2019
ANNUAL REPORT

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VOTORANTIM

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In 2019, the first year after our 100th anniversary, we consolidated the portfolio developments that occurred in 2018: the Fibria transaction was concluded and the joint venture between Votorantim Energia and the Canada Pension Plan Investment Board (CPPIB) implemented management changes at Companhia Energética de São Paulo (CESP) following the joint venture's successful bid in a privatization auction in October 2018.

We are living a period of significant uncertainties. In 2019, the world had already been facing unimaginable scenarios for a few years: negative interest rates in nearly all developed countries, a fierce trade war between the United States and China, uncertainties around Brexit, and political polarization in many countries. These factors all contributed to an economic slowdown. In Brazil, the year was no less challenging. Confidence levels were affected by the incoming Federal administration's new approach to relations with Congress, resulting in subdued Gross Domestic Product (GDP) growth of 1.1%. On the positive side, the approval of the Pension Reform, below-target inflation, and historically low interest rates renewed hopes for a more promising economy.

Against this backdrop, Votorantim's consolidated results registered a stable net revenue of R$30.9 billion; adjusted EBITDA of R$5.1 billion, a decrease of 26% compared with 2018, and net income of R$4.9 billion, an improvement of 113% on 2018, helped by the Fibria transaction. Despite the challenges and the uncertainties, our portfolio companies invested R$3.2 billion. This investment which will contribute to expansion and modernizationprojects that will significantly improve operating efficiency through time and product volumes growth. In financial figures, gross debt declined by approximately R$5 billion and leverage—expressed as the ratio of net debt to adjusted EBITDA—was maintained at below 2.0x.

We also delivered strong performance on environmental, social, and governance (ESG) issues, which have long been embedded in our business and in Votorantim DNA. This document, which in 2019 received a chapter dedicated to social matters, describes Votorantim's values, principles, management pillars, and guidelines for creating superior value, which harness best practices developed throughout more than a century of operations.

Our commitment to the environment is demonstrated by the way we influence our portfolio companies to implement initiatives that ensure natural resources are used responsibly and that environmental impacts are minimized. During the reporting year, one of our portfolio companies incorporated environmental indicators in its borrowing facility. Votorantim Cimentos issued US$290 million in debt through a sustainability-linked Committed Credit Facility (CCF). Regarding social matters, the Votorantim Institute has continued to play an important role in supporting portfolio companies in designing and implementing strategies that contribute to a better future for the next generations. Both Votorantim and the portfolio companies have continued to support the Partnership for the Enhancement of Education (*Parceria pela Valorização da Educação*, PVE) in 101 cities, reaching 540,000 students. In governance, we and our companies have worked to build on transparent, ethical relations with all stakeholders. Since 2014, our companies' Boards of Directors have been established and their governance structures have since continued to evolve and mature to better support strategy development.

At the holding company, we remain focused on seeking new investment opportunities with the potential to provide superior financial returns and shared value with society. In 2019 we enhanced our financial flexibility and in 2020 will continue to explore new investment opportunities and balance our exposure across industries and geographies.

We entered 2020 with increasing global uncertainties, especially because of the impacts of the COVID-19 outbreak in major economies. Considered a rare event, the consequences will certainly have an impact on global growth. In this context, Votorantim is preparing for a year that could be more challenging than expected.

Brazil's long-term growth hinges on the improvement of the country's level of education and on structural reforms to provide the legal certainty in the business environment that is needed to attract investment, both domestic and international.

On behalf of the Board, I reiterate Votorantim's commitment to continue building a more inclusive, fair, and sustainable future for Brazil.

Eduardo Vassimon
Chairman of the Board of Directors
Votorantim S.A.

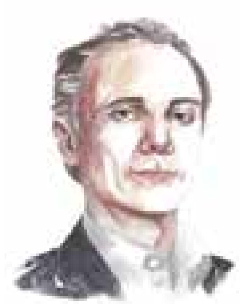
Members of the Board of Directors


Eduardo Vassimon


José Roberto Ermírio de Moraes


Cláudio Ermírio de Moraes


Luís Ermírio de Moraes


Marcelo Medeiros


Oscar Bernardes


Pedro Wongtschowski

Message from the Executive Board 102-10 | 102-14

We at Votorantim ended 2019 with a sense of pride for our achievements. We have made significant progress in the transformation of our portfolio, seeking to maintain our financial strength, the competitiveness of our businesses, as well as the entrepreneurial and innovative spirit that will allow us to perpetuate Votorantim.

Our results were impacted by the slowdown of the global economy, which should record an estimated growth of 2.9% in 2019—the weakest since 2009. China's economy, one of the world's growth engines in recent years, saw GDP growth of 6%, the lowest since 2012. In Brazil, GDP growth underperformed early-year predictions. Despite historically low interest rates, the passing of the Pension Reform bill through Congress, and the enactment of the Economic Freedom Act—a law designed to reduce bureaucracy in the business environment—Brazil's GDP presented a growth rate of 1.1%.

This economic situation negatively impacted zinc and aluminum prices, which fell by 13% and 15% respectively in the year, affecting the results of Nexa and Companhia Brasileira de Alumínio (CBA). The reduction in prices of frozen concentrate orange juice (FCOJ) also impacted Citrosuco's results for the 2018/2019 season. At Votorantim Cimentos, our operations in North America delivered satisfactory performance in terms of both sales volume and prices, while in the Brazilian market demand grew by 3.5%, in what has been the first positive result since 2014. Votorantim Energia, through its joint venture with CPPIB, supported a management transformation at CESP that has helped to increase productivity. Banco BV, which unveiled a new brand identity, advanced its digital transformation and revenue diversification efforts, strengthening partnerships with fintechs and launching new products and services. The bank's net income was R$1.4 billion.

We maintained our companies' capital structure within the appropriate levels by reducing the gross debt by approximately R$5 billion. In the consolidated result, leverage, measured by the net debt to adjusted EBITDA ratio, was below 2.0x in the year. The usual prudence with which we conduct our business has allowed the Standard & Poor's rating agency to upgrade our rating (from BB+ to BBB-). Votorantim is one of nine Brazilian companies classified as investment grade.

During the year, we further consolidated our achievements from 2018, especially the

Fibria transaction, which was concluded in January, initiated a new cycle at CESP, now with Votorantim Energia executives on its Board of Directors.

We continue to support our invested companies in pursuing their business plans through active participation in their governance bodies, with a focus on driving competitiveness and innovation to ensure they remain prepared for the future in a constantly changing world. Our portfolio companies increased their investments, especially Nexa, which advances with a zinc and copper project in Aripuanã, Mato Grosso state, the largest mining project in progress in Brazil, and for Votorantim Cimentos, which increased its investments in modernization and thermal substitution. Citrosuco recorded significant advances in terms of investments, with the completion of the expansion project for NFC (not from concentrate) juice and the development of new products.

At the same time, we continued to explore investment opportunities in line with our capital allocation strategy, especially in electric power and real estate. Votorantim's new investment thesis targets businesses with secular demand and stable cash flow generation, leveraging our assets and competencies. In 2020, in addition to these, we intend to evaluate opportunities in infrastructure in Brazil and new initiatives internationally.

A mindset for innovation is an important strength of our companies. It is an integral part of our strategy of looking into the future, developing new businesses, and keeping them up-to-date. This extends beyond technology to include the broader transformations required in business models in order for us to be able to anticipate market needs. As part of this vision, during the year, we organized Votorantim.hub, an event attended by our companies, their customers and suppliers in which we presented the results of our continuous innovation efforts.

We also deepened discussions around diversity and inclusion, two topics that we believe are essential to a high performance environment. This belief led us to create thematic groups, with the active participation of employees, to raise awareness about the topics. Our reflection included, for example, a workshop on unconscious bias with a massive attendance, demonstrating the engagement of our employees and the relevance of the topics within our strategy.

The Votorantim way of behaving and operating—which recognizes the importance of our relations with employees, customers, suppliers, society, and other stakeholders—characterizes our approach to acting as a socially responsible business. Following our vote awareness campaign in 2018, we conducted in-depth studies on citizenship and democracy in Brazil throughout 2019. Building on these studies, we structured a Citizenship Program with activities that are now ongoing and will continue into 2020, with the aim of strengthening civic engagement. In October we launched a call for proposals for the Citizenship Lab (*Lab Cidadania*), in collaboration with our portfolio companies and with the support of the Votorantim Institute, to develop innovative solutions for promoting a democratic culture in Brazilian cities.

This is how we have continued to advance in building businesses that secure not only our own longevity, but also a better future for the next generations. We remain proud of our history, and confident and enthusiastic about our future.

João Miranda
CEO
Votorantim S.A.

Members of the Executive Board


João Miranda


Glaisy Domingues


João Schmidt


Luiz Caruso


Sergio Malacrida

2019 Highlights 102-10

Elaboration of **Social DNA**

Launch of the **Citizenship Lab (*Lab Cidadania*)**

Legado das Águas won **three awards** related to environmental conservation and sustainability

Internship Program with blind selection and gender equality

Votorantim.hub: innovation in the portfolio companies

Recognition of Votorantim's reputation: survey showing rates above 70% in all audiences

Leverage (net debt/ adjusted EBITDA) **at 1.95x**

Net income of **R$4.9 billion**

Real Estate Investments: evolution of initiatives in the Vila Leopoldina neighborhood, in São Paulo (ARCA, STATE, and Atlas Office Park)

Portfolio management: **Fibria transaction** completed and first year of **CESP management**

Votorantim is once again an **investment grade** company by S&P

Portfolio [102-4]

	Votorantim Cimentos	banco BV	Votorantim energia	nexa	citrosuco	cba	AcerBrag / PazdelRío
Ownership:	100%	50%	100%	64%	50%	100%	100% of Acerbrag and 82% of Acerías Paz del Río
Industry:	Building materials	Finance	Electric power	Metals and mining	Orange juice	Aluminum	Long steel
Operations in:	11 countries	2 countries	1 country	4 countries	7 countries	1 country	2 countries
Units[1]:	305	69	58	13	45	12	3
Employees[2]:	11,953	4,022	463	6,026	5,019	4,839	2,179

[1] Includes offices, plants, distribution centers, and other units

[2] Includes company employees, interns, and apprentices

The Investment Holding Company

102-15

Votorantim S.A. (Votorantim) is a Brazilian family-owned company with long-term investments. Its portfolio companies are present in 19 countries on five continents, with operations across the building materials, finance, electric power, metals and mining, orange juice, aluminum, and long steel industries. Votorantim also has a Center of Excellence (CoE) which consolidates Shared Solutions, Real Estate Solutions, and Information Technology centers (See page 44). 102-1 | 102-2 | 102-3 | 102-4 | 102-5 | 102-6

The holding company has a team of 77 professionals working in Corporate Development; Finance and Investor Relations; Human and Organizational Development (Human Resources and Communications); Legal and Tax Planning; Governance, Risks and Compliance; and Real Estate Investments. The CoE team has 787 professionals.

Considering all of its companies, Votorantim has over 35,000 direct employees and 10,000 indirect employees working at 504 operating and administrative business units.

The holding company, as well as the portfolio companies, creates and develops social programs in partnership with the Votorantim Institute.

Reservas Votorantim manages certain environmental assets of the portfolio companies, including Legado das Águas, the largest private Atlantic Forest reserve in Brazil.

On a consolidated basis, net revenue in 2019 was stable at R$30.9 billion and adjusted EBITDA was R$5.1 billion, lower than the figures of 2018, and net income was R$4.9 billion, impacted mainly by the Fibria transaction. At year-end, consolidated gross debt was R$19.8 billion, a reduction of around R$5 billion from 2018 (See page 40). 102-7 | 102-8

Votorantim DNA 103-2 | 103-3

Expressed in a document which summarizes the practices Votorantim has adopted in its businesses for over a century, the Votorantim DNA governs the holding company and the portfolio companies way of being and how they operate and are managed. 102-16

Social DNA

In 2019, Votorantim's Board of Directors approved the Social DNA, a document that provides guidance to portfolio companies on building a social legacy and ensuring their strategies and actions maximize value creation for society, in line with the expectations of shareholders. The Social DNA includes:

- Finding solutions both within and outside the boundaries of companies and business models to embed social aspects into the core business.
- Connecting people, skills, goals, and business partners in furtherance of sustainable development.
- Building bridges with local communities, creating democratic spaces for discussion.
- Maintaining the United Nations (UN) Sustainable Development Goals (SDGs) as a guide to actions, scale of ambitions and vocation of Votorantim.

Values

- Soundness
- Ethics
- Respect
- Entrepreneurism
- Unity

Beliefs

- Cultivating talent
- Meritocracy
- Excellence
- Pragmatism
- Open dialogue
- Alliance
- Sense of ownership

Stewardship pillars

- Financial stewardship
- Value creation
- Operational excellence
- People and company
- Image and reputation

Votorantim's Identity

At the right time: The right time is the one we do not miss. Everyday, we remember that decisions we make today will drive future results, and that we have to think fast and act in a structured, strategic and assertive manner. Our mindset is innovative—we are always looking ahead. But when we look to the future we have to be ready to challenge what happens now. We also have to be prepared to respond to changes in the different sectors and countries where we operate.

The right way: For us, there is only one way of doing it—the right one. Our corporate DNA carries our unique way of behaving and operating. We treat our companies, employees, and society with respect, and we act ethically. We have great expertise in investments and the necessary knowledge to always perform better and responsibly.

With the right people: We have made a firm commitment: To invest in the best of each one to achieve the best of everyone because we believe in the strength of people and in what they are capable of delivering together. We are always moving forward, towards what is new. We positively influence our people through inspired leaders.

Strategy and Management 103-2 | 103-3

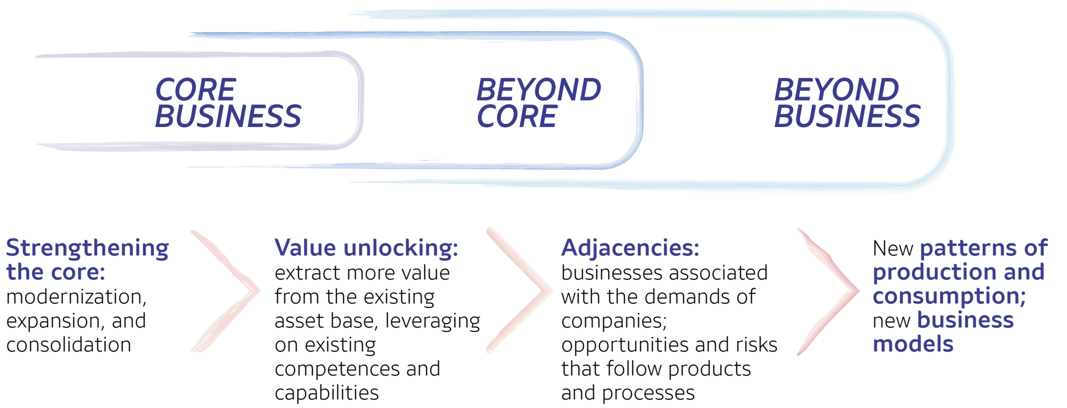
> Votorantim: investment holding company permanently capitalized and with a long-term investment horizon, Votorantim seeks to deliver superior financial returns with positive social and environmental impacts

The essence of the management mandate of Votorantim is the achievement of the objectives of investment of Votorantim's shareholders, acting according to Votorantim DNA and respecting its financial and dividend policies. As an investment holding company permanently capitalized and with a long-term investment horizon, Votorantim seeks to deliver superior financial returns with positive social and environmental impacts.

In this context, the investment thesis includes major themes that apply both to existing businesses and to new investments: (i) strengthening the core business, through investments in modernization, expansion, and consolidation; (ii) extract more value from the existing asset base, leveraging on existing competences and capabilities; (iii) operations in the adjacency of the businesses, assessing opportunities and risks associated with products and processes; and (iv) assess new patterns of production and consumption, as well as new business models from which derive new opportunities and mitigate risks.

The business portfolio is exposed to global and local dynamics of various industries, as well as natural business cycles for each asset. Within the strategy of portfolio, Votorantim seeks to add to this profile new businesses with secular demand and potential for value creation – for example in the energy and real

Investment thesis



estate sectors. Another area of interest is infrastructure, on the basis of confidence in the development of the country and the availability of opportunities for the private sector. Additionally, Votorantim continues to seek opportunities to expand its exposure to developed markets, both directly and through its portfolio companies.

Votorantim's orientation in all investments is based on one principle: patient capital, unnegotiable purpose. That means analyzing carefully the opportunities for making investment decisions that are aligned with the Votorantim DNA and the strategy agreed with shareholders. This DNA also includes a social dimension that establishes relevant guidelines on maximizing value creation for society in line with the SDGs—Votorantim has, since 2011, been a signatory of the Global Compact, an initiative that promotes internationally accepted values across human rights, workplace relations, environment, and anti-corruption. This voluntary commitment also extends to the portfolio companies, and in 2019 Votorantim organized a workshop to raise awareness about these commitments. At present, Votorantim Cimentos, Nexa, and CBA are also signatories of the Global Compact. [102-12]

Objectives of the capital allocation strategy

Patient capital, unnegotiable **purpose**

AT PORTFOLIO COMPANIES

Capital structure that enables **growth** and dividends

Preserving the **capacity to invest**

Preserving the **Votorantim DNA**

Leveraging innovation to transform their business models

AT THE PORTFOLIO LEVELS

Financial and **strategic flexibility** act swiftly

Diversification:
- Sectors
- Geographies
- Risk factors

Meeting the shareholders' **investment objectives**

FOR SHAREHOLDERS

Maximizing total shareholder return (TSR)

Perpetuating Votorantim

Real Estate Investments

The Real Estate Investments business performed strongly in 2019, with significant progress on the ongoing key projects and further expansion of the scope of operations. Created initially to manage and develop properties owned by Votorantim, the business has since expanded its scope to include actively prospecting for investment opportunities, especially in the office and logistics warehouse segments. In 2019 the team was joined by industry professionals dedicated to developing Votorantim-owned properties as well as new investments. The governance has responded to these developments by creating an Advisory Board, with independent members, to support the business in its expanded format.

Ongoing projects in the Vila Leopoldina district, in the Western region of São Paulo, have been well received in the real estate market and have supported an agenda that is revitalizing the surroundings of Votorantim's properties in the region. In this district, three projects have been especially significant: ARCA, the Urban Restructuring Project (*Projeto de Intervenção Urbana, PIU*), and STATE.

The ARCA, which was opened at the end of 2018 following a retrofit of an old industrial warehouse that formerly housed the Metalúrgica Atlas smelting factory, has become a popular entertainment venue in São Paulo City. The 9,000 m^2 facility, with a ceiling height of more than 15 meters, has hosted more than 30 fashion, food, innovation and technology, sporting, and music events organized by leading companies and brands, attracting more than 80,000 visitors.

The Vila Leopoldina – Villa Lobos Urban Restructuring Project has received government approval and submitted plans for the project to the City Council. In the Legislative branch, the project has been approved by two committees and discussed in public meetings, and is now pending only a final vote by the City Council. Following approval, a large, privately funded, public improvement program can begin, supporting the ongoing transformation.

2019 was also significant for another project in the region: the Atlas Office Park, an office tower development with more than 36,000 m² of rentable space. Votorantim currently has a 50% stake in the asset, following the acquisition of a stake from one of the partners. Demand increased substantially during the year, resulting in occupancy

ARCA:
arcaspaces.com
@arcaspaces

PIU:
piuleopoldina.com.br

STATE:
state.is
@state.is

Atlas Office Park:
atlasofficepark.com.br

levels higher than 90%—establishing the area as a prime office option.

The first phase of restoration works on a second warehouse building, which has a total area of 18,000 m^2 and is adjacent to ARCA has been completed. The 6,500 m^2 venue now houses STATE (background image), a new innovation, technology, and creative economy hub. Since the soft-opening event in October 2019, occupancy by large corporates and startup tenants has steadily grown. Work has begun on the second phase of the project, which will create an additional 11,000 m^2 of office space.

Significant progress was also made on projects in the metropolitan area of Soro-caba City, where Votorantim owns several large properties. The state and municipal approval stages have been completed and the first phase of the project, a housing subdivision development, is due to be launched in 2020.

People 103-2 | 103-3

LinkedIn:
linkedin.com/company/votorantim/

Instagram:
@somosvotorantim

Votorantim's Human and Organizational Development (DHO) department manages Human Resources at the holding company, the Votorantim Institute, and Reservas Votorantim, being structured on three pillars:

- Attractiveness, Engagement, and Communication
- People and Organization Development
- Remuneration and Benefits

Attractiveness, Engagement, and Communication

The Internship Program, which was reformulated in 2018, received 2,600 applications for nine vacancies with their start dates in 2020, 48% more than in the previous intake. Blind selection was again used, in which candidates were not required to specify their university training or the institution where they studied, their gender or their ethnicity. The preferential selection criteria used were candidate potential and cultural profile, in order to attract young professionals who are aligned with the company's values and principles. Votorantim's commitment to promoting gender equality was present throughout each stage in the program—group dynamics sessions had an equal number of men and women.

Votorantim Experience, a one-month holiday internship program, used the same approach: with 954 applicants for two job vacancies in the Real Estate Investments and the Corporate Development departments, an equal number of male and female undergraduate students from business administration, engineering, and related university programs were selected for the final workshop and case resolution phase. In the Votorantim Finance Tour—a way of engaging with students in financial programs—20 leaders of financial market student leagues participated in a valuation workshop.

To ensure the company attracts new talents and supports a continuous process of promotion from within, Votorantim rolled out the *Caderninho* project in 2019. Managers observe talents both within and outside Votorantim to identify professionals with the potential to succeed employees currently under their leadership. In 2019, 45% of new vacancies at the holding company were filled through referrals from managers' *Caderninho*.

The Ambassadors program, which encourages employees at all levels of the organization to showcase the company and its differentiators at events such as trade shows and university classes and lectures, also supports attracting talent and engaging with employees. 55% of employees now formally serve as ambassadors.

Another program, called *Movimenta*, which provides opportunities for talent mobility across the portfolio companies, was revitalized to make the process more flexible, simple, and aligned with industry best practice, helping employees to take the reins of their own careers. This year the initiative was also joined by banco BV. The 400 vacancies announced on the platform in the second half of the year were internally viewed by 5,500 employees.

The talent attraction and selection processes are also designed to advance diversity, based on the belief that diversity creates value.

With a focus on maintaining engagement and delivering on the commitment to providing clarity and direction, the Votorantim Meeting *(Encontro Votorantim)* was held twice during the year. At these meetings, the holding company leadership provided clarification on guidelines and celebrated achievements. One of the meeting was dedicated, for the first time, to addressing diversity and inclusion matters, with discussions about unconscious bias and how neuroscience explains the way stereotypes influence people's decisions. The meeting was organized as a recommendation from working groups created by the holding company's employees to discuss gender, race, sexual orientation, and people with disabilities, in order to enhance the understanding of the subject and further improve processes and the workplace environment. From these discussions different actions were developed, including office renovations and changes in selection processes.

Regarding both internal and external communication, activities linked to recognition, dissemination, and dialogue continued, ensuring consistency of initiatives, such as the organization of Recognition Hour and celebratory activities, such as Children's Day, Family Day, among others. Specifically for digital communication, VotoCast was created as a Votorantim channel available on podcast platforms, and there was a growth on Instagram and LinkedIn followers, by 44% and 79%, respectively.

