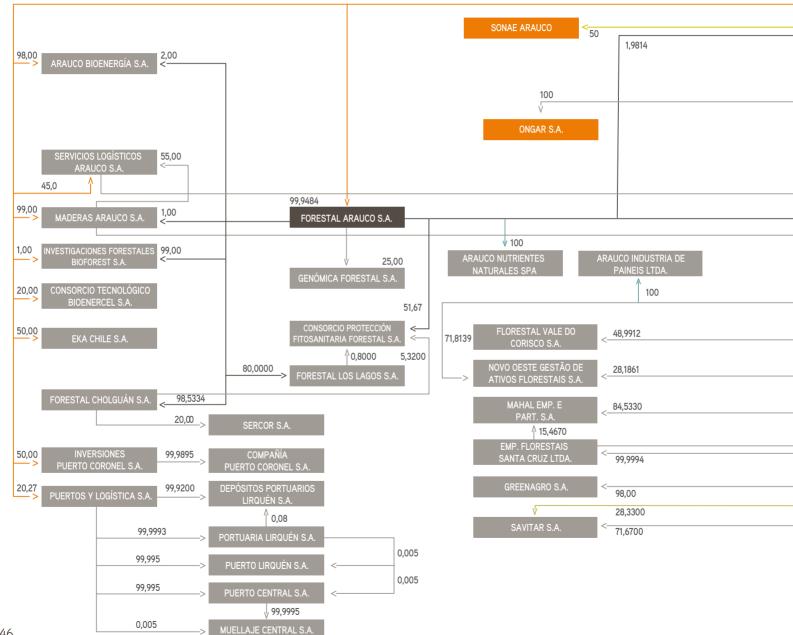
- Campus Arauco was recognized with international "A' Design Award". The building was designed by architects Álvaro Velásquez and Mauricio Nachmann, partners at architecture firm GDN Architects Global Design Network. As part of this project, they were commissioned to use ARAUCO timber during the design and construction process.
- Activa Valdivia, a platform by the Sustainable Valdivia Consortium, was recognized with the 2017 Avonni Award in the category "Aguas Andinas New City". This consortium is headed by the Regional Government and the Municipality of Valdivia, and ARAUCO is a member along with other companies, utilities and civil society. The purpose of this initiative is to strengthen the idea of a smart, innovative city for the capital of the Los Ríos Region in Chile.
- The Nueva Aldea Pulp Mill Joint Committee (CPHS) obtained a three star certification from the Chilean Safety Association (ACHS).

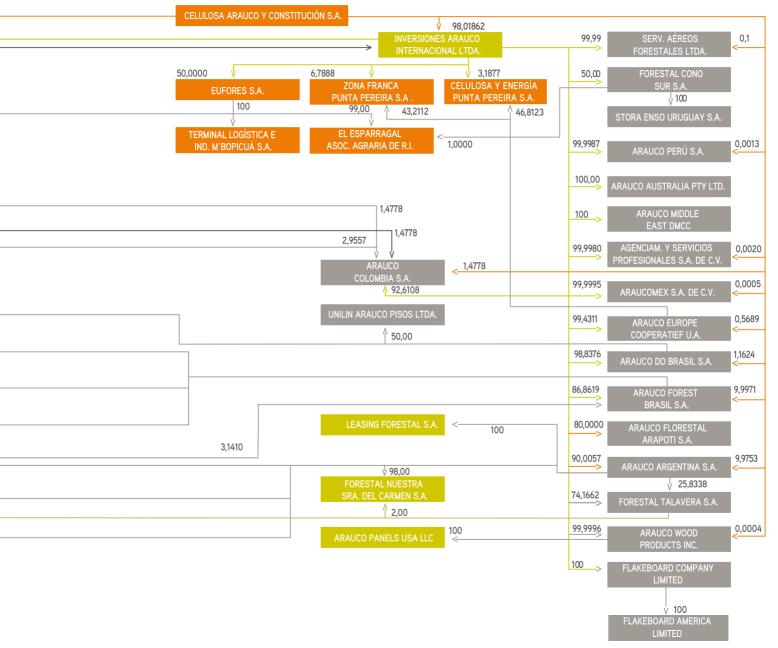
- ARAUCO was recognized with the international CLAP Award in the category "Best corporate identity or branding system", for the company's new corporate identity. The award highlights the closeness and differentiation generated by the system's universal language, and values the choice of font and colors, which are unlike the classic shades of green used in the industry.
- The Joint Committee of Constitución Mill maintained its three-star recognition for its Management System in Chile.
- The Viñales Complex, El Colorado Sawmill and Cholguán Complex were recognized by the Ministry of Health of the Chilean Government as workplaces that promote health at a level of excellence.