RepTrak® research results

Society	Talents	LinkedIn Community	Opinion Leaders	Financial Market	Employees
73.3	71.6	79.6	73.4	80.9	80.9
N=600	N=271	N=79	N=41	N=36	N=119

N = number of interviews

>80 Excellent   >70 Strong   >60 Average   >40 Week   <39 Poor

As a way of measuring and ensuring the company's reputation management, a survey in collaboration with the Reputation Institute was carried out, including interviews with some key stakeholders including employees, communities, media, young talents, among others. More than 600 interviews provided the basis for insights into stakeholder perceptions across different aspects, such as businesses, innovation, the workplace, governance, citizenship, leadership, and performance.

Overall, Votorantim was assessed as having a strong reputation, with a favorability rating greater than 70% by all stakeholders, and with an especially strong rating of 80.9% in the financial market and among employees.

Especially positive ratings were given for business, performance, governance, and citizenship. Diversity and innovation were perceived as requiring further improvement.

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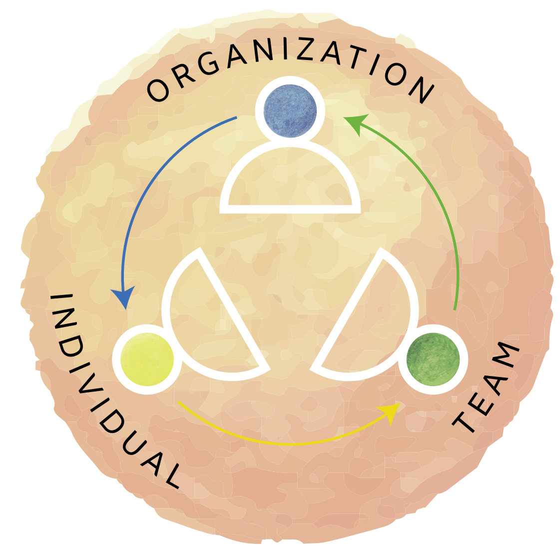
CEO of the Year

In an event held in 2019, João Miranda received the title of CEO of the Year at the 25th Bravo Business Awards, organized by the Americas Society and the Council of the Americas

People and Organization Development

The integral development model is believed to be best for consistent development, as it connects all spheres and contexts to which employees are exposed. As such, the organization and people development strategy has been structured as shown in the figure below.



INDIVIDUAL
Encouraging individuals to identify and achieve their potential

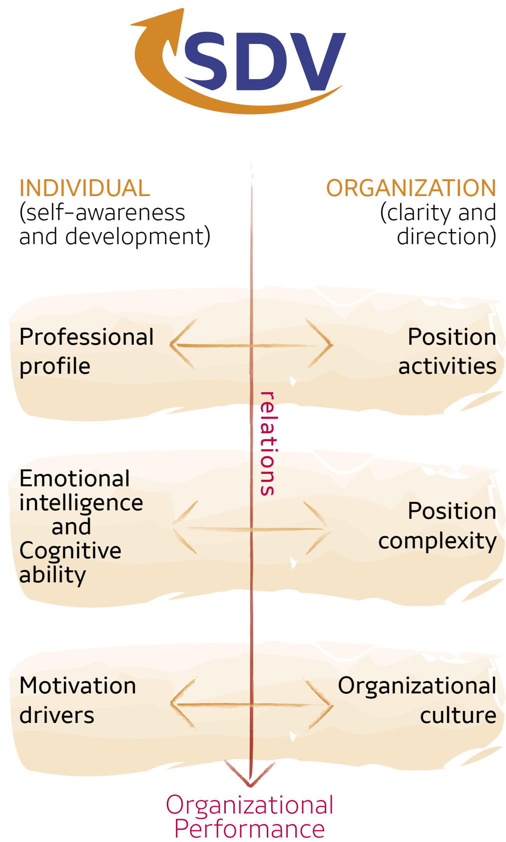
RELATIONS
Continually promoting organizational well-being

ORGANIZATION
Talent management, leadership and organizational culture

In 2019, in line with this strategy, there were continuous efforts to broaden the level of autonomy of the managers in actions related to the development of their teams, involving three fronts:

- **Education**, including professional training programs and events, such as extension, foreign language, and post-graduate programs.
- **Development**, comprising self-development and career management activities, including activities organized internally by the DHO team and by employees' managers, such as: assessment tools designed to build self-awareness; career discussions between managers and their reports; Individual Development Program (*Programa de Desenvolvimento Individual, PDI*); and coaching and counseling.
- **Training**, with short-duration initiatives to improve technical skills, such as courses, certifications, seminars, and conferences, as appropriate for the relevant function or role.

The Votorantim Development System (*Sistema de Desenvolvimento Votorantim SDV*) is a proven tool supporting the employee development strategy at the holding company. Career discussions and merit committee meetings, which are held sepa-



rately, have improved on the model which was implemented the previous year. The whole process uses self-awareness as a key to facilitate understanding the concepts of potential (predicted future performance) and achievements (assessment of past performance) within the organization.

During career discussions, leaders discuss their employees' strengths and help them achieve their professional goals, as well as addressing any areas for improvement that need to be prioritized to deliver future performance. These discussions are also designed to encourage individuals to reflect on the extent to which their emotional and cognitive capabilities match up to the level of complexity of their current role, identifying plans for development.

In addition to individual development, off sites and meetings were also held to support team development, with some departments addressing issues related to leadership development and evolution of the company's culture, while others discussed corporate branding.

Moving forward into the people development plan across the organization, the Executive Board succession plan was validated by the Board of Directors, and *PDIs* were developed for the executives involved.

The methods of measuring employee engagement have been improved to better reflect the company's evolution. In 2020, a broader engagement and culture survey will be carried out to identify not only the level of satisfaction with the organizational environment and engagement, but also the level of alignment with the organizational culture.

Votorantim Academy

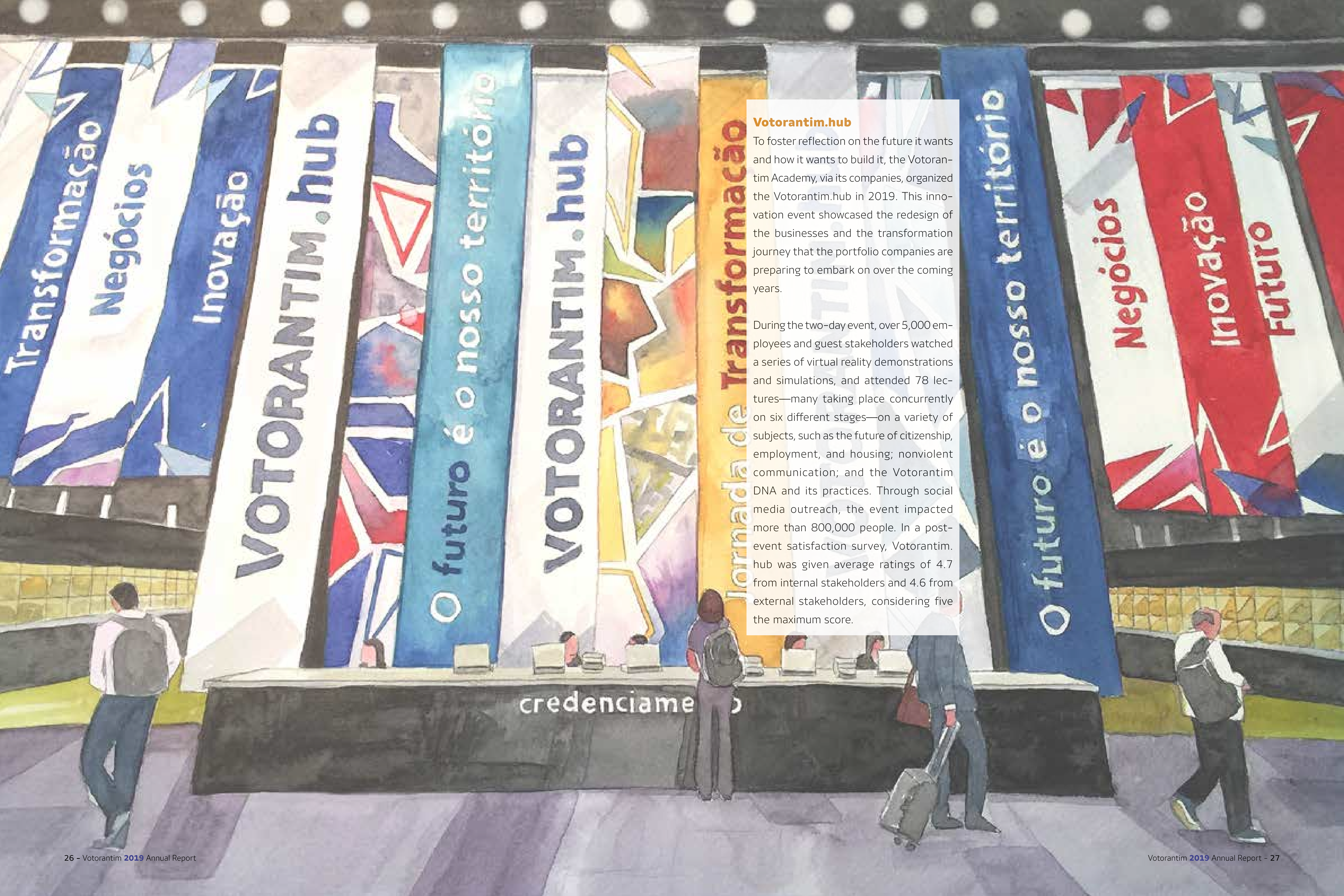
In 2019, the Votorantim Academy continued to serve as a hub supporting the development of individuals and organizations, connecting people, and fostering discussion about trends affecting the business environment and society.

The most outstanding event was Votorantim.hub, held jointly by the holding company and its portfolio companies to rethink the future of the business. The event is also a part of the 18.18 movement created in 2016, the aim of which was to increase connectivity between people who could impact business, challenging them towards innovation.

This year, the *Potenciar* Program, and which recognizes and provides the talents at Votorantim and portfolio companies with technical and behavioral training to accelerate their learning and development, had participants from Citrosuco for the first time. All portfolio companies are now participating in the program, which has been held annually since 2012. The four meetings were attended by five participants from the holding company and the Votorantim Institute, 10 from the CoE and 68 from the portfolio companies.

Vototalks, which is an online platform featuring discussions among experts in their fields, has all its content hosted on the Votorantim Academy webpage available at Votorantim's website. The content is organized by the following themes accordingly with 18.18 subjects: new standards and emerging technologies; high-performance culture; business (re) design; transformation awareness; and global mindset. All content is available not only to Votorantim and its companies' employees, but also to the general public.

Visit:
votorantim.com/academia



Votorantim.hub

To foster reflection on the future it wants and how it wants to build it, the Votorantim Academy, via its companies, organized the Votorantim.hub in 2019. This innovation event showcased the redesign of the businesses and the transformation journey that the portfolio companies are preparing to embark on over the coming years.

During the two-day event, over 5,000 employees and guest stakeholders watched a series of virtual reality demonstrations and simulations, and attended 78 lectures—many taking place concurrently on six different stages—on a variety of subjects, such as the future of citizenship, employment, and housing; nonviolent communication; and the Votorantim DNA and its practices. Through social media outreach, the event impacted more than 800,000 people. In a post-event satisfaction survey, Votorantim.hub was given average ratings of 4.7 from internal stakeholders and 4.6 from external stakeholders, considering five the maximum score.

Remuneration and Benefits

In 2019, the holding company's Remuneration and Benefits area was fully migrated to the CoE. This initiative has helped to improve operating and financial efficiency by expediting common activities such as negotiations of health insurance, life insurance, meal and food cards, and fitness center allowances. The immediate benefit was the elimination of intermediaries in purchasing health insurance from providers, which has simplified the contracting and management processes.

In addition to the structural changes, other improvements were also implemented during the year by the area. An example is a telemedicine service now offered in partnership with the Albert Einstein Hospital, providing quick access to physicians at the hospital through virtual consultations for simple cases. A breast-feeding room was also set up at the holding company headquarters, where employees who are mothers can express and store breast milk while in the office.

A Healthcare Business Intelligence (BI) platform was developed during the year to provide integrated support to areas of Human Resources and medical management teams. The platform enables users to review not only information related to health insurance claims, but also other data such as health, life and dental insurance processes. Resolution indicators can be effectively and dynamically navigated to intersect data, supporting better management of employees' health.

Adding to these initiatives was another edition of +Life Week (*Semana+Vida*), an event in which employees were provided with medical exams, first-aid training, extended massage sessions, anti-flu vaccines, healthy nutrition guides, health questionnaires, and medical care.

To ensure that employee remuneration is competitive, Votorantim relies on annual surveys conducted by specialized consulting firms, internal policies, and information from committees that assess employee performance as part of a merit-based culture. On an annual basis, each department holds a meeting that is attended by all its managers, to discuss individual employee performance based on what and how they have performed throughout the year. Improvement aspects are also identified to leverage the performance of each professional, linked to the proposed challenges. Performance reviews cover what each employee has delivered, their level of salary and their historical movements, providing a merit-based assessment for the relevant cycle.

In 2019, Votorantim won the Health Excellence award from Great Place to Work (GPTW) Institute, which annually publishes more than 40 thematic rankings and great workplaces lists at national, regional, and industry levels.

Benefits 402-1

- Health insurance
- Dental insurance
- Life insurance
- Private pension through Fundação Senador José Ermírio de Moraes (Funsejem)
- Christmas card
- Medical care
- Virtual consultations, including dependents
- Executive health check-up
- A program for pregnant employees
- Room with breast-feeding structure
- Anti-flu vaccines
- Fruits
- Massage
- Gym reimbursement
- Supporting Program for Employees (*Programa de Apoio ao Empregado, PAE*) including psychological, financial, and family support
- Partnership with Commerce Social Services (*Serviço Social do Comércio, SESC*) units

Corporate Governance, Compliance and Risk Management 103-2 | 103-3

Governance model 102-18 | 102-19 | 102-20 | 102-24 | 102-26 | 102-27 | 102-29 | 102-31 |

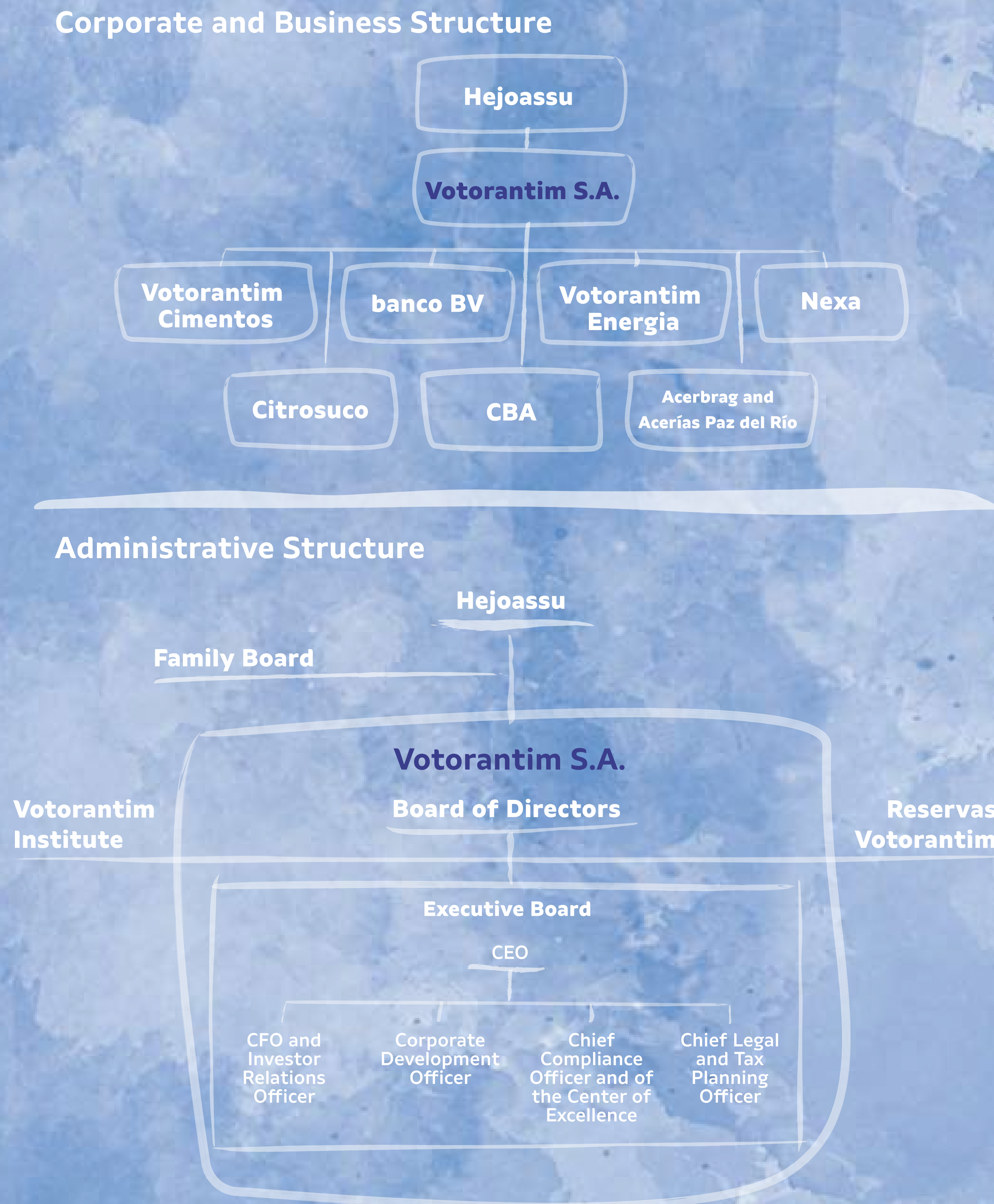
Votorantim ensures its corporate governance practices are continually improving and evolving. This can be seen in the portfolio transformation, the efforts to build a culture of innovation, and the role that holding company representatives have played on the Boards of Directors and committees of the portfolio companies, with a focus on providing strategic direction and fostering an entrepreneurial governance. This alignment of interests and close proximity with the executives of the companies provides greater flexibility to capital structure decisions and discipline in capital allocation.

While not all portfolio companies are publicly traded, since 2014 they have all had a robust governance model in place, including Boards of Directors and advisory committees. These governance bodies include both Votorantim representatives and external and independent members. Votorantim also conducts periodic Boards of Directors and committee assessments that support improvement in governance.

Corporate governance at Votorantim comprises three spheres:

- **Ownership**, represented by the Board of Hejoassu, the holding company that owns Votorantim.
- **Family**, represented by the Family Board.
- **Businesses**, conducted and represented by the Board of Directors and Executive Board of Votorantim and its portfolio companies.

The Boards of Directors of Votorantim and Hejoassu, as well as the Family Board, are represented by executives serving three-year mandates. The Hejoassu Board of Directors and the Family Board act independently of Votorantim. However, an agenda for formal meetings between all three boards assures their interaction. Resolutions on strategy, management and investments at the portfolio companies are taken by the Board of Directors and Executive Board of each company.



Board of Hejoassu: Recommends financial aspirations, macro-vision and risk appetite for Votorantim, as well as certain guidelines for the development of the strategy. It is also responsible for maintaining the company's culture, DNA, and purposes, which are crucial to the longevity of the family business. The Board has 12 shareholders, three from each of the four family holding companies, with fourth and fifth generation members deliberating together. The family, which is currently in its sixth generation, has 158 members, of whom 41 are shareholders.

Family Board: With a formal statute, has the mission of keeping the family united and to improve the communications between the business and the family, preserving its legacy. To develop responsible shareholders is an important goal, as well as to develop leaders for future successions. The Family Board was renewed in 2019 and is now composed of seven members, including five fifth generation and two fourth generation members. With their complementary competences, members have been involved on the various activities, such as the New Economy, in which a group of family members has worked to gain an understanding of the new forms of work and entrepreneurship, the role of startups, and the challenges and benefits of innovation. The research process included a field trip to China, where they engaged in a range of experiences related to the topics under study. The objective is to foster the innovation mindset connected to the family and the business development aspirations.

Family values

INTEGRITY — Being whole, ethical, honoring our history, and helping build the future with respect

GENEROSITY — Being generous with oneself, the family, and society

COURAGE — Being determined, always willing to learn and evolve, and believing everything is possible

UNITY — Honoring the history that unites us, valuing our collective Power, and being at the forefront of our Legacy

IMPACT — Dedicated, achievement-focused work, driven by the power to innovate and transform

PASSION — Having the freedom and motivation to find and pursue one's passions

Another initiative was the Social Engagement project, which sought to reframe the family's feeling of social responsibility aligned with the development aspirations of the next generations. One of the main actions, was the Family Inspires Family, in which family members, engaged in social organizations, scribes their experiences and challenges related to philanthropy in an inspiring way.

In its businesses structure, Votorantim has two corporate governance bodies: the Board of Directors—which was appointed a new chair in the year—and the Executive Board.

Board of Directors: Composed of seven members, including a chairman, a deputy chairman, two family shareholders, and three independent members. The Board of Directors is responsible for defining the strategic planning and orienting its execution, in addition to making capital allocation decisions. Periodically, the Board reflects on the performance of the Boards of Directors of the portfolio companies, whose appointments are also their responsibility.

Board Members 102-22 | 102-23

Eduardo Vassimon
Chairman

José Roberto Ermírio de Moraes
Deputy Chairman

Cláudio Ermírio de Moraes
Board member

Luís Ermírio de Moraes
Board member

Marcelo Medeiros
Independent board member

Oscar Bernardes
Independent board member

Pedro Wongtschowsk
Independent board member

Executive Board: Includes the Chief Executive Officer (CEO) and four statutory officers. It is responsible for managing the business according to the Board of Directors' guidelines.

Board Members 102-22 | 102-23

João Miranda
Chief Executive Officer

Glaisy Peres Domingues
Chief Legal and Tax Planning Officer

João Schmidt
Corporate Development Officer

Luiz Caruso
Chief Compliance Officer and of the Center of Excellence

Sergio Malacrida
Chief Financial and Investor Relations Officer

Compliance 102-25

Ethics Line:
0800 89 11 729

votorantim.com/linhaetica

Votorantim's compliance practices include tools designed to assure compliance with laws and regulations, in addition to reinforcing ethical business conduct and transparency with stakeholders. These practices include the Compliance Program, Anti-Corruption Program, Code of Conduct, and an Ethics Line to receive reports on any suspected unlawful acts or questions relating to the Code of Conduct. The Ethics Line is also available to the portfolio companies in multiple languages. Any confirmed reports are forwarded to the Conduct Committee at each company for duly investigation and appropriate action. 102-17

In 2019, Votorantim expanded its Compliance Program and oversaw the process in its companies, through participation in governance bodies. This initiative is part of a broader internal restructuring led by Compliance and CoE and represents a series of initiatives, the objectives of which are to automate and incorporate innovation across the different areas known as Compliance 4.0. As part of this process, improvements were made to the Government Interaction Records system, allowing the registration of reports in a simplier way, including mobile access. Compliance with Brazil's General Data Protection Act was also evaluated. This resulted in a series of action plans to ensure the deadline for compliance was met.

In 2019 Votorantim held the third edition of Compliance Week, an event dedicated to discuss the rules and standards underpinning the Votorantim Compliance Program. During the opening session of the event, guest speakers such as journalist Eliane Catanhêde, lawyer Guilherme Nostre, judge of the Federal Regional Court of the 4th Region João Pedro Gerban Neto and philosopher Luiz Felipe Pondé spoke about their views on integrity and crisis management, among other topics. Compliance Week was also an opportunity to reinforce the importance of employees completing Compliance Declarations, available on the Compliance Portal. These declarations cover, among other matters, conflicts of interest and kinship, confidentiality, and relationship with government officals. Employees declared their conflict-of-interest status, which contributes to an automated conflict management process as well as continuous monitoring by the compliance area at Votorantim.

Risk Management 102-9 | 102-10 | 102-30

As an investment holding company, Votorantim annually sets its risk appetite considering its aspirations and capabilities, as well as the impacts from residual risks from its businesses. The portfolio companies are responsible for identifying, quantifying, and addressing strategic, reputational, environmental, social, regulatory, and financial risks. The relation between probability and risk impact is determined in accordance with the risk appetite standards established Votorantim.

The influence and monitoring of risks by Votorantim is performed within the framework of our corporate governance, through discussions at the Boards of Directors and Audit Committees of the invested companies, and through working groups specialized in risks and formed by individuals from Votorantim and the invested companies where they share experiences and best practices. This practice confirms if the level of appetite of each company is appropriate, taking into consideration their operating markets, positioning and expectations.

Two aspects are considered when analyzing risk appetite: the qualitative – which involves defining the various risk categories and assessing the willingness to incur a certain risk in relation to the estimated return or impact – and the quantitative – which considers the maximum risk Votorantim is willing to take within the scope of its global capacity, broken down into a classification of tolerance levels, which triggers governance according to defined levels.

Social Investment 103-2 | 103-3

In addition to influencing subsidiaries to embed social responsibility in their business models, Votorantim itself invests in social causes focusing on civic engagement and education. These projects are developed by both the holding company and the portfolio companies in partnership with the Votorantim Institute, an intelligence center and a hub of innovations, projects, and good practices in the social field, which is responsible for the development and implementation of strategies that assist companies to expand their social legacy with specific vision for each business..

The Votorantim Institute acts independently and, in 2019, implemented 377 initiatives in 135 municipalities in Brazil and abroad (*Find out more at institutovotorantim.org.br*). Some of the most significant projects sponsored by Votorantim are described below.

Citizenship Lab (*Lab Cidadania*)

Visit:
institutovotorantim.org.br/labcidadania

Developed in collaboration with portfolio companies, Citizenship Lab is one of the initiatives within the Votorantim Citizenship Program that aims to identify effective and scalable methods of promoting a democratic and engaged culture at the municipal level, through interventions in five Brazilian cities in partnership with organizations chosen in a selection process carried out in 2019. The selected organizations are: Politiquê, in Ararapina, Pernambuco state; Politize, in Três Marias, Minas Gerais state; Associação Instituto Terroá, in Matão, São Paulo state; Colab, in Miraí, Minas Gerais state; Instituto Cidade Democrática and Instituto Governo Aberto, in Votorantim, São Paulo state.

With a mission of generating structural impact, improve municipal indicators for democratic culture, and promote qualification and strengthening of civic engagement, these organizations will each receive R$200,000 for projects in 2020. Results will be evaluated using a methodology that measures the level of democratic culture and political participation based on the Local Democracy Index (See page 37), with primary data collected both before and after the interventions. The results from the interventions will also be used to assess whether developing a local democratic culture improves the level of citizen engagement in municipal elections.

Local Democracy Index (LDI)

Visit:
sivis.org.br/idlsp

In 2019, Votorantim sponsored a project to apply the LDI framework in São Paulo City. LDI is a pioneering methodology, developed by Instituto Sivis in collaboration with international organizations, to measure the quality of democracy at a city level.

Data was collected through a survey of 32 experts selected for their depth of expertise on democracy, and through a questionnaire answered by more than 2,000 people that live and vote in the city. The deliverables from the LDI methodology are a report on local democratic culture and a starting point for developing public policies and political education initiatives to strengthening civic engagement.

Partnership for the Enhancement of Education (*Parceria pela Valorização da Educação*, PVE)

After the PVE was selected for scale-up in 2016, and to celebrate Votorantim's 100th anniversary in 2018, the company has committed to extend the initiative to 100 municipalities over a four-year period. In 2019 the program was present in 101 locations, helping to improve public education and school management as part of the program's mission of engaging public managers, families, employees and other segments of society in driving up education quality.

Funding for PVE implementation in each municipality is provided equally by Votorantim and its portfolio companies. With total funding of R$14 million in the year, the program aims to enhance proficiency in 21 competencies, with most municipalities involved selecting learning as their main goal. In 2019 the reach of mobilization efforts was expanded through social media strategies. Over 37,000 people joined municipal Facebook groups and received news about progress on the program and its initiatives via WhatsApp.

A study comparing municipalities where the PVE program is present with a control group showed that in the early years of Primary Education I, the program accelerates learning outcomes by 31%. This means that in 4 years, those municipalities achieved learning outcomes they would normally take 5.2 years to accomplish. In the later years of Primary Education, learning is accelerated further by 52%: municipalities take just 4 years to achieve what they would normally take 6 years to accomplish.

VIA Solidária

Created three years ago, Via Solidária is an annual campaign that encourages Votorantim and portfolio company employees to donate to programs supporting socially vulnerable children and adolescents. In 2019, 11 programs—all supported with funding from portfolio companies—were approved to receive donations from employees. With donations starting at R$10, and payable in installments deducted from payroll, the campaign generated a total of R$780,000 in donations in the year, outperforming the 2018 campaign by 20%. This year's donations benefited more than 2,000 children and teenagers.

Volunteering Challenge

Desafio Voluntário is held among employees and third parties of Votorantim and its companies, promoting integration with the community surrounding its units, contributing to the development of non-profit institutions and public schools. With the theme Voluntary Protagonism and Citizen Participation, the 2019 edition had 3,800 employees, an increase of 27% compared to 2018, reaching 230 actions and over 13,000 hours of voluntary activity. In this edition, the holding company took second place in the Medium-sized Unit category by promoting a series of pedagogical activities at a school located in the Vila Leopoldina neighborhood, in São Paulo.

Let's talk ethics

In 2019, two editions were organized jointly with CoE and one by the holding company, with the participation of 15 Votorantim volunteers. In these initiatives, employee volunteers hold discussions with secondary education students about ethics as a civic value.

Economic and Financial Performance

103-2 | 103-3

Investor Relations

In 2019, Standard&Poor's upgraded Votorantim's rating from BB+ to BBB-, with a positive outlook. Fitch had already assigned the holding company a BBB- rating, with a stable outlook. Taking both ratings into consideration, Votorantim is now considered to be a company with an investment grade. Moody's rating was upgraded from Ba2 to Ba1, with a positive outlook.

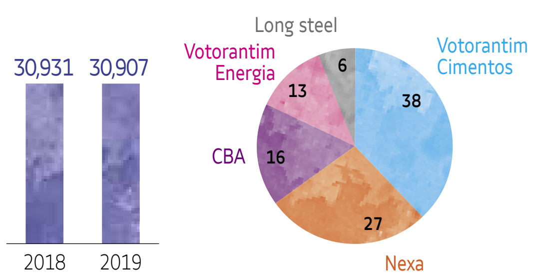
In investor relations, Votorantim has maintained the principle of engaging closely with investors as well as creditors, and practicing the same level of transparency that would be expected of a listed company. Thus, the company has communications channels such as the Investor Relations website, available in Portuguese and English. Operating and financial results are reported through this channel, followed by conference calls with investors and financial market analysts.

In 2019 Votorantim held the 15th edition of Votorantim Day, in São Paulo, and the 9th edition in New York, which, for the first time, was streamed online for those who were unable to attend. The events are opportunities to build closer relationships with investors and financial institutions through discussions on macro-economic conditions, strategies, and consolidated and individual results of operations.

Visit:
votorantim.com/ir

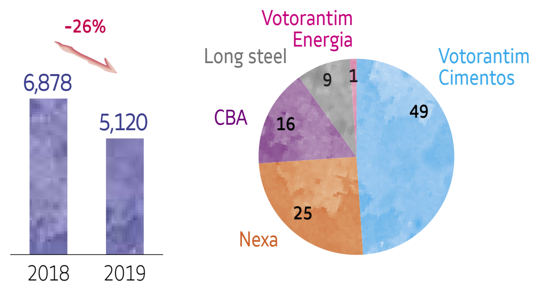
Net revenue
(R$ million)

By segment (%)

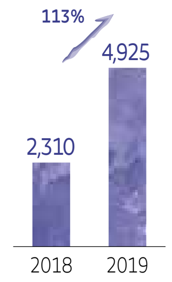


Adjusted EBITDA
(R$ million)

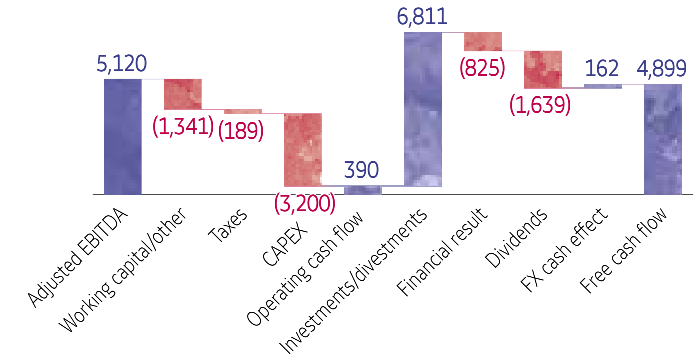
By segment (%)



Net income
(R$ million)



Cash flow
(R$ million)



2019 Results 102-7

Considering political and economic instability in Brazil and globally, Votorantim exercised customary prudence in conducting business.

Votorantim's consolidated net revenue was R$30.9 billion, stable when compared to 2018, primarily reflecting higher average prices and sales volume at Votorantim Cimentos and the depreciation of the Brazilian real against the U.S. dollar, which positively affected consolidated results for foreign-based operations. These factors were offset by a decline in London Metal Exchange (LME) prices for metals in the year.

Adjusted EBITDA totaled R$5.1 billion, a decrease of 26% compared with 2018, reflecting lower metals prices combined with higher expenditure at Nexa with operational efficiency programs. In addition, adjusted EBITDA in 2018 was positively affected by the dividends received of approximately R$800 million from Fibria.

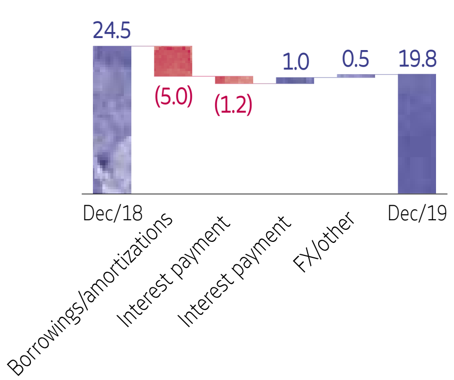
Votorantim's net income was R$4.9 billion in the year, compared with net income of R$2.3 billion in 2018.

This variation is mainly explained by the result of Fibria transaction combined with a reduction in interest and currency exposure, due to the reduction in gross debt given the liability management initiatives at Votorantim and Votorantim Cimentos. These factors have been partially offset by lower operating results, already explained by the drop in adjusted EBITDA, and equity investments, due to the higher comparative base of 2018, which considered Fibria as recognized by the equity method, together with the decrease in Citrosuco's results in 2019.

Operating cash flow was positive at R$390 million, a decrease when compared to 2018 driven by higher CAPEX, especially in Votorantim Cimentos and Nexa.

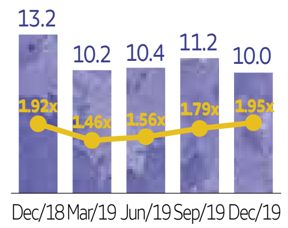
Early in the year, Votorantim received R$8.2 billion as proceeds from the Fibria transaction. In 2019, Votorantim paid a total of R$1.4 billion in dividends to shareholders, including R$600 million to recompose unpaid dividends from 2017 and R$800 million in regular dividends for 2019. As a result, free cash flow totaled R$4.9 billion.

Changes in gross debt
(R$ billion)

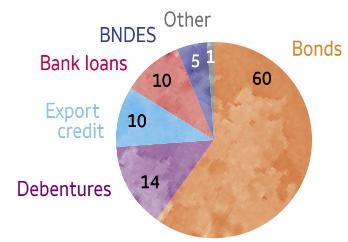


Net debt
(R$ billion)

Net debt/
Adjusted EBITDA
(x times)



Debt by type
(%)



Liquidity and indebtedness

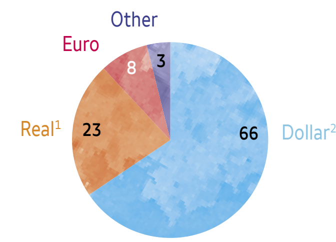
Consolidated gross debt was R$19.8 billion at year-end 2019, down R$4.7 billion from the previous year. The decrease is explained primarily by the prepayment of debt amounting to R$5.2 billion by the holding company and Votorantim Cimentos. In the first half of the year, Votorantim Cimentos partially bought back bonds maturing in 2021, 2022, and 2041. Votorantim prepaid a bond maturing in 2019, of bilateral loans, type 4131 and debentures.

Cash, cash equivalents and financial investments totaled R$10.7 billion, 51% of which are denominated in Brazilian currency.

In order to improve liquidity, Votorantim and Votorantim Cimentos have two revolving credit facilities, totaling US$700 million. These facilities, which expire in 2023, along with cash, totals R$13.7billion.

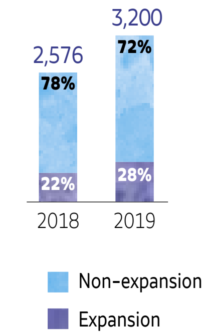
Net debt totaled R$10 billion, a decrease of 25% compared with 2018, chiefly driven by the reduction in gross debt. Financial leverage, as measured by the ratio of net debt to adjusted EBITDA, was 1.95x, an increase of 0.03x from December 2018 and 0.16x from September 2019.

Debt by currency
(%)

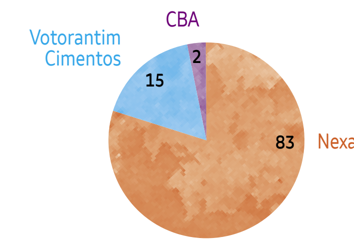


[1] 4131 bilateral loan considered as BRL due to the cross-currency swap
[2] Export Financing Facilities considered as USD due to the cross-currency swap

CAPEX
(R$ million)



Expansion projects
(%)



Capex

CAPEX totaled R$3.2 billion in the year, up 24% on 2018. Expansion projects accounted for 28% of investments.

Nexa, which accounted for 83% of expansion investments, primarily to the development of the Aripuanã Project, an underground zinc polymetallic mine in Mato Grosso state, and to deepening the Vazante mine in the state of Minas Gerais, both in Brazil.

Expansion investments at Votorantim Cimentos accounted for 15% of the total, with investments largely directed to an expansion of grinding capacity at Pecém, in the Northeast of Brazil. The project is expected to be concluded in 2020 and will add 800,000 tons in capacity.

Center of Excellence (CoE)

103-2 | 103-3

The CoE is composed of the Shared Solutions (CSC), Real Estate Solutions (CSI) and Information Technology (CCTI) and was born in a challenging environment, with a calling to innovate, provoke and think differently. In addition to building original and effective solutions, it develops solutions integrated to the common demands of the portfolio companies, always considering the needs of each one. It also provide services to some companies outside of Votorantim's portfolio. 102-6

The CoE has units in São Paulo and Curitiba, in Brazil, and Lima, in Peru, with a staff of 787 employees, in order to generate value through the unceasing pursuit of: operating excellence, client intimacy and innovation.

To stay up to date and fit for a model in which innovation became a fundamental component, the CoE performed a cultural diagnosis that involved all employees. After that, a target culture that aims and supports expected growth was defined, focusing on transforming learning into innovation, without losing the essence of achieving results through people. Thus, the CoE has a healthy and friendly environment in which relationships are valued, learning and openness are strongly encouraged, with even more capabilities to innovate.

People

To foster the ideal of innovation, several people-management practices were improved in 2019, such as FlexOffice, a remote working program; a new light and casual dress code, as well as the introduction of alternative working hours to accommodate employees' different needs.

Another initiative is called In.Pulse. Created by a multidisciplinary team, it encourages protagonism, so that each member assumes responsibility for their own journey in their personal development, combined with the CoE's objectives.

Another initiative was Hi!. Created through a hackathon—a programming marathon that involved 48 hours of nonstop coding. It is a timely feedback on-line tool that allows exchange of feedback between all employees in a confidential manner and without hierarchical barriers, strengthening the culture of openness and learning. Within less than two months from implementation, the solution has hosted approximately 5,000 feedback exchanges, proving itself to be a valuable engagement tool.

The Mentoring Program also advanced in training of new mentors, aiming to improve development and enhance employees' knowledge through collaboration and mutual capacity-building experiences. A relevant step in the preparation of new leaders and in the development of the current leadership, of whom presently, the vast majority have been developed internally. *Líder Mais*—a leadership program, is in its third cycle and aims to develop leading players, in addition to keeping them aligned with the CoE's business and strategy in order to engage its teams.

Diversity and inclusion were in the spotlight, based on the understanding that obtaining good results is expanded when one is open to different points of view and experiences. Therefore, in addition to expanding its range of knowledge on the topic through discussions with experts and formal leadership training, the CoE created a Diversity Committee with a mission to implement actions regarding the theme, including benchmarking with companies recognized for their diversity practices and research to identify today's scenario at the CoE, generating important insights and indicators to inform an effective action plan that can drive progress on these issues.

In talent attraction, 50 new interns were hired in Brazil and the first class of the Internship Program in Lima, Peru, was trained with 13 participants, on a journey of robust technical and behavioral development, as well as periodic assessments. The Young Talents program, which is dedicated to attracting newly graduated professionals, trained two classes in 2019—rather than a single class as in previous years—due to increased project and product demand. Meanwhile, the Melhor Idade, Melhor Emprego program continued to seek out talents who are older than 55 or who have retired, attracting 23 participants.

In order to support attraction and proactive recruitment, succession plan, direct investment in development and stimulate changes in the management process, Flight Risk was developed, a tool for people analitycs that aims to identify the possibility of employee dismissals with 94% categorical correctness.

In addition to the benefits listed on page 29, the CoE offers reimbursements for school supplies, pharmacy expenses and daycare allowance for men and women.

Created at the CoE in 2016, the Let's Talk Ethics volunteering initiative organizes morning sessions in which employees hold discussions about ethics with secondary education students—a way of strengthening and encouraging civic engagement as a value promoted by Votorantim. A total of 14 sessions were held in 2019, with the participation of 40 volunteers and approximately 440 students.

Innovation 102-15

Transformation to create value: this is the purpose driving innovation at the CoE. By implementing new standards, technologies and solutions across Finances, Accounting, Human Resources, Information Technology and Property Management, the CoE has continued to explore new ways of operating that have catalyzed product development and strengthened its efforts in the innovation ecosystem.

BOX UP is the CoE's official channel for accelerating innovative initiatives registered by the employees themselves. The process is an efficient way to identify business opportunities and investment feasibility.

Co-creation is the CoE's way of creating innovation. Effectively deploying open innovation concept and developing a strong entrepreneurial ecosystem that is connected to strategy will therefore remain a priority in the coming cycle. Today, startups, universities and accelerators are part of the creative force that is materializing ideas to be implemented in 2020.

The digital journey at the CoE in recent years has been based on important achievements. The continuous search for a increasingly automated and intelligent operation focused on digitizing services—such as human resources benefits management; supplier background checks and master records at the Master Data Center; and collection routines—in which robots and machine learning algorithms have improved service levels and expanded the scope of client process chains.

With data analytics solutions, the CoE has enhanced the decision-making capabilities of portfolio companies in different processes. An example of this is in aluminum production, in which algorithms predict equipment faults and maximize productivity in blast furnace. At the cement sales department, the CoE developed models that automate market analysis by region and inform optimal product pricing. Algorithms and data analytics were also used to boost sales at the Customer Relationship Center (CRC) through a solution that orients teams on key factors such as the best approach, timing and frequency of calls for different audiences.

Another important contribution to value creation at the portfolio companies has been digital advisory, in which analyses of strategic and tactical business challenges are translated into a short and long-term digital roadmap that streamlines investments and the implementation of new standards to ensure that transformations in operating models are aligned with the company's actual objectives. In 2019, this body of knowledge was used intensively at CBA across the value chain and at Nexa, with a particular focus on optimizing the controllership department.

New Products Developed

The CoE has been specializing in using its extensive business knowledge and installed technological capacity to idealize and build new solutions with adherence to different segments of the market.

At the moment, some products at different creation stages generate high expectations and demonstrate potential for differentiation, such as specialized products in people management, including the Hi! app and Flight Risk, mentioned before. The two products have been tested internally and are in evaluation phase for sale to new customers.

Loss Prevention

The solution works to assist top management in loss prevention and to improve the control environment through strengthening its compliance programs. Through intensive use of technology, business operations are monitored in real time and unwanted transactions are prevented from occurring. Monitoring is carried out through algorithms that apply business rules and parameters for automatic identification of loss scenarios. This product is a highlight regarding value generation: in the first six months of the year alone, 5.4 billion transactions were monitored, with 1.7 billion generating red flags that helped to avoid losses of approximately R$109 million.

Avaliei

A technology startup that is using data intelligence and the creative economy to transform the property appraisal market. The product provides agility and reliability in the appraisal report process, creating value for partners and clients.

Imageo

The objective of Imageo is to develop solutions for the generation of information which goes beyond the processes of property regulation. By using current cartographic intelligence, present in those same processes, the CoE has increased its service portfolio developing algorithms for the intelligent use of the images captured by drones and other high resolution sources, such as satellites and laser scanners.

This methodology provides more agility and security, supply of aggregate products and lower cost compared to the conventional topography process, making it possible to carry out analyses for various purposes.

Healthcare BI

By divergence data, this tool facilitates access to information for different audiences: The Human Resources' team, for example,can, in one place, check management information regarding its beneficiaries, carrying out health analysis and monitoring, and evaluate the impacts of data. The medical team can only access information to better monitor users' health.

Master data intelligence and digital buyer

This solution, based on artificial intelligence, automatically performs the evaluations of commercial proposals, conducts rounds of negotiations with suppliers and takes the best purchasing decision for materials (spot purchases) taking into consideration the supply policies and the company's strategy. This group of solutions has the benefit of avoiding unnecessary growth of data bases and rationalizing the use of material stocks.

Reservas Votorantim

103-2 | 103-3

Visit:
legadodasaguas.com.br

Focusing on the management of environmental assets, Reservas Votorantim has taken on the wider role of generating revenue within the productive chain by means of land and waterway conservation and community development.

The company manages *Legado das Águas*, the largest private Atlantic Forest reserve in Brazil, with 31,000 hectares across the municipalities of Juquiá, Miracatu, and Tapiraí, in São Paulo. A range of activities are connected to the area, such as a legal reserves initiative; public use for ecotourism and environmental research; nursery for Atlantic Florest species; land revitalization; and a joint program with the state government. Reservas Votorantim also collaborates with the Fundação Florestal on research and ecotourism initiatives in Jurupará Park, in the municipalities of Ibiúna and Piedade, in São Paulo.

Reservas supports portfolio companies—which are its sponsors—in internal social and environmental initiatives, and provides facilities and infrastructure within the *Legado* for fieldwork and stakeholder visits.