- In North America, the Sault Ste. Marie Chamber of Commerce recognized ARAUCO with the 2017 Community Award, for the company's ongoing effort to invest and give back to the community.
- The Composite Panel Association (CPA) recognized mills Malvern, Bennettsville, Moncure and Sault Ste Marie in North America with the annual Safety Award.
- ARAUCO's operations in North America received several safety awards from the Composite Panel Association (CPA) in the following categories: Long term safety; Improvements in safety; annual safety award and safety achievements.

## ARAUCO'S SUBSIDIARIES AND SHAREHOLDERS

AS OF DECEMBER 31, 2017





### GRI CONTENT INDEX FOR THE "IN ACCORDANCE" CORE OPTION AND GLOBAL COMPACT

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	G4-EC2 Risks and opportunities posed by climate change	24; 110 - 111		P7
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Material Aspect	Disclosures on Management Approach (DMA) and Indicators	Page	Omissions	UN Global Compact Principle
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Water	G4-EN8 Total water withdrawal	130		
	Management approach	113 - 116		P8 ; P9
	G4-EN11 Operational sites owned, leased, managed in, or adjacent to, protected areas and areas of high biodiversity value outside protected areas	113 - 116		
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### SPECIFIC STANDARD DISCLOSURES

Material Aspect	Disclosures on Management Approach (DMA) and Indicators	Page	Omissions	UN Global Compact Principle			
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	Management Approach						
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	Management Approach						
Labor/management relations	G4-LA4 Minimum notice periods regarding operational changes	Significant changes are communicated by Contacta2 e-mail, at the time they are produced		P3			
	Management Approach						
Occupational health and safety	G4-LA6 Rates of injury, occupational diseases, lost days, and absenteeism, and total number of work-related fatalities	84 - 91		P1			
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	G4-LA11 Percentage of employees receiving regular performance reviews	71					
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Material Aspect	Disclosures on Management Approach (DMA) and Indicators	Page	Omissions	UN Global Compact Principle
Suppliers assessment for labor practices	G4-LA14 Percentage of new suppliers that were screened using labor practices criteria	79		
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	G4-HR4 Operations and suppliers identified in which the right to exercise freedom of association and collective bargaining may be violated or at significant risk	79	-	P1; P2; P3
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Material Aspect	Disclosures on Management Approach (DMA) and Indicators	Page	Omissions	UN Global Compact Principle
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	G4-SO8 Monetary value of significant fines and total number of non-monetary sanctions for non-compliance with laws and regulations	No significant fines		
	Management Approach	100		
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## CORPORATE LEGAL INFORMATION

Celulosa Arauco y Constitución S.A. was established by public deed issued on October 28, 1970, by Santiago public notary Ramón Valdivieso Sánchez, and modified by public deed on May 6, 1971, issued by Santiago public notary Sergio Rodríguez Garcés. The company's existence was authorized by the Chilean Securities and Insurance Superintendent (SVS) through Resolution N° 300-S, issued on August 18, 1971. Extracts of these deeds were recorded in Folio 6.431, N° 2.993 of the 1971 Commercial Register of the Real Estate Registry Office of Santiago. The respective extract was also published in the Official Gazette on September 4, 1971.

Company Name: Celulosa Arauco y Constitución S.A.

Chilean Tax Identification N° (RUT). 93.458.000 -1

Address: Av. El Golf 150, piso 14, Las Condes, Santiago, Chile

Type of Entity: Corporation

Inscription in the Securities Register: N° 042, July 14, 1982

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