Partnerships have also been established with universities for research, such as a collaboration with researchers at UNESP's Rio Claro campus, in São Paulo state. The professionals at these universities have identified new fungus species in *Legado das Águas* and are now evaluating their importance to the expansion of vegetation cover. Another study is exploring the soil fertility. In total, 70 researchers from 40 institutions have either visited or remain in the area; some of them based overseas such as International Conservation and the WWF.

A collaboration with Instituto Butantã, established three years ago, is developing an inventory of amphibians and reptiles in the area. It is deployed in environmental educational activities which include raising awareness of the neighboring populations about how to deal with species and first aid in case of snakebites. As part of these initiatives, 38 seminars were hosted by *Reservas*, which arranged the use of its operational base as a venue and made the necessary arrangements with municipal governments, schools and other institutions.

Another achievement during the year was the Public Management Support program (*Apoio à Gestão Pública, AGP*) – Tourism supported by the Votorantim Institute and implemented by Reservas in Vale do Ribeira, in São Paulo. The purpose of the program is to enhance the quality of the partner network engaged in developing tourism in the area. As part of the initiative, the municipal governments of Juquiá and Miracatu created a tourism seal of approval, trained guides, structured sightseeing routes and, and in doing so, did justice to the title of Municipalities of Touristic Interest, expanding their potential for development.

In 2019, the *Legado das Águas* became fully operational—with all production chains in operation. In terms of public use, ecotourism attracted approximately 3,000 visitors during the period, who enjoyed hiking along the reserve's trails, cycling, kayaking, bird-

watching and visits to the orchidarium and plant nursery. Environmental research has enabled the reserve to host monitored student excursions, and areas are also available for rent for photo and video shoots.

Several landscaping and reforestation projects have also been conducted, one of which is *Projeto Pomar*, a project to revitalize the edges of the Pinheiros river in São Paulo, where the soil has already been prepared and an initial 500 trees have been planted. In addition, more than 150,000 saplings have been sold to institutions engaged in reforestation, and an environmental education initiative has been implemented in which plant embryos contained in seeds are delivered in tubes for people to plant as their own, in an awareness raising activity ritual. The "guardians" can then follow their plant's development throughout its lifecycle through a traceability system that has been implemented throughout the area, called "Green Code".

In biotechnology projects, extracts have been produced from native Atlantic Forest species and evaluated by potential buyers, with whom negotiations are currently underway. This experience may benefit business not only through commercialization of the product, but also through licensing intellectual property.

Also on this front, tests were conducted that successfully reproduced 100 native species of Atlantic Forest orchids, for the first time ever, one of which had been declared extinct in the state of São Paulo 50 years earlier. The initiative is all the more relevant given the fact that these orchids are targeted for illegal extraction. The goal is to show that they can be reproduced using a simple method. This work has already started in the Mono Community, in the municipality of Miracatu, where residents have been encouraged to produce their own orchids using these methods as a source of income.

Jurupará Park—where areas open for public use are operated by the *Legado das Águas* reserve—has also organized recreational activities such as cycling, trails and races, and is soon to complete a new rafting circuit. The goal is for the Park to become better known as a site for tourism and environmental education.

The Portfolio Companies 103-2 | 103-3

In 2019, the Fibria transaction was concluded and management changes were implemented at CESP by the joint venture between Votorantim Energia and CPPIB, following their successful bid in a privatization auction in October 2018. Both transactions are aligned with an ongoing transformation of the Votorantim's portfolio and capital allocation strategy (See page 15) to support the investment objectives outlined by the shareholders. They also reveal the continuity of the investment plan that the company has been pursuing for the last several years, illustrated by the development of a platform for investments in renewable energy and a partnership with the Canadian fund CPPIB.

Despite the uncertainties in the Brazilian and international macroeconomic environment in 2019, Votorantim has remained firm in its commitment to invest in the future, especially by supporting the portfolio companies in strategic projects. Examples of this include the Aripuanã Project, an underground multi-metal mine being developed by Nexa in the Brazilian state of Mato Grosso; the acquisition by Votorantim Cimentos of United Materials LLC, a ready-mix concrete and aggregates supplier in the U.S. and the purchase by CBA of the Arconic Inc. operation in the Brazilian state of Pernambuco, which will add to its range of flat-rolled products.

Votorantim Cimentos

votorantimcimentos.com

Votorantim Cimentos is a market leader for building materials in Brazil, with a presence in 11 countries. The company, which is the highest-weighted asset in the portfolio, entered 2019 under new leadership. After building a legacy at other companies from Votorantim's portfolio—first at Votorantim Celulose e Papel (VCP) and later at Fibria—Marcelo Castelli has stepped up as global CEO of Votorantim Cimentos with a commitment to continuing to advance business plans with a focus on people, customers, sustainability and operating excellence, while also supporting the journey to drive innovation, transformation and value creation within the company.

In Brazil, the year was marked by a rebound in the cement market. The 3.5% increase in sales volume compared with the previous year put an end to a four-year period of retraction. While idle capacity remains high in the industry, Votorantim Cimentos has seen a recovery in cement prices in line with inflation, and has initiated a journey to rebuild margins focused on competitiveness.

On a consolidated basis, net revenue was R$13 billion and adjusted EBITDA was R$2.7 billion, advance of 3% and 1%, respectively, compared to the previous year. Geographic diversification helped to mitigate the effects from Brazil's economic slowdown in recent years. Abroad operations accounted for 60% of consolidated adjusted EBITDA, with North America showing the strongest performance.

The capital injection from the shareholder to the amount of R$2 billion, in early 2019, was used towards repaying approximately R$3 billion in debt and demonstrates the holding company's continued confidence in Votorantim Cimentos' value creation capacity, as well as providing greater financial flexibility. The balanced capital structure, with a leverage—as measured by the ratio of net debt to adjusted EBITDA—of 2.95x at year-end 2019, helped the company to regain its investment grade rating from Standard&Poor's and secure an upgrade of its rating by Moody's, with positive effects on borrowing costs. At the same time, the company retained its investment grade rating from Fitch Ratings, assigned in 2011.

As part of its investment strategy, Votorantim Cimentos has allocated capital to projects supporting diversification and expansion in markets in which it has competitive advantage. In 2019, the company completed the acquisition of United Materials LLC, a United States-based supplier of ready-mix concrete, aggregates and building materials, and continued to advance capacity expansion projects at the Pecém (CE) plant in Northeastern Brazil and the San Luís plant in Argentina, while also increasing investment in adjacent sectors, such as expansions in agricultural inputs and mortars. In order to reinforce its competitive and leadership position in the market, the company will invest, in the coming years, R$2 billion in the modernization of its factories, so as to be prepared for the recovery of the Brazilian economy and capture value in the regions in which it is present.

In terms of innovation, the company invested in initiatives to implement new technologies and new business models. One of the highlights is the loyalty program *Juntos Somos Mais*, which became an investee of Votorantim Cimentos in 2018 and has since continued to expand, with a current presence in more than 20 companies and 65,000 stores, serving 250,000 participants.

The company has also continued to advance important initiatives within the sustainability pillar, including increased use of alternative fuels and raw materials (AFR), which not only increase competitiveness, but also help to reduce greenhouse gas emissions. Due to these initiatives and internal capacity development, Votorantim Cimentos launched Verdera, a business unit offering companies waste management and disposal services using co-processing technology.

Votorantim Cimentos' sound sustainability practices and long-term business strategy enabled the company to replace a revolving credit facility with its first sustainability-linked committed credit facility (CCF), a US$290 million facility provided by a syndicate of seven banks, maturing in 2024.

The company's management of climate-change impacts on the business was recognized in a report published in 2019 by the Carbon Disclosure Project (CDP), an international organization that manages a global environmental information system. The report ranked the company as the best in the cement industry in Brazil, and among the top companies globally in the climate category.

Within its Social Transformation strategy, around 1,500 Votorantim Cimentos employees participated in 90 volunteering initiatives throughout Brazil with a focus on education and improving living conditions for vulnerable families, positively impacting around 19,000 people.

Net revenue:
R$13 bn

Adjusted EBITDA:
R$2.7 bn

Social investment[1]:
R$18.4 mi

Company funds:
R$15.1 mi

Votorantim Institute:
R$3.3 mi

Value under the management of Votorantim Institute

bancobv.com.br

Banco BV—the new brand of Banco Votorantim launched in late 2019—reported net income of R$1.4 billion in 2019, an increase of 29% compared with the previous year reflecting the positive effects on revenue from a strong-performing retail business, wholesale business assets with higher average profitability, and cost reductions that have improved efficiency as a result of digital transformation and delinquency management projects.

The digital transformation underway at BV has played a crucial role in this context by addressing three fronts. The first is related to driving efficiencies in internal processes. In this context, BV is currently the fifth largest private bank in Brazil by total assets, as ranked by the Brazilian Central Bank, but has the highest Efficiency Index—the ratio of expenses to revenues—among its peers.

The second front sets digital transformation as a tool for revenue diversification, which requires the bank to choose which segments it will enter through largely digital distribution. In 2019, BV worked with fintechs such as Weel, the developer of a platform that integrates with cash management and can antecipate receivables to suppliers of large wholesale clients. Another example is the introduction of fully digital lending for retail clients through a partnership with the Just platform. Finally, in partnership with private equity fund General Atlantic (GA), BV invested R$400 million in Neon Pagamentos, which has recently hit a milestone of two million accounts opened. The funds from the investment will be used to expand the company's product offering, including new lending and investment products, as well as for advertising campaigns, new technology, and new talent hiring.

The third front relates to customer experience. Improvement on this front can be seen in a number of indicators. One is the recovery of 35% of short-term delinquent debt – 30 days overdue – through the bank's digital service channel, which indicates customer preference for contact methods in which negotiations are more flexible and less embarrassing.

These achievements have all been delivered amid a management succession process at the bank. Gabriel Ferreira, who joined BV eight years ago and has served in positions at the Corporate Strategy, Retail, Marketing and Innovation Departments, stepped up as CEO in September 2019. The transition was conducted in line with BV's strategic plan, in a seamless process that demonstrated the maturity of the bank's succession management processes.

Net income:
R$1.4 bn

Return on Equity (ROE):
14%

VOTORANTIM energia

venergia.com.br

In five years Votorantim Energia has become one of the leading investors in Brazil's electric power sector, with a presence in the generation and trading segments. In generation, a joint venture established with CPPIB in 2018 has provided the company with a platform for investment in renewable generation assets. In trading, the company expanded its customer base and now offers state-of-the-art consumer solutions.

In 2019, the company ranked again as the largest electricity trading companies in Brazil, with a transacted volume of 2.2 average gigawatts. In the last five years, the company's customer base has grown from 93 to 380 customers (not including Votorantim's companies), as a result of new operating models that have been implemented, such as the use of agile methodology in developing projects, solutions and new services. These changes aim to accelerate the company's innovation culture, optimize internal processes, and create a continuous value stream for all customers.

Over the next few years, Votorantim Energia plans to expand its client base in the trading and services segments. To achieve that, the company's efforts include include improvements in organizational intelligence and in its ability to rapidly respond to technological developments.

In operation and maintenance services, investments were allocated to safety, maintenance, monitoring, and maximizing asset utilization. Examples of internal initiatives in this area include the Connected Plants 2.0 and Our Steps projects, which have deployed technology in management processes to reduce machinery downtime for maintenance and to improve asset reliability.

In generation, the joint venture with CPPIB owns a total of 21 windfarms. During the year, another seven of these wind farms were certified to issue 482,000 carbon credits, the equivalent of avoiding 482,000 metric tons of carbon dioxide (CO_2) from being released into the atmosphere.

Another highlight of the platform was CESP's first year of management. 2019 was marked by a strategic transformation agenda focused on operational efficiency and financial and process optimization. Since the acquisition in late 2018 until December 2019, the company's share price appreciated 118%. CESP holds a concession to operate three hydroelectric power plants in Brazil's Southeast, with a combined installed capacity of 1.7 gigawatts. *(Find out more at cesp.com.br)*

Votorantim Energia's consolidated results for 2019 include the trading and services segment and, by the equity method, the joint venture with CPPIB. Votorantim Energia ended the year with net revenue of R$4.2 billion and adjusted EBITDA of R$50 million, a decrease of 5% and 68% respectively. The joint venture posted net revenue of R$2 billion and adjusted EBITDA of R$1.2 billion, including the results of CESP, Ventos do Piauí I and Ventos do Araripe III, an increase of 355% and 221%, respectively, when compared to 2018.

The company has continued to explore opportunities to support the growth of its generation platform and to sustain its position as one of the leading companies in the sector, including new projects to optimize and capture synergies among different generation sources.

To reinforce its position as a leading renewable power company and one of Brazil's largest trading platforms, VE has redesigned its institutional brand identity, which was unveiled at the end of 2019. This new positioning represents the readiness of the company to respond to the challenges of the energy sector and to create, together with its clients, strategies and solutions that will power their businesses.

Votorantim Energia:

Net revenue:
R$4.2 bn

Adjusted EBITDA:
R$50 mi

Social investment[1]:
R$7.4 mi

Company funds:
R$4.3 mi

Votorantim Institute:
R$3.1 mi

[1] Value under the management of Votorantim Institute

Joint Venture[2]:

Net revenue:
R$2 bn

Adjusted EBITDA:
R$1 bn

[2] 50% Votorantim Energia and 50% CPPIB

nexa

nexaresources.com

2019 was a challenging year for the entire commodities industry due to the various political and economic developments that negatively impacted base metal prices. For Nexa Resources, one of the five largest zinc producers in the world, it was no different. Due to the drop in metal prices on the London Metal Exchange (LME), the company recorded net revenue of US$2.3 billion. The adjusted EBITDA was US$349 million, reflecting the reduction in prices and the increase in operating costs in mines, partially offset by the lowest average cost of smelters. This result was also impacted by extraordinary expenses of the Nexa Way program.

Despite these factors, financial leverage, measured by debt ratio net/adjusted EBITDA of the last twelve months, ended the year at 2.26x, due to the lower adjusted EBITDA and the increase in net debt.

Development of the underground polymetallic mine in Aripuanã, Mato Grosso state, has continued to progress and the mine is expected to be operational by 2021. The project has an estimated average production capacity of 120,000 metric tons of zinc equivalent per year, increasing the company's capacity by 21%. The project has implemented best-practice safety standards, vanguard environmental practices, and operational stability, including the use of dry-stack waste piles and close to 100% water reutilization.

In 2019 Nexa acquired Karmin, which indirectly holds the remaining 30% interest in the Aripuanã project, securing 100% ownership of the project. Progress was also made on deepening the Vazante Mine in Minas Gerais, which has completed the pumping station and the beginning of the dry-stack tailings storage facility, a type of facility that reduces environmental impacts as well as operational risks.

Nexa currently has 47 tailing storage facilities, with 23 in Brazil and 24 in Peru, which are controlled and monitored in accordance with guidelines established by the International Commission on Large Dams. In 2019, siren systems were installed in operations in Brazil, and training and mass evacuation drills were held with significant participation from local communities.

The company has been developing a project to transform its organizational culture, called Nexa Way, which aims to increase productivity and competitiveness, focusing on innovation and improving process efficiency company-wide.

In governance, the Board of Directors welcomed new members that will add with their experience from working with global players both within and outside the basic metals industry. Another important development was the creation of a Sustainability Committee to support the company to adopt and monitor sustainable and safe business practices.

Progress was also made in engagement with communities surrounding the company's operations, through a volunteering program that mobilized more than 1,200 volunteers and benefited over 32,000 people. The company also announced a strategic cooperation alliance with the United Nations Development Program (UNDP), reaffirming its commitment to communities in its areas of influence and according to the Sustainable Development Goals (SDGs).

Innovation was another aspect that set the tone for the year. Registration began for the third stage of the Mining Lab Challenge, a program that supports entrepreneurs looking to develop technology projects for the mining and metals industry. Unlike the previous two editions, this year the Mining Lab Challenge became an ongoing program and was open for registrations throughout the year. Since the program was first launched, Nexa has captured 599 projects across different areas, including the circular economy, renewable energy, industrial automation, nanotechnology, effluent and water management, artificial intelligence, logistics, legal knowledge management, mineral exploration, employer branding and local and social development. Until 2019, 31 companies have been selected to develop transformation projects in countries such as Canada, Israel, Chile, the United States, Brazil, and Peru.

Net revenue:
US$2.3 bn

Adjusted EBITDA:
US$349 mi

Social investment[1]:
R$57.2 mi

Company funds:
R$56.5 mi

Votorantim Institute:
R$0.7 mi

[1] Value under the management of Votorantim Institute

citrosuco

citrosuco.com.br

Citrosuco is one of the global leaders in orange juice production. The company processes 100% of orange components into natural ingredients that support a global trend of replacing nonrenewable with renewable raw materials, serving industries such as cosmetics, pharmaceuticals, and cleaning products.

Due to declining demand for orange juice in Europe and the United States—the world's largest consumer markets—Brazilian exports in the 2018/2019 season declined by 20% compared with the previous season. International orange juice prices also declined primarily as a result of a growing sense of increasing global supply as production recovered in Florida, Brazil's primary competing geography. This affected the company's results, with Citrosuco ending the 2018/2019 season with net revenue of US$1.2 billion, down 13% on the 2017/2018 season. EBITDA fell by 50% to US$148 million in the period.

Despite the adverse scenarios and aware of the constant changes and challenges of the global market, the company maintained its growth strategy, investing more than US$140 million in project development and innovation, resulting in the launch of new products, expanding markets and adding value to customers.

As a result of the development of products and applications, new solutions are already available at industrial scale, like the orange smoothie and the orange emulsion - essence based on 100% natural orange juice, used to highlight the freshness and naturalness of other juices and drinks.

Concurrently with its development of new products, Citrosuco has also invested in developing technologies for the production process including scanning, telemetry, connectivity, irrigation, and pest control. A prime example of this is the deployment of biological control against citrus pests and diseases, such as the use of *Tamarixia adiate* wasps against citrus greening, one of the biggest threats to citrus groves.

The company also follows a solid path towards agribusiness development sustainable and holds a prominent position in sharing good practices throughout its production chain, which allows the company to have more than half of all its production audited in sustainable agriculture.

Within its efforts toward a transition to a low carbon economy, Citrosuco has made important investments in generating renewable energy, with impacts extending beyond its operations. In a pioneering initiative, the company has processed orange trees that are felled at the end of their useful life into wood chips that are used in the company's industrial boilers and the surplus sold on the market. In partnership with Votorantim Energia, Citrosuco has also invested in wind power capacity which should supply 50% of the company's industrial electricity demand. In road transportation of orange juice, partnerships with logistics companies have demonstrated the feasibility of gas-fueled engines, which could provide both cost savings and environmental benefits—including a 15% reduction in both kilometer run and CO_2 emissions compared with a diesel vehicle.

These actions, together with genuine care for people and communities where the company operates and the security of the food produced, support the commitment that Citrosuco has to achieve 100% sustainable production until 2030.

Net revenue:
US$1.2 bn

EBITDA:
US$148 mi

Social investment[1]:
R$1.1 mi

Company funds:
R$500,000

Votorantim Institute:
R$600,000

[1] Value under the management of Votorantim Institute

cba.com.br

The aluminum market was highly challenging in 2019. An economic slowdown and a global decline in consumption in the industrial and automotive sectors, combined with trade tensions between China and the U.S., affected aluminum prices on the London Metal Exchange (LME), that came to present levels below 2018. These market dynamics coupled with a slow recovery in the Brazilian market, affected CBA's results. The company reported a reduction of 13% in sales volume (351,000 tons), net revenue of R$5.3 billion and adjusted EBITDA of R$862 million, stable figures when compared to 2018.

Despite the challenging conditions, CBA continued to advance its cultural transformation and to improve efficiency gains through a now-mature Competitiveness Management area, which has helped to set the tone for the transformation journey at the company and contributed to mitigating the impacts from declining LME prices on the results in the period. Progress also continued on the CBA 4.0 journey, which aims to make the company increasingly competitive by developing an understanding of technological needs and trends applying that knowledge in the company's short, medium and long-term strategy. This exercise resulted in a map of opportunities to be prioritized. Some of the outcomes from the program can already be seen within the company, such as the use of artificial intelligence, automation, analytics systems, virtual training and logistics solutions.

CBA also continued to support diversity by building a roadmap of initiatives that were implemented throughout the year, designed to demonstrate the value of diversity in achieving improvement across the elements of its organizational culture—especially Teamwork and Constructive Disagreement, which support a range of worldviews. The company's people-oriented initiatives earned it a position among the Top 150 Workplaces in Brazil, a ranking published by Great Place to Work (GPTW) based on a global survey of organizational practices.

Meanwhile, CBA continued to focus on the social and environmental aspects of its operations. The company created a Sustainability Committee to embed sustainability considerations in decision-making; as well as a Sustainability department responsible for strengthening relations with society and addressing, at a corporate level, issues such as tailings dams, safety, the environment and health. In what was an important milestone in this area in the year, the company received international certification from the Aluminum Stewardship Initiative (ASI), which sets global standards for sustainability performance in the aluminum industry. With this certification, CBA has become the first aluminum producer in the Americas to warrant three mining operations and a fully integrated industrial plant (from bauxite to final product), including all its products, as well as its offices in São Paulo within the categories Performance Standard and Chain of Custody.

CBA has two water impoundment dams, two tailings dams and two for industrial waste at its operations in Alumínio, São Paulo state; Itamarati de Minas and Miraí, Minas Gerais state; and Niquelândia, Goiás state. In 2019 the company organized scheduled emergency evacuation drills at its Alumínio and Minas Gerais operations, involving different municipal authorities and local communities. All operations are compliant with the dam safety guidelines established within the Integrated Dam Safety Management System, adopted by CBA to ensure the physical integrity of their dams, as well as have Dam Safety Plans (*Plano de Segurança de Barragens, PSB*) and Emergency Response Plans (*Plano de Atendimento a Emergência, PAE*) in place.

In-line with its long-term strategy for the Downstream Business, the company announced the acquisition of the Arconic Inc. operation in Itapissuma, Pernambuco, northeastern state in Brazil, with a production capacity of 50,000 tons per year of aluminum foil and sheet. The new operation will add to CBA's range of flat-rolled products and improve the competitiveness of locally produced products against imports. The deal was concluded in January 2020.

Net revenue:
R$5.3 bn

Adjusted EBITDA:
R$862 mi

Social investment[1]:
R$6.3 mi

Company funds:
R$4.9 mi

Votorantim Institute:
R$1.4 mi

[1] Value under the management of Votorantim Institute

acerbrag.com
pazdelrio.com.co

Long Steel

Votorantim's Long Steel operations include Acerbrag, in Argentina, and Acerías Paz del Río, in Colombia, both of which have an operating history of more than 50 years in their respective geographies. In 2019, the combined operations generated net revenue of R$2.1 billion , stable when compared with the previous year, and adjusted EBITDA of R$456 million, an increase of 19% over 2018.

In Argentina, the political and economic environment remained challenging as the extended crisis continued to affect the country's primary economic indicators, with annual inflation of 54% and significant weakening of the local currency. These factors, however, positively impacted on prices in Argentine pesos and, coupled with cost reductions, resulted in higher adjusted EBITDA in the year. In the operational environment, the crisis led to a reduction in production capacity in response to declining demand, especially in the second half of the year.

Acerbrag made further headway on people management practices, with the validation of a succession plan for the Executive Board on the Board of Directors, and the introduction of Individual Development Plans (*Plano de Desenvolvimento Individuais, PDIs*). Also in 2019, the company conducted an organizational environment survey to measure the level of team satisfaction with the workplace environment and inform future people management initiatives. With 95% of employees responding, indicators for Confident and General Perception received overall scores of 61 and 64 (on a scale of zero to 100).

In Colombia, the operational instability of the blast furnace at Acerías Paz del Río resulted in a one-month shutdown that affected results even after restart. To prevent recurrence, the company approved an investment program for 2020 that will fund a broader operational program comprising a range of individual projects across three fronts: cost reduction through contract renegotiation and other measures; accelerated investments to stabilize operations, including equipment replacement with new equipment; and a focus on steel production, which will entail discontinuing nonstrategic operations such as the production and marketing of fertilizers.

The year also showed significant achievements in social management. Acerías Paz del Río received the Nacional Camacol award for Corporate Social Responsibility in the Community Engagement category, in recognition of its Redes project to strengthen agricultural supply chains in the municipality of Ubalá. Another highlight was the Best Social Partner award the company received in recognition of its supplier management practices.

This recognition is a testament to the company's continued efforts to advance social programs throughout 2019. A total of 1,400 new beneficiaries were reached in the year, and initiatives attained a satisfaction rate of 90%.

Net revenue:
R$2.1 bn

Adjusted EBITDA:
R$456 mi

Social investment[1]:
R$2 mi

[1] Value under the management of Votorantim Institute

About this Report

102-53 | 102-55

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Throughout this report for 2019, Votorantim aims to present to its stakeholders the evolution of the portfolio management, achievements and challenges in the year, as well as the consolidated economic and financial results audited by PwC. This report also briefly describes the operating, social and environmental performance of the portfolio companies—Votorantim Cimentos, banco BV, Votorantim Energia, Nexa, Citrosuco (relative to the season beginning July 2018 and ending June 2019), CBA, Acerbrag and Paz del Río. 102-45 | 102-50 | 102-52

Published in its ninth consecutive edition, the report has been prepared in accordance with the Global Reporting Initiative (GRI) Standards, Core option, and guidelines issued by the International Integrated Reporting Council (IIRC). It also references the applicable United Nations (UN) Sustainable Development Goals (SDGs). The report has undergone limited assurance by PwC. 102-54 | 102-56

Compared to the previous report published in March 2019, there have been no changes to the report boundary or scope, or any restatements of information from previous periods. 102-48 | 102-49 | 102-51

The online and complete version of this document is available on a microsite, and includes the Consolidated Financial Statements and GRI Content Index.

Materiality 102-4 | 102-15 | 102-21 | 102-32 | 102-40 | 102-42 | 102-43 | 102-46 | 102-47

A materiality assessment is a process to identify material topics which may substantially influence the evaluation and decisions of stakeholders. In 2018, an external advisor firm revisited the material topics in an exercise that involved three stages:

- Analysis of internal documents of Votorantim and the portfolio companies.
- Interviews with Votorantim executives, members of sustainability and governance teams of the portfolio companies, finance and sustainability specialists, scholar specialists, and local and international market investors.
- Analysis of data and information collected from the documents and interviews.

Given the diversity of the business portfolio, the topics were structured as follows:

a. Material for both Votorantim and the portfolio companies, and
b. Specific material for each business in the portfolio.

The materiality was approved by Votorantim's Executive Board, and identified topics provide the basis for this report's content and GRI indicators reported on.

In 2019, Votorantim worked with an external advisor to conduct an assessment on demands from financial services stakeholders in relation to environmental, social and governance (ESG) issues. The assessment was based on methodologies recommended by the leading providers of sustainability indexes, ESG consulting firms in Brazil and globally, and initiatives such as the Carbon Disclosure Project (CDP) and the Task Force on Climate-related Financial Disclosure (TCFD). By intersecting all of this with the previously identified material topics and Votorantim and its invested companies' way of operating, a list was developed of priorities, needing to be addressed in the investment strategy, in communications with stakeholders and in the reporting of company indicators in the Annual Report.

Material for Votorantim and the portfolio companies

ESTRATEGY AND RESULTS	GOVERNANCE	ENVIRONMENT	SOCIAL
Long-term vision	Ethics and compliance	Climate change	Health and safety
Capital allocation	Best corporate governance practices	Water resources	Community relations
Financial performance	Corporate risk management		

Specifically material for the portfolio companies

Votorantim Cimentos
Energy use

banco BV
Innovation and costumer relations

Votorantim Energia
New investments

Nexa
Tailing dams

Citrosuco
Land use and pesticides

CBA
Energy use and tailing dams

Acerbrag e Acerías Paz del Río
Energy use

Reservas Votorantim
Biodiversity and deforestation

GRI Disclosures

General disclosures

Information on employees and other workers

GRI 102-8

	2019		
	Region		
	Brazil	Other countries	Total
Own employees			
Monthly	19,994	6,605	26,599
Hourly	4,992	2,233	7,225
Trainees	11	3	14
Total	**24,997**	**8,841**	**33,838**
Interns and apprentices			
Interns and Summer Students	811	109	920
Apprentices	584	89	673
Total	**1,395**	**198**	**1,593**
Total – Direct employees	**26,392**	**9,039**	**35,431**
Contractors			
Permanent Contractors	3,583	6,565	10,148
Total	**3,583**	**6,565**	**10,148**
Total workforce	**29,975**	**15,604**	**45,579**

Economic disclosures

Direct economic value generated and distributed GRI 201-1

Value added breakdown (R$/million)	2017	2018	2019
DIRECT ECONOMIC VALUE GENERATED			
Revenues			
Sales of products and services	31,362	35,493	35,271
Other operating income (expense), net	(553)	543	6,706
Estimated loss on doubtful accounts	–	(15)	(17)
Total Revenues	**30,809**	**36,021**	**41,960**
Inputs acquired from third parties			
Cost of goods sold and services provided	(17,573)	(21,095)	(21,084)
Impairment of assets	23	52	(714)
Gross value added	**13,259**	**14,978**	**19,302**
Depreciation, amortization and depletion	(2,325)	(2,455)	(3,067)
Net value added generated by the Company	**10,934**	**12,523**	**16,235**
Value added received through transfers			
Equity in the results of investees	1,219	1,938	919
Finance income and foreign exchange losses	2,277	5,204	1,748
Total value added received through transfers	**3,496**	**7,142**	**2,667**
Total value added to distribute	**14,430**	**19,665**	**18,902**
Distribution of value added			
Personnel and payroll charges	4,016	4,700	4,500
Direct compensation	2,469	2,951	2,787
Benefits	600	709	647
Social charges	947	1,040	1,066
Taxes and contributions	4,522	5,119	6,254
Federal	2,491	2,276	3,200
State	2,604	2,220	2,332
Municipal	13	15	17
Deferred taxes	(586)	608	705
Third-party capital remuneration	5,082	7,623	3,223
Finance costs and foreign exchange losses	4,766	7,244	2,884
Rentals	316	379	339
Own capital remuneration	810	2,223	4,925
Dividends	499	1,265	–
Non-controlling interest	220	208	(245)
Reinvested profits (offset losses)	239	1,003	5,207
Loss on discontinued operations	(148)	(253)	(37)
Value added distributed	**14,430**	**19,665**	**18,902**

NOTE:

- 2019 data shows restated values in accordance with accounting models of the company

Confirmed incidents of corruption and actions taken GRI 205-3

	2017	2018	2019
Total number of confirmed incidents of corruption	0	0	0
Employees dismissed or disciplined	2	0	0
Termination or non-renewal of contracts with business partners	0	0	0

Lawsuits brought on by unfair competition, trust and monopoly practices GRI 206-1

	2017	2018	2019
Nexa	0	0	0
Citrosuco	0	0	0
Votorantim Energia	0	0	0
Votorantim Cimentos	35	36	45
Long Steel	0	0	0
CBA	-	0	0
banco BV	-	0	0
Reservas Votorantim	-	0	0
Votorantim S.A.	-	0	0

Environmental disclosures

Energy consumption within the organization (GJ) GRI 302-1

	2018	2019
Total energy consumption from non-renewable sources	117,926,384	123,214,876
Total energy consumption from renewable sources	29,664,142	28,849,828
Total energy consumption at the company	183,185,779	182,625,386

NOTES:

- This indicator is not reported by Votorantim S.A.
- The energy figures reported by Votorantim Cimentos cover all of the company's operations, except for concrete, cement, mortar, aggregates (or other) operations in countries other than Brazil.
- The total energy consumption reported by CBA in this report is preliminary. Final figures will be available in their individual report.

Energy intensity (GJ/t) GRI 302-3

Company	Main products	2017	2018	2019
Nexa	Zinc equivalent	14.490	14.330	16.120
Votorantim Cimentos	Cement	2.660	2.686	2.650
	Aggregates	031	027	020
	Concrete	0.143	0.129	0.140
	Mortar	074	069	040
	Limes and agricultural inputs	000	2.187	020
	Clinker	3.350	3.533	-
CBA	Aluminum	4.192	3.810	-
	Processed bauxite	072	001	072
	Nickel carbonate	113.477	-	-
	Electrolytic nickel	57.380	-	-
	Metalex (aluminium)	-	-	4.640
	Molten aluminum	81.910	83.690	84.942

Company	Main products	2017	2018	2019
Long steel	Bars	-	-	2.777
	Wires	-	-	0.260
	Wire rod	-	-	1.306
	Mesh	-	-	0.301
	Nail	-	-	018
	Steel (rolled)	1.340	-	-
	Steel (bar)	2.860	58.0	77.617
	Mineral (iron, limestone, carbon)	-	071	-

NOTES:

- This indicator is not reported by Citrosuco.
- Data includes renewable and non-renewable energy sources and operations outside and inside the organization.
- Not applicable for Votorantim Energia, banco BV, Reservas Votorantim and Votorantim S.A.
- The total energy consumption reported by CBA in this report is preliminary. Final figures will be available in their individual report.

Water withdrawal by source GRI 303-1

Total water use by source	2017	2018	2019
Surface water (rivers, lakes, wetlands, oceans)	222,401,322.0	60,680,105.1	68,160,068.1
Ground water	106,930,958.5	122,617,573.1	130,239,651.6
Rainwater collected directly and stored by the company	8,524,679.7	9,614,774.6	4,588,048.2
Waste water from another organization	0	4,620,554.0	0
Water utilities	827,914.0	828,710.2	926,865.2
Total	338,684,874.2	198,361,716.9	203,914,633.1

NOTES:

- This indicator is not reported by Votorantim S.A.
- The energy figures reported by Votorantim Cimentos cover all of the company's operations, except for concrete, mortar, aggregates (or other) operations in countries other than Brazil.

Habitats protected or restored - 2018 GRI 304-3

Biome	Total area (km²)	Areas where the success of protection/restoration measures was approved by independent external professionals, or that comply with external standards/protocols
Amazon	28.7	28.7
Caatinga	4.7	4.7
Savanna (Cerrado)	521.8	521.8
Atlantic Forest	734.2	184.1
Tropical wetland (Pantanal)	1.7	1.7
Pampa	4.2	4.2
Other	0.1	0.1
Total	1,295.5	745.4

Total area by company (km²)	2017	2018	2019
Long steel	1,848.2	1,848.2	0.1
Citrosuco	175.3	134.8	175.3
Nexa	58.4	56.2	16.7
Reservas Votorantim	308.0	299.4	310
CBA	351.6	331.5	624.0
Votorantim Cimentos	117.2	113.6	113.6
Votorantim Energia	57.8	57.0	55.9
Total	**2,916.5**	**992.5**	**1,295.5**

NOTES:

- Protected or restored habitats are located in Brazil (in the states of BA, CE, DF, GO, MG, MT, MS, PE, PA, PI, PR, RJ, RO, RS, SC, SP and TO) and in Colombia (in the province of Boyacá).
- Not applicable for Votorantim S.A.

Direct (Scope 1) GHG emissions (tCO_2eq) GRI 305-1

Company	Gases included in the calculation	2017	Gases included in the calculation	2018	Gases included in the calculation	2019
Long steel	CO_2 CH_4 N_{20}	1,503,440	CO_2 CH_4 N_{20} HFCs PFCs SF_6 NF_3	926,126.0	CO_2 CH_4 N_{20} HFCs SF_6	1,186,269.1
Citrosuco	CO_2 CH_4 N_{20}	431,964.0	CO_2 CH_4 N_{20}	470,687.0	CO_2 CH_4 N_{20}	528,522.6
Nexa	CO_2 CH_4 N_{20}	165,354.0	CO_2 CH_4 N_{20} CF_4	201,024.0	CO_2 CH_4 N_{20}	251,460.3
Votorantim Cimentos	CO_2 CH_4 N_{20}	21,883,318.0	CO_2 CH_4 N_{20}	22,568,591.7	CO_2 CH_4 N_{20}	19,215,648.0
CBA	CO_2 CH_4 N_{20} PFCs	1,387,085.0	CO_2 CH_4 N_{20} HFCs PFCs SF_6	1,370,377.5	CO_2 CH_4 N_{20} HFCs PFCs SF_6	1,259,208.4
Votorantim Energia	-	-	-	29,092.5	CO_2 CH_4 N_2O	99,588.3
Total		**25,371,161.0**		**25,565,898.6**		**22,540,696.6**

NOTE:

- This indicator is not reported by Votorantim S.A., banco BV and Reservas Votorantim.
- Data reported by Votorantim Cimentos cover all of the company's operations, except for concrete, cement, mortar, aggregates (or other) operations in countries other than Brazil.
- The total greenhouse gas emissions reported by CBA in this report are preliminary. Final figures will be available in their individual report.

Energy indirect (Scope 2) GHG emissions (tCO_2eq) GRI 305-2

Company	Gases included in the calculation	2019
Long steel	CO_2 CH_4	178,233.1
Citrosuco	CO_2 CH_4 N_2O	30,663.0
Nexa	CO_2	633,287.0
Votorantim Cimentos	CO_2	665,973.8
CBA	CO_2 CH_4 N_{20} HFCs PFCs SF_6 NF_3	9,894.1
Votorantim Energia	CO_2	28.5
Total		**1,518,079.4**

NOTES:

- This indicator is not reported by Votorantim S.A., banco BV and Reservas Votorantim.
- The energy figures reported by Votorantim Cimentos cover all of the company's operations, except for concrete, cement, mortar, aggregates (or other) operations in countries other than Brazil.
- The total greenhouse gas emissions reported by CBA in this report are preliminary. Final figures will be available in their individual report.

Other indirect (Scope 3) GHG emissions (tCO_2eq) GRI 305-3

Company	Gases included in the calculation	2019
Nexa	CO_2	132,997.2
Votorantim Cimentos	CO_2 CH_4 N_{20}	583,525.6
CBA	CO_2 CH_4 N_{20} HFCs PFCs SF_6 NF_3	24,970.3
Votorantim Energia	CO_2 CH_4 N_{20}	230.4
Reservas	CO_2	106.5
Total		**741,829.9**

NOTES:

- This indicator is not reported by Citrosuco, Votorantim S.A., Long steel, banco BV and Reservas Votorantim.
- The energy figures reported by Votorantim Cimentos cover all of the company's operations, except for concrete, cement, mortar, aggregates (or other) operations in countries other than Brazil.
- The total greenhouse gas emissions reported by CBA in this report are preliminary. Final figures will be available in their individual report.

Intensity of greenhouse gas emissions (GEE) (tCO_2eq/t)

GRI 305-4

Company	Main Product	2017	2018	2019
Votorantim Cimentos	Cement	0.633	0.622	0.591
	Aggregates	002	001	001
	Concrete	010	009	009
	Mortar	074	002	003
	Limes	088	0.487	076
Nexa	Zinc equivalent	0.820	0.822	1.470
Long steel	Steel (bar)	1.020	3.070	-
	Bars	-	0.696	0.870
	Wires	-	13.298	000
	Wire rod	-	1.567	000
	Construction mesh	-	6.621	8.000
Reservas	Ecotourism Services			039
	Food and Accommodation Services and space rent			002
	Sapling and forest restoration			001
CBA	Aluminum	0.229	0.219	000
	Processed bauxite	004	003	000
	Nickel carbonate	6.515		000
	Electrolytic nickel	1.688		000
	Molten aluminum	3.714	3.905	000
	Primary products	000	000	4.210
	Blast furnace - Molten aluminium	000	000	2.555

NOTES:

- This indicator is not reported by Citrosuco, Votorantim Energia, banco BV and Votorantim S.A.
- Data includes renewable and non-renewable energy sources and operations outside and inside the organization.
- CBA adapted its categorization to the standards used by the global market, in order to ensure comparability.

Total water discharge (m³) GRI 306-1

Total water discharge	2017	2018	2019
Total discharged volume	319,043,106.6	152,557,874.6	190,241,652.8

NOTE

- This indicator is not reported by Votorantim S.A.

Waste by type and disposal method (t) GRI 306-2

Non-hazardous waste	2017	2018	2019
Composting	56,981.0	80,626.3	39,574.8
Reuse	989,736.0	113,417.0	47,859.0
Recycling	852,786.0	65,482.8	229,087.0
Recovery, including energy recovery	4,272.0	3,830.4	5,400.3
Incineration (mass burn)	440	2,074.3	816.3
Landfill	257,663.0	50,440.5	161,987.0
Deep well injection	0	0	0
On-site storage	161,995.0	52,273.4	52,738.0
Other	1,852,468.0	1,623,509.2	1,442,440.6
Total	**4,176,341.0**	**1,991,653.9**	**1,979,902.9**

Hazardous waste	2017	2018	2019
Composting			0
Reuse	2,645.0	8,904.5	2,995.9
Recycling	19,373.0	2,265.4	3,436.0
Recovery, including energy recovery	15,170	9,437.6	360.8
Incineration (mass burn)	2,430	606.5	761.1
Landfill	12,762.0	7,920	6,347.6
Deep well injection	0	0	0
On-site storage	60,832.0	134.6	1,711.9
Other	13,365.0	2,717.6	15,917.2
Total	**126,577.0**	**31,986.1**	**31,530.5**

NOTES:

- This indicator is not reported by Votorantim S.A.
- banco BV reports only the amount of waste sent for recycling and generated on construction site.

Percentage of new suppliers that were screened using environmental criteria GRI 308-1

New suppliers that were screened using environmental criteria	2017	2018	2019
Total number of new suppliers	10,244	8,286	5,527
Total number of new suppliers screened using environmental criteria	1,544	379	823
Percentage of new suppliers screened	**15.1%**	**4.6%**	**15%**

NOTE:

- This indicator is not reported by Citrosuco and Votorantim Cimentos.

Negative environmental impacts in the supply chain and actions taken GRI 308-2

New suppliers that were screened using environmental criteria	2017	2018	2019
Total number of suppliers	99,284	27,641	23,312
Total number of suppliers assessed for environmental impacts	7,120	1,155	557
Percentage of suppliers assessed for environmental impacts	**7.2%**	**4.2%**	**2.4%**

NOTE:

- Assessments informed by audits, contractual reviews, two-way engagement, and complaint and grievance mechanisms.
- The data reported by Votorantim Cimentos include only operations in Brazil.
- This indicator is not reported by Citrosuco.

Social disclosures

New employee hires and employee turnover GRI 401-1

2018	Gender: Men	Gender: Women	Age Range: Under 30 years old	Age Range: 30-50 years old	Age Range: Over 50 years old
New hires	4,303	1,520	2,977	2,437	409
Employees	27,849	6,139	6,535	22,085	5,368
Termination of employment	4,644	1,398	2,078	3,022	942
Percentage of new hires	15.5%	24.8%	45.6%	11.0%	7.6%
Turnover	16.7%	22.8%	31.8%	13.7%	17.5%

2019	Gender: Men	Gender: Women	Age Range: Under 30 years old	Age Range: 30-50 years old	Age Range: Over 50 years old
New hires	4,015	1,787	2,815	2,768	219
Employees	27,526	6,318	6,390	22,159	5,295
Termination of employment	4,505	1,569	1,998	3,237	839
Percentage of new hires	14.6%	28.3%	44.1%	12.5%	4.1%
Turnover	16.4%	24.8%	31.3%	14.6%	15.8%

Occupational health and safety indicators GRI 403-2

Occupational health and safety (2017)	Own employees: Global	Own employees: Brazil	Contractors: Global	Contractors: Brazil
Hours/men worked	35,588,531	105,320,651	-	-
Number of injuries	117	431	-	-
Number of fatalities	3	0	6	10
Number of lost days	2,517	5,775	-	-

Occupational health and safety (2018)	Own employees: Global	Own employees: Brazil	Contractors: Global	Contractors: Brazil
Hours/men worked	18,974,315	63,193,343	-	-
Number of injuries	32	74	-	-
Number of fatalities	0	1	0	4
Number of lost days	1,597	3,095	-	-

Occupational health and safety (2019)	Own employees: Global	Own employees: Brazil	Contractors: Global	Contractors: Brazil
Hours/men worked	18,520,875	64,448,150	-	-
Number of injuries	68	112	-	-
Number of fatalities	1	0	1	0
Number of lost days	10,882	3,128	-	-

Average hours of training per year per employee GRI 404-1

Employee category	Gender	2017	2018	2019
Senior management	Women	9.2	0	0
	Men	8.0	5.2	4.0
Middle management	Women	11.4	17.4	9.7
	Men	15.7	24.2	13.3
Coordinator/Adviser	Women	15.7	26.7	8.1
	Men	16.8	27.5	13.5
Technicians/Analysts/Supervisors	Women	25.4	21.6	6.7
	Men	24.2	29.8	6.8
Trainee	Women	0	0	0
	Men	0	0	0
Operational	Women	9.2	17.6	0
	Men	12.3	17.2	0
Interns	Women	0	45.2	0
	Men	0	83.6	0
Apprentices	Women	0	23.6	0
	Men	0	27.2	0

Diversity of governance bodies GRI 405-1

Company's minority groups	2017	2018	2019
Employees over 50 years old	6,174	5,370	5,295
Women	7,710	7,092	6,318

Governance members – gender	2017	2018	2019
Men	134	89	104
Women	12	18	19

Governance members – age	2017	2018	2019
Under 30 years old	0	0	0
30 and 50 years old	61	49	57
Over 50 years old	85	58	56

Diversity of Employees in each category GRI 405-1

	Age Group %			Gender %	
Position	-30 years	30 to 50 years	+50 years	Men	Women
Senior management	0	50	50	90.7	9.3
Middle management	1.4	80.9	17.8	80.7	19.3
Coordinators/Advisers	10.6	78.6	10.9	70	30
Technicians/Analysts/Supervisors	21.5	68.7	9.8	66.9	33.1
Trainee	150	178.6	42.9	42.9	57.1
Operational	19.8	61.7	18.2	88.4	11.6
Interns	97.7	2.3	0	45.1	54.9
Apprentices	99.1	0.9	0	59.4	40.6
Total	**22.5**	**62.6**	**14.9**	**80**	**20**

New suppliers that were screened using social criteria GRI 414-1

	2017	2018	2019
Labor practices			
Total number of new suppliers	10,244	8,286	5,527
New suppliers screened using criteria relative to labor practices	2,601	434	2,342
Percentage of new suppliers screened	**25.4%**	**5.2%**	**42.4%**
Impacts on society			
Total number of new suppliers	10,244	8,286	5,527
New suppliers screened using criteria relative to impacts on society	1,097	198	814
Percentage of new suppliers screened	**10.7%**	**2.4%**	**14.7%**
Human rights			
Total number of new suppliers	10,244	8,286	5,527
New suppliers screened using human rights criteria	1,261	1,567	1,974
Percentage of new suppliers screened	**12.3%**	**18.9%**	**35.7%**

NOTE:

- This indicator is not reported by Citrosuco.
- The data reported by Votorantim Cimentos include only operations in Brazil.

Negative social impacts in the supply chain and action taken GRI 414-2

	2017	2018	2019
Labor practices			
Total number of suppliers	99,284	27,641	23,312
Suppliers assessed for labor practices	6,646	5,204	12,028
Percentage of suppliers assessed	**6.7%**	**18.8%**	**51.6%**
Impacts on society			
Total number of suppliers	99,284	27,641	23,312
Suppliers assessed for impacts on society	5,827	263	1,586
Percentage of suppliers assessed	**5.9%**	**1.0%**	**6.8%**
Human rights			
Total number of suppliers	99,284	27,641	23,312
Suppliers assessed for human rights issues	19,535	13,026	10.443
Percentage of suppliers submitted assessed	**19.7%**	**47.1%**	**44.8%**

NOTES:

- This indicator is not reported by Citrosuco.
- The data reported by Votorantim Cimentos include only operations in Brazil.

Operations with local community engagement, impact assessments and development programs GRI 413-1

	2017	2018	2019
Total operations	436	357	433
Operations with community engagement	142	142	201
Percentage of operations with local community engagement	**32.6%**	**39.8%**	**46.4%**

NOTE:

- This indicator is not reported by banco BV.

Incidents of discrimination and corrective actions taken GRI 406-1

Discrimination cases	2017	2018	2019
Harassment and abuse of power	53	51	44
Other incidents (race, age and nationality)	12	6	4
Other incidents (discrimination and retaliation)	118	89	108
Total number of discrimination cases	183	146	156

Incidents of discrimination	2017	2018	2019
Complaints received by the Ombudsman	183	92	156
Complaints with grounds	67	54	79

NOTE:

- Votorantim Cimentos figures are related to cases of discrimination recorded by the Ethics Line in 2019.

Operations and suppliers at significant risk for incidents of child labor GRI 408-1

Operations and suppliers considered to have significant risk for incidents of child labor and/ or young workers exposed to hazardous work	2017	2018	2019
Votorantim S.A., Votorantim Cimentos, banco BV, Votorantim Energia, CBA, Nexa, Citrosuco, Aços Longos e Reservas Votorantim	0	0	0

NOTE:

- This indicator is not reported by Votorantim Cimentos.

Operations and suppliers with significant risk for incidentes of forced or compulsory labor GRI 409-1

Operations and suppliers considered to have significant risk for incidents of forced or compulsory labor	2017	2018	2019
Votorantim S.A., Votorantim Cimentos, banco BV, Votorantim Energia, CBA, Nexa, Citrosuco, Aços Longos e Reservas Votorantim	0	0	0

NOTE:
- This indicator is not reported by Votorantim Cimentos.

banco BV	2018	2019
Number of operations with significant risk for incidents of forced or compulsory labor	297	168
Number of suppliers with significant risk for incidents of forced or compulsory labor	141	23

NOTE:
- banco BV considered the number of clients that entered the flow in 2019 with socio-environmental risk analysis in 2019. The bank reported the total number of clients analyzed in 2019 by the socio-environmental risk area and had activities under sectors with risks of engaging in forced labor.

Operations that have been subject to human rights reviews or impact assessments GRI 412-1

	2017	2018	2019
Total number of operations (Brazil and abroad)	413	383	404
Operations subject to reviews	73	65	64
Percentage of operations subject to reviews	**17.7%**	**17.0%**	**15.8%**

banco BV	2017	2018	2019
Total number of operations (Brazil and abroad)	3,434	1,390	1,420
Operations subject to reviews	1,034	717	458
Percentage of operations subject to reviews	**30.1%**	**51.6%**	**32.3%**

NOTE:
- banco BV considered the number of clients that entered the flow in 2019 with socio-environmental risk analysis in 2019. The bank reported the total number of clients analyzed in 2019 by the socio-environmental risk area and had activities under sectors with risks of engaging in forced labor.

GRI Standards	Disclosure	Page and/or link	Global compact	SDGs	OECD	Assurance
GRI 102: Foundation 2016						
GRI 102: General disclosures 2016	**Organizational profile**					
	102-1 Name of the organization	Votorantim S.A.				
	102-2 Activities, brands, products, and services	The Investment Holding Company, p. 12				
	102-3 Location of headquarters	The Investment Holding Company, p. 12				
	102-4 Location of operations	The Investment Holding Company, p. 12 Portfolio, p. 10				
	102-5 Ownership and legal form	The Investment Holding Company, p. 12				
	102-6 Markets served	The Investment Holding Company, p. 12; Center of Excellence (CoE), p. 44				
	102-7 Scale of the organization	The Investment Holding Company, p. 12; 2019 Results, p. 40				Yes
	102-8 Information on employees and other workers	This indicator consolidates the data from the portfolio companies, which follow their own premises and has autonomy in the management of their data, preventing the reporting from some segregations. All employees reported are considered permanent. The Investment Holding Company, p. 12; General Disclosures, p. 244				
	102-9 Supply chain	This report shows Votorantim S.A.'s management structure. Information on the supply chain of each portfolio company and its specificities are available in their own reports. Risk Management, p. 35				
	102-10 Significant changes to the organization and its supply chain	Message from the Board of Directors, p. 2; Message from the Executive Board, p. 5; 2019 Highlights, p. 8				Yes
	102-11 Precautionary Principle or approach	Risk Management, p. 35				Yes
	102-12 External initiatives	We have been, since 2011, signatories to the United Nations Global Compact initiative, which mobilizes businesses worldwide to adopt fundamental and globally accepted values on human rights, labor, environment and anticorruption. Information on each investee's external initiatives can be found on their own reports.				
	102-13 Membership of associations	JOÃO MIRANDA: – Member of Amcham's Board of Directors ANA PAULA DE MEDEIROS CARRACEDO – Chairman of Amcham's Compliance and Risk Management Committee – Member of the Brazilian Committee and coordinator of the Anti-Corruption Work Group, both from UN Global Compact's – Member of the Corporate Governance Congress Commission of the Corporate Governance Brazilian Institute (Instituto Brasileiro de Governança Corporativa, IBGC) DAVID CANASSA – Member of São Paulo Federation of Industries (Federação das Indústrias do Estado de São Paulo, Fiesp) Superior Council for the Environment (Conselho Superior de Meio Ambiente, COSEMA) MAURICIO MUSSI – Member of Amcham's Tax Efficiency Work Group				
	Strategy					
	102-14 Statement from senior decision-maker	Message from the Board of Directors, p. 2; Message from the Executive Board, p. 5;				
	102-15 Main impacts, risks, and opportunities	The Investment Holding Company, p. 12; Innovation, p. 46; Materiality, p. 68				

GRI Standards	Disclosure	Page and/or link	Global compact	SDGs	OECD	Assurance
GRI 102: Foundation 2016						
GRI 102: General disclosures 2016	**Ethics and integrity**					
	102-16 Values, principles, standards, and norms of behavior	Votorantim DNA, p. 13				Yes
	102-17 Mechanisms for advice and concerns about ethics	Compliance, p. 34				Yes
	Governance					
	102-18 Governance structure	Governance model, p. 30				
	102-19 Delegating authority	Governance model, p. 30				
	102-20 Executive-level responsibility for economic, environmental, and social topics	Governance model, p. 30				
	102-21 Consulting stakeholders on economic, environmental, and social topics	Materiality, p. 68				
	102-22 Composition of the highest governance body and its committees	Board Members, p. 33				Yes
	102-23 Chair of the highest governance body	Board Members, p. 33				Yes
	102-24 Nominating and selecting the highest governance body	Governance model, p. 30				
	102-25 Conflicts of interest	Compliance, p. 34				
	102-26 Role of highest governance body in setting purpose, values, and strategy	Governance model, p. 30				
	102-27 Collective knowledge of highest governance body	Governance model, p. 30				
	102-29 Identifying and managing economic, environmental, and social impacts	Governance model, p. 30				
	102-30 Effectiveness of risk management processes	Risk Management, p. 35				
	102-31 Review of economic, environmental, and social topics	Governance model, p. 30				
	102-32 Highest governance body's role in sustainability reporting	Materiality, p. 68				
	Stakeholder engagement					
	102-40 List of stakeholder groups	Materiality, p. 68				Yes
	102-42 Basis for identifying and selecting stakeholders with whom to engage	Materiality, p. 68				Yes
	102-43 Approach to stakeholder engagement	Materiality, p. 68				Yes
	102-44 Key topics and concerns raised through stakeholder engagement	Materiality, p. 68				Yes
	Reporting practice					
	102-45 Entities included in the consolidated financial statements	About this report, p. 68				
	102-46 Defining report content and topic boundaries	Materiality, p. 68				
	102-47 List of material topics	Materiality, p. 68				Yes
	102-48 Restatements of information					
	102-49 Changes in the list of material topics and topic boundaries	About this report, p. 68				
	102-50 Reporting period	About this report, p. 68				Yes
	102-51 Date of most recent previous report	About this report, p. 68 2018, publicado em março de 2019				Yes
	102-52 Reporting cycle	About this report, p. 68				Yes
	102-53 Contact point for questions regarding the report	About this report, p. 68				
	102-54 Claims of reporting in accordance with the GRI Standards	About this report, p. 68				Yes
	102-55 GRI content index	About this report, p. 68				
	102-56 External assurance	The hiring of the independent auditing company responsible for ensuring the Annual Report is carried out in accordance with the limits established by Votorantim S.A.'s corporate governance. About this report, p. 68				Yes

GRI Standards	Disclosure	Page and/or link	Omission: Part omitted	Omission: Reason	Omission: Explanation	Global Compact	SDGs	OECD	Assurance
Material topics									
GRI 200 Standards Economic Series									
Economic Performance									
GRI 103: Management approach 2016	**103-1** Explanation of the material topic and its boundary	Economic and Financial Performance, p. 39							
	103-2 The management approach and its components	Economic and Financial Performance, p. 39							
	103-3 Evaluation of the management approach	Economic and Financial Performance, p. 39							
GRI 201: Economic performance 2016	**201-1** Direct economic value generated and distributed	Economic Disclosures, p. 71							Yes
Anti-corruption									
GRI 103: Management approach 2016	**103-1** Explanation of the material topic and its boundary	Corporate Governance, Compliance and Risk Management, p. 30							
	103-2 The management approach and its components	Corporate Governance, Compliance and Risk Management, p. 30							
	103-3 Evaluation of the management approach	Corporate Governance, Compliance and Risk Management, p. 30							
GRI 205: Anti-corruption 2016	**205-3** Confirmed incidents of corruption and actions taken	Economic Disclosures, p. 71				P. 10		**VII.** Combating bribery, bribe solicitation and extortion	Yes
Anti-competitive behavior									
GRI 103: Management approach 2016	**103-1** Explanation of the material topic and its boundary	Corporate Governance, Compliance and Risk Management, p. 30							
	103-2 The management approach and its components	Corporate Governance, Compliance and Risk Management, p. 30							
	103-3 Evaluation of the management approach	Corporate Governance, Compliance and Risk Management, p. 30							
GRI 206: Anti-competitive behavior 2016	**206-1** Legal actions for anti-competitive behavior, antitrust, and monopoly practices	Economic Disclosures, p. 71					16	**X.** Competition **XI.** Taxation	Yes
GRI 300 Standards Environmental series									
Energy									
GRI 103: Management approach 2016	**103-1** Explanation of the material topic and its boundary	The report consolidates the consumption and energy intensity of each invested company. For more detailed information, see the annual and sustainability reports for each investee.							
	103-2 The management approach and its components								
	103-3 Evaluation of the management approach								
GRI 302: Energy 2016	**302-1** Energy consumption within the organization"	Environmental Disclosures, p. 73	Citrosuco did not report data of 2019 in order to consolidate it with other investees' data. The information available is from January to December 2018. The portfolio companies have management autonomy and, therefore, Votorantim S.A. cannot affirm that the data will be available in the next reporting cycle.				7, 8, 12, 13, 14, 15		Yes
	302-3 Energy intensity	Environmental Disclosures, p. 73				P. 7, P.8, P.9	7, 8	**VI.** Environment	

GRI Standards	Disclosure	Page and/or link	Omission: Part omitted	Omission: Reason	Omission: Explanation	Global Compact	SDGs	OECD	Assurance
Material topics									
Water									
GRI 103: Management approach 2016	**103-1** Explanation of the material topic and its boundary	Reservas Votorantim, p. 50							
	103-2 The management approach and its components	The indicator reported in the Disclosure GRI chapter consolidates the withdrawal of water by each portfolio company by source. For more information, consult their annual and sustainability reports.							
	103-3 Evaluation of the management approach								
GRI 303: Water 2016	**303-1** Water withdrawal by source	The methodologies and standards for monitoring and calculating water consumption data follow the assumptions of each company of the portfolio and, therefore, may vary. Environmental Disclosures, p. 74					6		Yes
Biodiversity									
GRI 103: Management approach 2016	**103-1** Explanation of the material topic and its boundary	Reservas Votorantim, p. 50							
	103-2 The management approach and its components	Reservas Votorantim, p. 50							
	103-3 Evaluation of the management approach	Reservas Votorantim, p. 50							
GRI 304: Biodiversity 2016	**304-3** Habitats protected or restored	Environmental Disclosures, p. 75				P.7, P.8, P.9	6, 13, 14, 15	**VI.** Environment	Yes
Emissions									
GRI 103: Management approach 2016	**103-1** Explanation of the material topic and its boundary	Reservas Votorantim, p. 50							
	103-2 The management approach and its components	The indicator reported in the GRI Disclosures consolidates the investees's GHG emissions by scope. For more detailed information, see the annual and sustainability reports for each company.							
	103-3 Evaluation of the management approach								
GRI 305: Emissions 2016	**305-1** Direct (Scope 1) GHG emissions	Environmental Disclosures, p. 76	Citrosuco did not report data of 2019 in order to consolidate it with other investees' data. The information available is from January to December 2018. The portfolio companies have management autonomy and, therefore, Votorantim S.A. cannot affirm that the data will be available in the next reporting cycle."				3, 12, 13, 14, 15		Yes
	305-2 Energy indirect (Scope 2) GHG emissions	Environmental Disclosures, p. 77					3, 12, 13, 14, 15		Yes
	305-3 Other indirect (Scope 3) GHG emissions	Environmental Disclosures, p. 78					3, 12, 13, 14, 15		Yes
	305-4 GHG emissions intensity	Environmental Disclosures, p. 79				P.7, P.8, P.9	13, 14, 15	**VI.** Environment	
Waste and effluents									
GRI 103: Management approach 2016	**103-1** Explanation of the material topic and its boundary	The report consolidates the water discharge and waste disposal of each invested company. For more detailed information, see the annual and sustainability reports for each investee.							
	103-2 The management approach and its components								
	103-3 Evaluation of the management approach								
GRI 306: Waste and effluents 2016	**306-1** Water discharge by quality and destination	Environmental Disclosures, p. 80					3, 6, 12		Yes
	306-2 Waste by type and disposal method	Environmental Disclosures, p. 80					3, 6, 12		Yes

GRI Standards	Disclosure	Page and/or link	Omission: Part omitted	Reason	Explanation	Global Compact	SDGs	OECD	Assurance
Material topics									
Supplier environmental assessment									
GRI 103: Management approach 2016	**103-1** Explanation of the material topic and its boundary	The report consolidates data of suppliers that were screened using environmental criteria of each invested company. For more detailed information, see the annual and sustainability reports for each investee.							
	103-2 The management approach and its components								
	103-3 Evaluation of the management approach								
GRI 308: Supplier Environmental Assesment 2016	**308-1** New suppliers that were screened using environmental criteria	Environmental Disclosures, p. 81	Votorantim Cimentos did not report data of 2019. The portfolio companies have management autonomy and, therefore, Votorantim S.A. cannot affirm that the data will be available in the next reporting cycle.			P.7, P.8, P.9			Yes
	308-2 Negative environmental impacts in the supply chain and actions taken	Environmental Disclosures, p. 81				P.7, P.8, P.9		**VI.** Environment	Yes
GRI 400 Standards Série Social									
Employment									
GRI 103: Management approach 2016	**103-1** Explanation of the material topic and its boundary	People, p. 20							
	103-2 The management approach and its components	The report consolidates new employee hires and turnover of each invested company. For more detailed information, see the annual and sustainability reports for each investee.							
	103-3 Evaluation of the management approach								
GRI 401: Employment 2016	**401-1** New employee hires and employee turnover	Social Disclosures, p. 82				P.3, P.6	8	**V.** Employment and industrial relations	
Occupational health and safety									
GRI 103: Management approach 2016	**103-1** Explanation of the material topic and its boundary	The report consolidates rates of injury, occupational diseases, lst days, and absenteeism and fatalities of each invested company. For more detailed information, see the annual and sustainability reports for each investee.							
	103-2 The management approach and its components								
	103-3 Evaluation of the management approach								
GRI 403: Occupational health and safety 2016	**403-2** Types of injury and rates of injury, occupational diseases, lost days, and absenteeism, and number of work-related fatalities	Social Disclosures, p. 83				P.3, P.6	3	**V.** Employment and industrial relations **VI.** Environment	Yes
Training and Education									
GRI 103: Management approach 2016	**103-1** Explanation of the material topic and its boundary	People, p. 20							
	103-2 The management approach and its components	People, p. 20							
	103-3 Evaluation of the management approach	People, p. 20							
GRI 404: Training and education 2016	**404-1** verage hours of training per year per employee	Social Disclosures, p. 84				P.3, P.6	4, 5, 8	**V.** Employment and industrial relations **VI.** Environment	

GRI Standards	Disclosure	Page and/or link	Omission: Part omitted	Omission: Reason	Omission: Explanation	Global Compact	SDGs	OECD	Assurance
Material topics									
GRI 400 Standards Social Series Diversity and equal opportunity									
GRI 103: Management approach 2016	**103-1** Explanation of the material topic and its boundary	People, p. 20							
	103-2 The management approach and its components	People, p. 20							
	103-3 Evaluation of the management approach	People, p. 20							
GRI 405: Diversity and equal opportunity 2016	**405-1** Diversity of governance bodies and employees	Social Disclosures, p. 84				P.3, P.6	5, 8	**V.** Employment and industrial relations	
Non-discrimination									
GRI 103: Management approach 2016	**103-1** Explanation of the material topic and its boundary	The report consolidates incidents of discrimination of each invested company. For more detailed information, see the annual and sustainability reports for each investee.							
	103-2 The management approach and its components								
	103-3 Evaluation of the management approach								
GRI 406: Non-discrimination 2016	**406-1** Incidents of discrimination and corrective actions taken	Social Disclosures, p. 87				P.1, P.2, P.6	5, 16	**IV.** Human rights **V.** Employment and industrial relations	Yes
Child labor									
GRI 103: Management approach 2016	**103-1** Explanation of the material topic and its boundary	The report consolidates significant risk for incidents of child labor of each invested company. For more detailed information, see the annual and sustainability reports for each investee.							
	103-2 The management approach and its components								
	103-3 Evaluation of the management approach								
GRI 408: Child labor 2016	**408-1** Operations and suppliers at significant risk for incidents of child labor	Social Disclosures, p. 87				P.1, P.2, P.5	8, 16	**IV.** Human rights **V.** Employment and industrial relations	Yes
Forced or compulsory labor									
GRI 103: Management approach 2016	**103-1** Explanation of the material topic and its boundary	The report consolidates significant risk for incidents of forced or compulsory labor of each invested company. For more detailed information, see the annual and sustainability reports for each investee.							
	103-2 The management approach and its components								
	103-3 Evaluation of the management approach								
GRI 409: Forced or compulsory labor 2016	**409-1** Operations and suppliers at significant risk for incidents of forced or compulsory labor	Social Disclosures, p. 88				P.1, P.2, P.4	8	**IV.** Human rights **V.** Employment and industrial relations	Yes
Human rights assessment									
GRI 103: Management approach 2016	**103-1** Explanation of the material topic and its boundary	The report consolidates human rights reviews of each invested company. For more detailed information, see the annual and sustainability reports for each investee.							
	103-2 The management approach and its components								
	103-3 Evaluation of the management approach								
GRI 412: Human rights assessment 2016	**412-1** Operations that have been subject to human rights reviews or impact assessments	Social Disclosures, p. 89				P.1, P.2		**IV.** Human rights	Yes

GRI Standards	Disclosure	Page and/or link	Omission			Global Compact	SDGs	OECD	Assurance
			Part omitted	Reason	Expla-nation				
Material topics									
Local communities									
GRI 103: Management approach 2016	**103-1** Explanation of the material topic and its boundary	Social Investment, p. 36							
	103-2 The management approach and its components	Social Investment, p. 36							
	103-3 Evaluation of the management approach	Social Investment, p. 36							
GRI 413: Local communities 2016	**413-1** Operations with local community engagement, impact assessments, and development programs	Social Disclosures, p. 86				P.1, P.2, P.4		**V.** Employment and industrial relations **VI.** Environment	Yes
Supplier social assessment									
GRI 103: Management approach 2016	**103-1** Explanation of the material topic and its boundary	The report consolidates data of suppliers that were screened using social criteria of each invested company. For more detailed information, see the annual and sustainability reports for each investee.							
	103-2 The management approach and its components								
	103-3 Evaluation of the management approach								
GRI 414: Supplier social assessment 2016	**414-1** New suppliers that were screened using social criteria	Social Disclosures, p. 85				P.1, P.2, P.3	5, 8, 16	**IV.** Human rights **V.** Employment and industrial relations **VI.** Environment **VII.** Combating bribery, bribe solicitation and extortion **X.** Competition	Yes
	414-2 Negative social impacts in the supply chain and actions taken	Social Disclosures, p. 86				P.1, P.2, P.3		**IV.** Human rights **V.** Employment and industrial relations VI. Environment **VII.** Combating bribery, bribe solicitation and extortion **X.** Competition "	Yes
Public policy									
GRI 103: Management approach 2016	**103-1** Explanation of the material topic and its boundary	Compliance, p. 34							
	103-2 The management approach and its components	Compliance, p. 34							
	103-3 Evaluation of the management approach	Compliance, p. 34							
GRI 415: Public policy 2016	**415-1** Political contributions	There were no political contributions in the reporting period.				P. 10		**VII.** Combating bribery, bribe solicitation and extortion	

Consolidated financial statements

Statements

Notes to the consolidated financial statements

General considerations

Estimates and assumptions

Assets

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Results

Supplementary information

Consolidated balance sheet

As at December 31

All amounts in millions of reais

	Note	2019	2018
Assets			Restated (Note 2.3)
Current assets			
Cash and cash equivalents	9	6.262	7.742
Financial investments	10	4.444	3.315
Derivative financial instruments	6.1.1 (a)	62	216
Trade receivables	11	2.196	2.546
Inventory	12	4.129	3.814
Taxes recoverable	14	1.968	1.473
Dividends receivable	15	81	14
Financial instruments - firm commitment	16		202
Other assets		621	564
		19.763	19.886
Assets classified as held-for-sale			4.527
		19.763	24.413
Non-current assets			
Long-term receivables			
Financial investments	10	23	23
Financial instruments - Suzano	13	2.749	
Derivative financial instruments	6.1.1 (a)	337	256
Derivative financial instruments - put option	6.1.1 (b)	655	744
Taxes recoverable	14	3.477	2.731
Related parties	15	229	271
Deferred income tax and social contribution	24 (b)	3.341	4.079
Judicial deposits	25 (b)	345	755
Financial instruments - firm commitment	16	29	
Other assets		726	685
		11.911	9.544
Investments	17 (c)	11.720	11.310
Property, plant and equipment	18	27.148	26.213
Intangible assets	19	13.283	13.492
Right-of-use assets	20	813	
Biological assets		85	74
		64.960	60.633
Total assets		84.723	85.046

(i) The accompanying notes are an integral part of these consolidated financial statements.

	Note	2019	2018
Liabilities and equity			Restated (Note 2.3)
Current liabilities			
Borrowing	21 (a)	954	5.291
Lease liabilities	22	210	
Derivative financial instruments	6.1.1 (a)	69	166
Confirming payables	23	1.415	1.312
Trade payables		4.429	4.137
Salaries and payroll charges		836	845
Taxes payable		424	490
Advances from clients		102	128
Dividends payable	15	120	482
Use of public assets	26	87	83
Financial instruments - firm commitment	16	81	19
Deferred revenue - performance obligations	27	32	242
Deferred revenue - silver streaming		106	124
Other liabilities		838	808
		9.703	14.127
Liabilities related to assets held-for-sale		2	108
		9.705	14.235
Non-current liabilities			
Borrowing	21 (a)	18.801	19.160
Lease liabilities	22	631	
Derivative financial instruments	6.1.1 (a)	383	78
Deferred income tax and social contribution	24 (b)	2.087	2.194
Related parties	15	50	136
Provision	25 (a)	3.137	2.595
Use of public assets	26	1.151	1.106
Pension plan and post-employment health care benefits	28	367	319
Financial instruments - firm commitment	16	122	161
Deferred revenue - performance obligations	27		29
Deferred revenue - silver streaming		621	650
Other liabilities		761	924
		28.111	27.352
Total liabilities		37.816	41.587
Equity			
Share capital	29 (a)	28.656	28.656
Revenue reserves		11.165	7.243
Carrying value adjustments	29 (c)	1.948	1.937
Total equity attributable to the owners of the Company		41.769	37.836
Non-controlling interests	29 (d)	5.138	5.623
Total equity		46.907	43.459
Total liabilities and equity		84.723	85.046

(i) The accompanying notes are an integral part of these consolidated financial statements.

Consolidated statement of income

Years ended December 31

All amounts in millions of reais unless otherwise stated

	Note	2019	2018
			Restated (Note 2.3)
Continuing operations			
Net revenue from products sold and services rendered	30	30.907	30.931
Cost of products sold and services rendered	31	(25.812)	(25.029)
Gross profit		**5.095**	**5.902**
Operating income (expenses)			
Selling	31	(873)	(755)
General and administrative	31	(2.496)	(2.137)
Other operating income (expenses), net	32	5.992	592
		2.623	(2.300)
Operating profit before equity results and finance results		7.718	3.602
Results from equity investments			
Equity in the results of investees	17 (c)	919	1.118
Dividends received			820
Realization of other comprehensive income on disposal of investments		108	4
		1.027	1.942
Finance results, net	33		
Finance income		1.267	1.257
Finance costs		(2.512)	(2.529)
Result of derivative financial instruments		(235)	208
Foreign exchange losses, net		(137)	(976)
		(1.617)	(2.040)
Profit before income tax and social contribution		7.128	3.504
Income tax and social contribution	24 (a)		
Current		(1.461)	(455)
Deferred		(705)	(556)
Profit from continuing operations		4.962	2.493
Discontinued operations			
Loss on discontinued operations		(37)	(183)
Profit for the year attributable to the owners of the Company		**4.925**	**2.310**
Profit attributable to the owners of the Company		5.170	2.102
Profit (loss) attributable to non-controlling interests		(245)	208
Profit for the year		**4.925**	**2.310**
Weighted average number of shares - thousands (to the owners of the Company)		18.278.789	18.278.789
Basic and diluted earnings per thousand shares, in reais		**282,84**	**115,00**
From continuing operations			
Basic and diluted earnings per thousand shares, in reais		**284,87**	**125,01**
From discontinued operations			
Basic and diluted loss per thousand shares, in reais		**(2,02)**	**(10,01)**

(i) The accompanying notes are an integral part of these consolidated financial statements.

Consolidated statement of comprehensive income

Years ended December 31

All amounts in millions of reais

	Note	2019	2018
			Restated
Profit for the year		4.925	2.310
Other components of comprehensive income to be subsequently reclassified to profit or loss			
Attributable to the owners of the Company			
Foreign exchange variations	29 (c)	96	1.555
Hedge accounting for net investments abroad, net of taxes	29 (c)	92	(931)
Hedge accounting for the operations of subsidiaries	29 (c)	(39)	158
Fair value of available-for-sale financial assets held by non-consolidated investments	29 (c)	43	(74)
Realization of comprehensive results in the sale of the partipation in Fibria Celulose S.A.	29 (c)	(15)	
Adjustment to the fair value of the shares held at Suzano S.A., net of the tax	29 (c)	(121)	
Loss on capital contribution to Nexa Resources S.A	29 (c)	(63)	
Realization of comprehensive income on the sale of interest in Nexa Resources S.A.	29 (c)	(108)	
Loss on capital contribution to Acerías Paz del Rio	29 (c)	(57)	
Inflation adjustment for hyperinflationary economies	29 (c)	340	419
Effect of deferred income tax liability on the capital gain of St. Mary's assets			43
Share in other comprehensive income of investees	29 (c)	(24)	(1)
Attributable to non-controlling shareholders			
Foreign exchange variations attributable to non-controlling interests		(50)	714
Hedge accounting for the operations of subsidiaries		3	(1)
Share in other comprehensive income of investees		28	
		125	1.882
Other components of comprehensive income that will not be reclassified to profit or loss			
Attributable to the owners of the Company			
Remeasurement of retirement benefits, net of tax	29 (c)	(133)	34
Attributable to non-controlling shareholders			
Remeasurement of retirement benefits, net of taxes		(1)	2
Other components of comprehensive income for the year		(9)	1.918
Comprehensive income (loss) from			
Continuing operations		4.953	4.411
Discontinued operations		(37)	(183)
		4.916	4.228
Comprehensive income attributable to			
Owners of the Company		5.181	3.305
Non-controlling interests		(265)	923
		4.916	4.228

(i) The accompanying notes are an integral part of these consolidated financial statements.

Consolidated statement of charges in equity

Years ended December 31

All amounts in millions of reais unless otherwise stated

		Attributable to the owners of the Company								
			Revenue reserves							
	Note	Share capital	Tax incentives	Legal	Profit retention	Retained (loss) earnings	Carrying value ad-justments	Total	Non-controlling interests	Total equity
At January 1, 2018		28,656	10	684	5,875		734	35,959	4,856	40,815
Initial adoption of IFRS 9						(342)		(342)		(342)
Initial application of FIPs, net of taxes – Banco Votorantim S.A.						(116)		(116)		(116)
Inflation adjustment – IAS 29 / CPC 42							419	419		419
Effect of deferred income tax liability on the capital gain of St. Mary's assets						94	43	137		137
At January 1, 2018, after the impacts of the adoption of the rules and restatements		28,656	10	684	5,875	(364)	1,196	36,057	4,856	40,913
Profit for the year						2,102		2,102	208	2,310
Other comprehensive income							741	741	715	1,456
Comprehensive income (loss) for the year						2,102	741	2,843	923	3,766
Dividends					(789)	(415)		(1,204)	(61)	(1,265)
Reversal of deliberate dividends					140			140		140
Share premium distribution – NEXA									(95)	(95)
Allocation of net income for the year					1,236	(1,236)				
Legal reserve				87		(87)				
Dividends										
Total contributions and distributions to shareholders				87	587	(1,738)		(1,064)	(156)	(1,220)
At December 31, 2018 (restated)		28,656	10	771	6,462		1,937	37,836	5,623	43,459
Profit (loss) for the year						5,170		5,170	(245)	4,925
Other comprehensive income							11	11	(20)	(9)
Comprehensive income (loss) for the year						5,170	11	5,181	(265)	4,916
Loss on capital increase at Karmin					(188)			(188)		(188)
Votorantim Cimentos EAA Inversiones S.L. non-controlling interests aquisition									(3)	(3)
Dividends	29 (b)				(1,475)			(1,475)	(217)	(1,692)
Reversal of deliberate dividends	29 (b)				415			415		415
Allocation of net income for the year										
Legal reserve				261		(261)				
Profit retention					4,909	(4,909)				
Total contributions and distributions to shareholders				261	3,661	(5,170)		(1,248)	(220)	(1,468)
At December 31, 2019		28,656	10	1,032	10,123		1,948	41,769	5,138	46,907

(i) The accompanying notes are an integral part of these consolidated financial statements.

Consolidated statement of cash flows

Years ended December 31

All amounts in millions of reais

	Note	2019	2018 Restated
Cash flow from operating activities			
Profit before income tax and social contribution		7,128	3,504
Loss on discontinued operations		(37)	(183)
Adjustments to items that do not represent changes in cash and cash equivalents			
Depreciation, amortization and depletion	31	3,067	2,455
Equity in the results of investees	17 (c)	(919)	(1,118)
Interest, indexation and foreign exchange variations		510	532
Provision (reversal) for the impairment of fixed, intangible assets and investments	18, 19	714	(53)
Gain on sales of fixed and intangible assets, net	32	(8)	(42)
Fair value adjustment	21 (b)	22	(28)
Net loss (gain) on sales of investments	32	52	(126)
Constitution of provision		98	120
Derivative financial instruments	6.1.1	152	(162)
Financial instruments – firm commitment	16	195	132
Gain on transaction involving Fibria	32	(6,772)	
Net gain on financial instrument – put option	6.1.1 (b)	89	(71)
Gain on debt renegotiation	11 (c)	17	15
Realization of comprehensive income on Voto IV settlement	29 (c)	(108)	
Gain on fair value adjustment on VTRM operation			(820)
Credit of ICMS on the calculation bases of PIS and COFINS	32		(300)
Change in fair value of biological assets	32	(747)	(498)
	33		(69)
		3,453	**3,288**
Decrease (increase) in assets			
Financial investments		(695)	638
Derivative financial instruments		136	(92)
Trade accounts receivable		333	(168)
Inventory		(207)	(293)
Taxes recoverable		(494)	(262)
Related parties		42	(17)
Other accounts receivable and other assets		257	50
Increase (decrease) in liabilities			
Trade payables		292	778
Salaries and social charges		(9)	(50)
Use of public assets		(17)	(13)
Taxes payable		(51)	31
Other obligations and other liabilities		(502)	200
Cash provided by operating activities		**2,538**	**4,090**
Interest paid on borrowing and use of public assets		(1,252)	(1,461)
Income tax and social contribution paid		(189)	(614)
		1,097	**2,015**
Cash flow from investment activities			
Proceeds from disposals of fixed and intangible assets		132	177
Sales of investments		8,181	419
Dividends received		546	1,085
Acquisitions of property, plant and equipment	18	(3,189)	(2,567)
Increase in biological assets		(11)	(9)
Acquisitions of investments	17	(156)	(125)
Increase in intangible assets	19	(59)	(115)
Income tax and social contribution paid		(1,287)	
Net cash provided by (used in) investment activities		**4,157**	**(1,135)**
Cash flow from financing activities			
New borrowing	21 (b)	4,323	3,639
Repayment of borrowing	21 (b)	(9,356)	(5,532)
Repayment of leasing contracts	22	(217)	
Derivative financial instruments		(7)	(11)
Dividends paid		(1,639)	(850)
Nexa Resources S.A. share premium payment			(95)
Net cash used in financing activities		**(6,896)**	**(2,849)**
Decrease in cash and cash equivalents		**(1,642)**	**(1,969)**
Effect of companies excluded from consolidation			(109)
Effect of fluctuations in exchange rates		162	860
Cash and cash equivalents at the beginning of fiscal year		7,742	8,960
Cash and cash equivalents at end of year		**6,262**	**7,742**

(i) The accompanying notes are an integral part of these consolidated financial statements.

Consolidated statement of value added

Years ended December 31

All amounts in millions of reais

	Note	2019	2018
			Balance restated (Note 2.3)
Revenue			
Sales of products and services		35,271	35,493
Estimated loss on doubtful accounts	11 (c)	(17)	(15)
Other operating income, net	32	6,706	543
		41,960	**36,021**
Inputs acquired from third parties			
Raw materials and other production inputs		(21,014)	(20,404)
Materials, energy, outsourced services and others		(930)	(604)
Impairment of assets	32	(714)	52
Gross value added		**19,302**	**15,065**
Depreciation, amortization and depletion	18, 19 e 20	(3,067)	(2,455)
Net value added generated by the Company		**16,235**	**12,610**
Value added received through transfers			
Equity in the results of investees	17 (c)	919	1,938
Finance income and foreign exchange losses		1,748	5,204
		2,667	**7,142**
Total value added to distribute		**18,902**	**19,752**
Distribution of value added			
Personnel and payroll charges	31 (a)		
Direct remuneration		2,787	2,951
Social charges		1,066	1,040
Benefits		647	709
		4,500	**4,700**
Taxes and contributions			
Federal		3,200	2,276
State		2,332	2,220
Municipal		17	15
Deferred taxes		705	608
		6,254	**5,119**
Third-party capital remuneration			
Finance costs and foreign exchange losses		2,884	7,244
Rentals		339	379
		3,223	**7,623**
Own capital remuneration			
Non-controlling interests		(245)	208
Reinvested profits		5,207	1,090
Loss on discontinued operations		(37)	(253)
		4,925	**2,310**
Value added distributed		**18,902**	**19,752**

(i) The accompanying notes are an integral part of these consolidated financial statements.

Notes to the consolidated financial statements

at December 31, 2019

All amounts in millions of reais unless otherwise stated

1 General considerations

Votorantim S.A. (the "Company", the "parent company", or "VSA"), is a long-term Brazilian holding company. With its headquarters in the city of São Paulo, Brazil, the Company's purpose is to manage assets and companies, as well as to invest in other companies in order to further its objectives.

The Company, through its subsidiaries and associates, operates in the following segments: construction, metals and mining, aluminum, electrical energy, long steel, agribusiness and finance.

1.1 Main events that occurred during the year of 2019

(a) Offer of tender and exchange offer of debt by Votorantim Cements International S.A. ("VCI")

On January 10, 2019, the indirect subsidiary VCI announced a tender offer of its Euro bonds maturing in 2021 and 2022 and its US Dollar bonds maturing in 2041. On February 14, 2019, the repurchase transaction was settled, with the principal amount of R$ 269 (EUR 61 million) of the issuance maturing in 2021, R$ 672 (EUR 152 million) maturing in 2022 and R$ 2.1 billion (USD 540 million) maturing in 2041, with a total cash outlay of R$ 3.3 billion.

Concurrently with the tender offer, VCI announced an exchange offer of its US Dollar-denominated bonds maturing in 2041 for a new issue of bonds from its direct subsidiary St. Mary's Inc. (Canada), maturing in 2041 and with annual coupon of 7.3%. However, the transaction did not meet the minimum conditions stipulated in the offer and, was not made.

(b) Conclusion of the menger of the operations and shareholding bases of Suzano Papel e Celulose S.A. ("Suzano") and Fibria Celulose S.A. ("Fibria")

On January 14, 2019, Suzano Papel e Celulose S.A. ("Suzano") and Fibria (together with Suzano, the "Companies") jointly made public the details of their corporate reorganization, informing their shareholders and the market in general that, on this date, the corporate reorganization, which was the subject of the voting commitment and assumption of obligations entered into on March 15, 2018, was completed, with the effective combination of the operations and shareholding bases of Suzano and Fibria, pursuant to the protocol and justification executed on July 26, 2018 and approved by the shareholders of the Companies at meetings held on September 13, 2018.

At the date of the transaction, VSA recorded the gain resulting from the transaction, in the amount of R$ 6,772, in "other operating income (expenses), net" (Note 32). VSA maintained a direct interest of 5.5% in the capital of Suzano, which is considered as a financial instrument and is now valued at fair value in accordance with CPC 48/IFRS 9 – "Financial Instruments" (Note 13).

(c) CESP – Companhia Energética de São Paulo ("CESP") – Results of the offer to employees

In January 2019, as expected, the indirect subsidiary VTRM Energia Participações S.A. ("VTRM") acquired through a privatization auction additional shares of CESP, representing the remaining shares of the offer to employees, with a total investment of R$ 210. After the results of the offer to employees, VTRM will hold a 40.0% stake in CESP, equivalent to 93.52% of the voting common shares.

(d) ICMS on the basis for the calculation of Social Integration Programs ("PIS") and Contribution to Social Security Financing ("COFINS")

During 2019, there was recognition of the res judicata decision in a lawsuit of the subsidiary Votorantim Cimentos SA ("VCSA"), The lawsuit concerned the exclusion of ICMS from the PIS and COFINS calculation base, because it was recorded in its credit assets in the amount of R$ 401 (Note 14), R$ 296 of which was principal (Note 32) and R$ 105 of accumulated monetary restatement (Note 33). In addition, VCSA recorded a sum that was linked to another lawsuit, whose final decision occurred at the end of 2018, in the amount of R$ 346.

During 2019, the indirect subsidiary Votorantim Cimentos N / NE SA ("VCNNE") obtained the final judgment recognition of two of its actions related to a claim for ICMS exclusion on the PIS and COFINS calculation basis, of as credits were recorded in its assets in the amount of R$ 312 (Note 14), R$ 195 of the principal (Note 32) and R$ 117 of monetary restatement (Note 33) on the initial registration date.

During 2019, there was recognition of the final judgment in a lawsuit by Companhia Brasileira de Alumínio ("CBA"), related to the exclusion of ICMS from the PIS and COFINS calculation base, with the asset being recorded in the amount of R$ 473 (Note 14), of wich R$ 256 was the principal (Note 32) and R$ 217 the monetary restatement (Note 33).

(e) Debt issuance by the indirect subsidiary Itacamba Cementos S.A. ("Itacamba")

On April 4, 2019, in line with the consolidated financial liability management strategy aimed at lengthening VCSA's debt profile and reducing the average cost of debt, the indirect subsidiary Itacamba carried out its first issuance of debt in the Bolivian capital market. This was made in the amount of R$ 65 (BOB 116 million), maturing in 2025 and with fixed interest of 4.75% per year.

On April 23, 2019, Itacamba made its second debt issue in the Bolivian capital market, in the amount of R$ 241 (BOB 419 million), with maturity in 2029 and fixed interest of 5.55% per year.

The funds raised in the operations described above were used to partially settle, in advance, the syndicated loan in the amount of R$ 306 (BOB 534 million) with maturity in 2025 and fixed interest of 6.00% per year.

On May 31, 2019, Itacamba entered into a loan agreement with Banco BISA in the total amount of R$ 140 (BOB 244 million), maturing in 2027 and with fixed interest of 5.55% p.a. The funds raised in the operations described above were intended to prepay syndicated loan agreements in the total amount of R$ 151 (BOB 262 million), with fixed interest of 6.00% per year and maturity in 2025.

(f) CESP – Public Tender Offer ("Tender Offer")

On May 24, 2019, as a result of the acquisition of control of CESP by the indirect investor VTRM, a tender offer was held at B3, pursuant to which, in accordance with the terms and conditions VTRM acquired 1 (one) ON share, at the price of R$ 11.28, and 31 (thirty-one) class B preferred shares ("PNB"), at the price of R$ 14.32.

VTRM now holds, directly and indirectly, 102,091,755 ON shares, representing approximately 93.52% of the total ON shares and 28,928,300 PNB shares, representing approximately 13.72% of the total PNB shares.

(g) Conclusion of sale of operations in India

On April 16, 2019, the sale of a 75% total stake was concluded, of which 73.4% was bought by Votorantim Cimentos EAA Inversiones, SL ("VCEAA") and 1.6% by VCSA, in the indirect investor Shree Digvijay Cement Company Ltda., a publicly traded company in India, for the average price of INR 15.55 per share. On April 30, 2019, the amount of R$ 89 (EUR 20 million) was received, related to the settlement of the agreed installments in the sale transaction.

The sale of the business of the subsidiary VCSA and its subsidiaries in India is in line with management's objective of exiting non-priority markets and focusing on regions where they have the greatest potential to compete and expand the Company's current business. With the proceeds of this operation, on May 8, 2019, the subsidiary VCEAA prepaid all of a bilateral loan signed on June 27, 2016, in the amount of R$ 132 (EUR 30 million) maturing in 2021, and with fixed cost of 2.30% per year.

(h) Deliberation and receipt of dividends from the Company by the investee Suzano

On April 18, 2019, the investee Suzano announced to its shareholders the payment of dividends approved at the Annual General Meeting, in the total amount of R$ 600, after the payment to the Company, proportional to its interest, of the amount of R$ 33, in April 30, 2019, based on the shareholding position as at the date of that Meeting, and with an amount per share equivalent to R$ 0.44.

(i) Export financing

In April and May 2019, the subsidiary CBA entered into loan agreements (Export Credit Notes – "NCEs") to finance its exports in the total amount of R$ 1,085 million, with final maturity in April and May 2027, respectively. The operations have pegged swap contracts (derivative financial instrument), which are intended to exchange the exposure to the floating rate CDI in reais to a fixed rate in US Dollars, resulting in a weighted average cost of 5.00% per year. These swaps were contracted together with the financing and from the same financial institution.

(j) Bond repurchase offer

In April 2019, the subsidiary CBA announced a tender offer on its bonds maturing in 2024. The settlement of R$ 1,007 million (USD 256 million) occurred on May 10, 2019.

(k) Prepayments of VSA debentures

On July 31, 2019, the Company redeemed early the fourth issue of debentures maturing on July 27, 2024. The total amount of amortized principal totaled R$ 550.

(l) Contracting of Revolving Credit Facility by VCI, VCEAA and St Marys

On August 1, 2019, to replace the revolving credit facility contracted in October 2015 in the amount of USD 230 million maturing in October 2020, the subsidiaries VCI, VCEAA and St. Marys together with their subsidiaries, entered into a new revolving credit facility with a bank syndicate for USD 290 million, maturing in August 2024.

(m) Borrowing pursuant to Law 4,131 / 1962 by the indirect subsidiary VCNNE

On September 11, 2019, the indirectly controlled subsidiary VCNNE entered into a loan agreement under Law 4,131/1962 in the amount of R$ 305 (USD 75 millions) maturing on September 13, 2024, the latter being released after September 13 of 2019. The operation has a swap contract (derivative financial instrument) that allows both the exchange of LIBOR floating rate exposure to CDI floating rate exposure and real dollar currency exchange, resulting in a final cost of 107.00% p.a. CDI. This swap was contracted with the same financial institution as the loan (USD debt + BRL swap as % of CDI).

Votorantim Cimentos used the proceeds from this funding to prepay two higher-cost, shorter-term bilateral loans totaling R$ 334, in line with its liability strategy. Of the total amortized amount, R$ 141 is related to a loan from the subsidiary VCNNE and R$ 193 (EUR 42.5 million) refers to a loan from subsidiary VCEAA.

(n) Recognition of impairment loss

The subsidiary Nexa, performing an assessment of the impairment indicators and the recoverable amount test in accordance with its anual financial standards, identified the following impairment indicators for the year ended 2019: (i) the prices of LME's short-term averages fell compared to the previous year, (ii) the useful life of some of its operations was reduced as a result of new exploratory operations research; (iii) the carrying amount of the controlled assets was above the controlled market value.

The subsidiary's management considered that the combination of these indicators could indicate a material impact that would not be recoverable from its cash-generating units ("CGUs"). Therefore, an estimate of the entire recoverable value of the CGUs was made. A combination of impairment indicators calculates the recoverable value of their CGUs that are determining factors in recognizing a loss of R$ 564 (USD 142 million).

(o) Revolving credit line

On October 25, 2019, the subsidiary Nexa entered into a revolving credit line agreement with a group of banks in the amount of USD 300 million, with a 5-year term and a cost of LIBOR 3M + 1.0% per year in fundraising. This agreement allows Nexa to use resources at any time to meet your cash flow needs.

(p) Export credit note

On October 23, 2019, to meet its short-term cash needs of the indirect subsidiary Nexa Brasil, the subsidiary Nexa entered into an Export Credit Note contract in the principal amount of R$ 366 (USD 90 million) and LIBOR cost 3M + 1.5% per year, maturing in 5 years. At the same time, the subsidiary contracted a swap to exchange the interest rate for the CDI rate + 1.30% per year, as well as the currency of payments for the debt service from the dollar to the real. The subsidiary will account for the export credit note in the fair value option to eliminate the accounting mismatch that would arise if the amortized cost were used.

(q) Remeasurement of ARO (Asset Retirement Obligation)

In December 2019, the subsidiary CBA updated its environmental obligations to demobilize assets, in the amount of R$ 4 for the aluminum units and R$ 167 for the nickel units. The subsidiary provisioned impairment for the units that are at a standstill in its operations, Itamarati de Minas, São Miguel Paulista and Niquelândia, in the amount of R$ 171. The subsidiary VCSA updated its environmental obligations to demobilize assets in the amount of R$ 87.

(r) Allocation of CESP's purchase price

In December 2019, the purchase price allocation of CESP by the indirect subsidiary VTRM was completed. Consequently, the balances of Investment, Shareholders' Equity and Equity equivalence, underwent changes in the amounts previously presented in the financial statements of December 31, 2018, as detailed in note 2.3.

2 Presentation of the consolidated financial statements

2.1 Basis of preparation

(a) Consolidated financial statements

The financial statements have been prepared in accordance with accounting practices adopted in Brazil effective up to December 31, 2019, including the pronouncements issued by the Brazilian Accounting Pronouncements Committee ("CPC"), as well as according to the International Financial Reporting Standards ("IFRS") issued by the International Accounting Standards Board ("IASB") and their interpretations ("IFRIC"), and show all relevant information pertinent to interim financial statements, which is consistent with that used by the management in carrying out its duties.

The Company voluntarily discloses its consolidated statement of value added, according to the accounting practices adopted in Brazil, applicable to public companies and presented as an integral part of these financial statements. In accordance with international practice, this statement is presented as additional information, without prejudice to the set of financial statements.

The financial statements require the use of certain critical accounting estimates. It also requires management to exercise judgment in the process of applying the Company's accounting practices. The areas involving a higher degree of judgment or complexity or areas where assumptions and estimates are significant to the consolidated financial statements are disclosed in Note 4.

(b) Approval to the financial statements

The Board of Directors approved the consolidated financial statements for issue on March 3, 2020.

2.2 Consolidation

(a) Subsidiaries

Subsidiaries are fully consolidated from the date on which control is transferred to the Company.

Transactions, balances and unrealized gains on transactions between Group companies are eliminated. Unrealized losses are also eliminated, unless the transaction provides evidence of impairment of the asset transferred. Accounting policies of acquired subsidiaries have been changed where necessary to ensure consistency with the policies adopted by the Company.

The consolidated financial statements were prepared separately from the individual financial statements, issued on March 5, 2020.

(b) Transactions whit non-controlling interests

The Company treats transactions with non-controlling interests as transactions with equity owners of the Company. For purchases from non-controlling interests, the difference between any consideration paid and the proportion acquired of the carrying value of net assets of the subsidiary is recorded in equity. Gains or losses on disposals to non-controlling interests are also recorded directly in equity, in "profit retention reserves".

(c) Loss of control of subsidiaries

When the Company ceases to have control, any retained interest in the entity is re-measured to its fair value, with the change in carrying amount recognized in profit and loss. The amounts previously recognized in carrying value adjustments are reclassified to profit and loss.

(d) Associates and joint arrangements

Joint operations are accounted for in the financial statements in order to represent the Company's contractual rights and obligations. Therefore, the assets, liabilities, revenues and expenses related to its interests in joint operations are individually accounted for in its financial statements.

Investments in associates and joint ventures are accounted for using the equity method and are initially recognized at cost.

The Company's investments in associates and joint ventures includes goodwill identified on acquisition, net of any accumulated impairment loss.

Dilution gains and losses on investments in associates and joint ventures are recognized in the statement of income.

2.3 Restatement of comparative figures

	2018							
Assets	As prior presented	Reclassification of the Odessa Fund (i)	ARO reclassification (ii)	Reclassification of withdrawn risk Acerías Paz del Rio (iii)	IAS 29 adjustment and exchange variation (iv)	Surplus value of St. Mary's assets (v)	Allocation of CESP purchase price (vi)	Balance restated
Current assets								
Cash and cash equivalents	7,667	75						7,742
Financial investments	3,390	(75)						3,315
Non-current assets								
Investments	10,882				124		304	11,310
Property, plant and equipment	26,180		33					26,213
Intangible assets	13,341		(33)			184		13,492

	2018							
Liabilities and equity	As prior presented	Reclassification of the Odessa Fund (i)	ARO reclassification (ii)	Reclassification of withdrawn risk Acerías Paz del Rio (iii)	IAS 29 adjustment and exchange variation (iv)	Surplus value of St. Mary's assets (v)	Allocation of CESP purchase price (vi)	Balance restated
Current liabilities								
Confirming payables	1,187			125				1,312
Trade payables	4,262			(125)				4,137
Non-current liabilities								
Deferred income tax and social contribution	2,199					47	(52)	2,194
Equity								
Revenue reserves	7,088				(295)	94	356	7,243
Carrying value adjustments	1,475				419	43		1,937

(i) Reclassification of the Odessa Fund

The subsidiary CBA classified the Odessa Fund for cash and cash equivalents, according to the characteristic of the financial product and adherence to the current standard.

(ii) ARO reclassification (Asset Retirement Obligation)

The Company classified the ARO from intangible to fixed assets, according to the asset's characteristics and adherence to the current standard.

(iii) Reclassification of withdrawn risk Acerías Paz del Rio

The comparative period of the balance sheet of the figures for suppliers and withdrawn risk was altered by reclassification in the indirect subsidiary Acerías Paz del Rio S.A.

(iv) IAS 29 adjustments and foreign exchange

As of July 1, 2018, the investee Cementos Avellaneda SA ("Avellaneda"), headquartered in Argentina, had its economy officially considered as hyperinflationary for accounting purposes and the application of IAS 29 / CPC 42 – Accounting in hyperinflationary economics became required. With the application of the accounting standard, the subsidiary VCSA recorded the effect of the devaluation of the functional currency of its investee.

The investment in Avellaneda presents goodwill for expected future profitability, in the amount of 544 million Argentine Pesos, for which the subsidiary did not consider when calculating the hyperinflationary economy adjustment according to IAS 29 / CPC 42, nor did it consider the conversion of the original amount of the goodwill from pesos to reais. Considering that this is a non-monetary asset in a hyperinflationary currency, related to the expectation of future profitability on an equity investment, to which the group applied the assumptions of IAS 29; it is appropriate that, for consistency, it is updated with the corresponding investment, to the expected future profitability is aligned with the future cash flows to be generated by the business, with respect to the impacts of inflation. Accordingly, the Company carried out the correction of goodwill retrospectively, as provided for in technical pronouncement IAS 8 / CPC 23 – Accounting policies, changes in estimates and correction of errors. As a result of this process, the balance of goodwill presented in the "Investments" group was updated by the net amount of R $ 124, of which R $ 174 was due to the positive effect of inflation and R$ (50) was due to the passive exchange variation of the financial statements individual and consolidated accounts as of December 31, 2018. Additionally, the Company and its subsidiary VCSA reevaluated the classification of the application effects of IAS 29 / CPC 42 – Accounting in hyperinflationary economy in relation to the last financial statements of December 31, 2018 and concluded that such effects should be presented as "Equity valuation adjusttment". As a result of this understanding, the amounts were restated from "Retained earnings" to "Adjustment to equity valuation", in the Statement of changes in equity and in the related explanatory notes.

(v) Assets surplus value St. Mary's

The subsidiary VCSA reviewed the balances related to the business combination originating the first control investments in entities in North America. As a result of this review, it was identified that, when the Purchase Price Allocation ("PPA") results were recorded, amounts of surplus value were allocated to the assets acquired due to their measurement at fair value, without deferred income tax being accounted for corresponding liability. The recognition of deferred income tax liabilities is provided for in "IAS 12 / CPC 32 – Taxes on profit", when the measurement of assets acquired at their fair value generates temporary differences between the tax bases and the accounting balances. According to the standard, the deferred income tax liability resulting from the temporary difference should have affected the goodwill due to expected future profitability measured on the acquisition date. Accordingly, the subsidiary recognized the tax in question and corrected the goodwill for expected future profitability retrospectively.

(vi) Allocation of CESP purchase price

According to CPC 15 (R1) – "Business combination", in the event of an advantageous purchase, the acquirer must recognize the resulting gain, in the income statement for the year, on the acquisition date. Before recognizing the gain arising from a bargain purchase, the acquirer must promote a review to make sure that all assets acquired, and liabilities assumed have been correctly identified and recognize them during the review. The acquirer must also review the procedures used to measure the amounts to be recognized on the acquisition date.

In December 2019, the purchase price allocation related to the purchase of CESP by VTRM was completed. Therefore, the balance recorded in 2018, as an "Unallocated installment", was weighted against the effects of asset gains and losses on assets and liabilities and generated a gain from a favorable purchase, recognized on the acquisition date. Consequently, the equity and income balances have changed in the amounts previously presented in the financial statements of December 31, 2018.

					2018
	As prior presented	Impacts of reclassi-fication of Uszinc (vii)	Reclassi-fication Acerbrag (viii)	Allocation of CESP purchase price (vi)	Balance restated
Continuing operations					
Net revenue from products sold and services rendered	31,948	(1,017)			30,931
Cost of products sold and services rendered	(25,909)	929	(49)		(25,029)
Gross profit (loss)	**6,039**	**(88)**	**(49)**		**5,902**
Operating income (expenses)					
Selling	(775)	20			(755)
General and administrative	(2,173)	36			(2,137)
Other operating income (expenses), net	550	(7)	49		592
	(2,398)	**49**	**49**		**(2,300)**
Operating profit (loss) before equity results and finance results	**3,641**	**(39)**			**3,602**
Results from equity investments					
Equity in the results of investees	814			304	1,118
Dividends reveived	820				820
Realization of other comprehensive income on disposal of investments	4				4
	1,638			**304**	**1,942**
Finance results, net					
Finance income	1,261		(4)		1,257
Finance costs	(2,531)	2			(2,529)
Income from derivative financial instruments	204		4		208
Foreign exchange, net	(977)	1			(976)
	(2,043)	**3**			**(2,040)**
Profit (loss) before income tax and social contribution	**3,236**	**(36)**		**304**	**3,504**
Income tax and social contribution					
Current	(456)	1			(455)
Deferred	(608)			52	(556)
Profit (loss) on continuing operations	**2,172**	**(35)**		**356**	**2,493**

					2018
	As prior presented	Impacts of reclassi-fication of Uszinc (vii)	Reclassi-fication Acerbrag (viii)	Allocation of CESP purchase price (vi)	Balance restated
Discontinued operations					
Profit (loss) for the discontinued operations	(218)	35			(183)
Profit for the attributable to the owners	**1,954**	**35**			**2,310**
Profit attributable to the owners of the Company	1,746			356	2,102
Profit attributable to non-controlling interests	208				208
Profit for the period	**1,954**			**356**	**2,310**
Weighted average number of shares - thousands (to the owners of the Company)	18,278,789				18,278,789
Basic and diluted earnings per thousand shares, in reais	95.52				115.00
From continuing operations					
Basic and diluted earnings per thousand shares, in reais	107.45				125.01
From discontinued operations					
Basic and diluted loss per thousand shares, in reais	(11.93)				(10.01)

(vii) Impacts of reclassification of Uszinc

In accordance with IFRS 5 / CPC 31 – "Non--current assets held for sale and discontinued operation", the subsidiary FinCo GmbH reclassified the investment in USZinc, from continuing operations to discontinued operations.

(viii) Acerbrag Reclassification

The comparative period of the income statement for the year was altered by the correction in the allocation of fuel expenses of the subsidiary Acerbrag.

2.4 Foreign currency conversion

(a) Functional and presentation currency of the financial statements

The functional currency of the Company is the Brazilian Real ("R$", "Real" or "reais").

(b) Transactions and balances

Foreign currency transactions are translated into reais using the exchange rates prevailing at the dates of the transactions or the dates of valuation when items are re-measured. Foreign exchange gains and losses resulting from the settlement of such transactions and from the translation at year-end exchange rates of monetary assets and liabilities denominated in foreign currencies are recognized in the statement of income, except when deferred in equity as net investment hedges.

(c) Subsidiaries with a different functional currency

The results and financial positions of all the Company entities (none of which has the currency of a hyperinflationary economy) that have a functional currency different from the presentation currency are translated into the presentation currency as follows:

(i) Assets and liabilities for each balance sheet presented are translated at the closing rate at the date of that balance sheet;

(ii) Income and expenses for each statement of income are translated at average exchange rates;

(iii) All resulting exchange differences are recognized as a separate component of equity, in "Carrying value adjustments".

The amounts presented in the cash flow are extracted from the translated movements of the assets, liabilities and profit or loss, as detailed above.

On consolidation, exchange differences arising from the translation of the net investment in foreign operations, and of borrowings and other foreign currency instruments designated as hedges of such investments, are recognized in equity. When a foreign operation is partially disposed of or sold, exchange differences that were recorded in equity are recognized in the statement of income as part of the gain or loss on sale.

Goodwill and fair value arising from the acquisition of an entity abroad are treated as assets and liabilities of the entity abroad and converted at the closing rate.

Below are the functional currencies defined for the significant foreign subsidiaries:

Company	Country	Functional currency	Main activity
Acerbrag S.A.	Argentina	Argentine Peso	Steel
St. Marys Cement Inc. - "St. Mary's"	Canada	Canadian Dollar	Cement
Acerías Paz del Río S.A.	Colombia	Colombian Peso	Steel
Votorantim Cimentos EAA Inversiones, S.L. - "VCEAA"	Espain	Euro	Cement
Nexa Resources Cajamarquilla S.A.	Peru	US Dollar	Zinc
Nexa Resources Perú S.A.A.	Peru	US Dollar	Mining
Nexa Resources S.A.	Luxembourg	US Dollar	Holding
Votorantim Cimentos International S.A. - "VCI"	Luxembourg	US Dollar	Holding
Votorantim FinCO GmbH	Luxembourg	US Dollar	Trading

3 Changes in accounting policies and disclosures

3.1 Changes in accounting standards

3.1.1 IFRS 16 / CPC 06 – "Leases"

IFRS 16 establishes principles for the recognition, measurement, presentation and disclosure for lease agreements. The standard introduces a single model for leases accounting in the balance sheet, where the lessees are required to recognize a lease liability reflecting future payments, and the right to use the leased asset. The nature of the expenses related to these leases was changed from a linear operating lease expenses to a depreciation expense of the right-of-use and interest expenses for the restatement of the lease liability.

This international standard changes the existing lease standards, including CPC 06 (IAS 17) – "Leasing Operations" and ICPC 03 (IFRIC 4, SIC 15 and SIC 27) – "Complementary Aspects of Leasing Operations".

(a) Analysis scope and assets identification

The Company and its subsidiaries analyzed all active lease agreements upon the date of the initial adoption of the standard, when leases of machinery and equipment, light and heavy vehicles, vessels, real estate and land were identified.

As permitted by the standard, the scope of the analysis disregarded: (i) short-term leases (less than 12 months); and (ii) contracts with amounts lower than USD 5,000 (R$ 20,000).

When identifying the right-of-use assets within the scope of the contracts identified, the following were also disregarded: (i) contracts with variable payments; (ii) contracts in which the leased asset was considered non-identifiable; (iii) contracts under which the Company is not entitled to obtain substantially all of the economic benefits arising from the use of the asset; and (iv) contracts in which the Company and its subsidiaries do not have substantial control over the definition of the use of the assets.

It should be noted that the Company and its subsidiaries analyzed, but did not identify: (i) contracts that presented fixed and variable payments as part of the same negotiation; (ii) contracts dealing with identifiable and non-identifiable assets in the same trade; or (iii) service contracts in which assets had been identified within the scope of the standard.

(b) Leasing term

The Company and its subsidiaries analyzed the lease term of all contracts based on a combination of the non-cancellable term, the term covered by the option for extension, the terms covered by the termination option and, mainly, management's intention regarding the period of permanence in each agreement contract.

(c) Discount rate

For initial adoption purposes, the Company and its subsidiaries adopted the average cost of active debt (outstandings) as at December 31, 2018 for all contracts classified in accordance with IFRS 16. For the new contracts, renewals and additions will be identified at the incremental rate for each lease. The incremental rate should reflect the cost of acquisition for the Company and its subsidiaries of debt with characteristics similar to those determined under the lease agreement, in terms of the term, value, guarantee and economic environment. The Company and the subsidiaries applied the future expectations regarding the obligations on January 1, 2019 (ranging from 5% to 7.07%) for all leases.

(d) Impacts of adoption

The Company and its subsidiaries adopted IFRS 16 on January 1, 2019, in accordance with the simplified cumulative effect in which assets and liabilities are recorded at the same time in the initial period without any effect on shareholders' equity, with an impact amounting to R$ 666 related to right-of-use assets and liabilities under lease agreements.

3.1.2 IFRIC 23 / ICPC 22 – "Uncertainty over Income Tax Treatment"

Technical interpretation ICPC 22 clarifies how the recognition and measurement requirements set forth in CPC 32, which deals with taxes on profit, should be applied in cases where there is uncertainty regarding the treatment of these taxes.

(i) Impacts of adoption

The Company and its subsidiaries adhered to the standard from the beginning of its validity period on January 1, 2019. However, based on management's understanding, there is an immaterial accounting impact due to the uncertain positions related to income tax due to the adoption of this new accounting pronouncement.

ESTIMATES AND ASSUMPTIONS

4 Critical accounting estimates and judgments

Based on assumptions, the Company and its subsidiaries make estimates regarding the future. By definition, accounting estimates and judgments are continuously reviewed and are based on historical experience and other factors, including expectations of future events, which are considered reasonable for the circumstances. Revisions to the estimates are recognized prospectively.

The accounting estimates will rarely be the same as the actual results. Estimates and assumptions that present a significant risk and are likely to cause a material adjustment to the carrying amounts of assets and liabilities for the next fiscal year are described in the respective notes below:

(i) Fair value of financial instruments and derivatives (Note 6.1.1);

(ii) Trade receivable (Note 11);

(iii) Property, plant and equipment (Note 18);

(iv) Intangible assets (Note 19);

(v) Current and deferred income and social contribution taxes (Note 24);

(vi) Provision (Note 25);

(vii) Pension plan (Note 28).

5 Social and environmental risk management

The Company, through its subsidiaries and associates, operates in various segments and consequently, these activities are subject to several Brazilian and international environmental laws, regulations, treaties and conventions, including those that regulate the discharge of materials into the environment, which establish the removal and cleaning of the contaminated environment, or those relating to environmental protection. The violations of the environmental regulations in force expose the violator(s) to significant fines and monetary penalties, and may require technical measures or investments to ensure the compliance with the mandatory emissions levels.

The Company and its subsidiaries carry out periodic studies to identify any potentially affected areas and records, based on the best estimates of costs, the amounts expected to be disbursed for the investigation, treatment and cleaning of the potentially affected areas.

The Company and its subsidiaries believe they are in compliance with all of the applicable environmental standards in the countries in which they operate.

6 Financial risk management

6.1 Financial risk factors

The activities of the Company and its subsidiaries expose them to a variety of financial risks, namely: (a) market risk (including currency, commodity price and interest rate risk), (b) credit risk and (c) liquidity risk.

A significant portion of the products sold by the Company and its subsidiaries, such as aluminum, nickel and zinc are commodities, with prices pegged to international indexes and denominated in US Dollars. Their costs, however, are mainly denominated in reais, and therefore, there is a mismatch of currencies between revenues and costs. Additionally, the Company and its subsidiaries have debts linked to different indexes and currencies, which may have an impact on their cash flow.

In order to mitigate the various effects of each market risk factor, the Company and its subsidiaries follow a Market Risk Management Policy, approved by the Finance Committee, with the objective of establishing governance and the overall guidelines of the process of managing these risks, as well as the metrics for their measurement and monitoring.

The financial risk management process aims to protect the cash flow and its operational (revenues and costs) and financial (financial assets and liabilities) components against adverse market events, such as fluctuations in the prices of currencies, interest rates and commodity prices, and against adverse credit events. In addition, it aims to preserve liquidity.

The following financial instruments may be taken out in order to mitigate and manage risk: conventional swaps, call options, put options, collars, currency futures contracts and Non-Deliverable Forward contracts. Strategies that include simultaneous purchases and sales of options are authorized only when they do not result in a net short position in volatility of the underlying asset. The Company and its subsidiaries do not carry out transactions involving financial instruments for speculative purposes.

(a) Market risk

(i) Foreign exchange risk

The Company and its subsidiaries have certain investments in foreign operations, the net assets of which are exposed to foreign exchange risk. The foreign exchange exposure arising from the Company's and its subsidiaries' participation in foreign operations is mainly hedged by borrowing in the same currency as these investments, classified as net investment hedges.

Presented below are the accounting balances of assets and liabilities indexed to the foreign currency at the closing date of the balance sheets:

	Note	2019	Balance restated 2018
Assets denominated in foreign currency			
Cash and cash equivalents	9	5,125	6,316
Financial investments	10	96	62
Trade receivables		1,178	1,329
Derivative financial instruments	6.1.1	234	472
Related parties		82	54
		6,715	**8,233**
Liabilities denominated in foreign currency			
Borrowing (i)		15,172	20,668
Lease liabilities		567	
Derivative financial instruments	6.1.1	155	244
Trade payables		2,227	2,517
Confirming payables	23	1,159	963
Deferred revenue - silver streaming		727	774
		20,007	**25,166**
Net exposure		**(13,292)**	**(16,933)**

(i) Does not consider borrowing costs.

(ii) Hedge of net investments in foreign operations

Accounting policy

Hedges of net investments in foreign operations are accounted for similarly to cash flow hedges.

Any gain or loss on the hedging instrument relating to the effective portion of the hedge is recognized in "Carrying value adjustments". The gain or loss relating to the ineffective portion is recognized immediately in income.

Gains and losses accumulated in equity are included in the statement of income when the foreign operation is partially or fully disposed of or sold.

Hedged investments are presented in the following table including the portion of the debt of the Company and its subsidiaries Companhia Brasileira de Aluminio ("CBA"), Nexa Recursos Minerais S.A., VCI and St Marys Cement Inc., denominated in Euros and US Dollars.

2019

Investiment		Debt	
Nexa Resources Cajamarquilla S.A.	1,616	Votoranitm S.A.	968
		Companhia Brasileira de Aluminio	580
VCNA US Inc. (i)	2,015	St. Marys Cement Inc.	2,015
Votorantim Cimentos EAA Inversiones, S.L.	1,581	Votorantim Cimentos International S.A.	1,581
	5,212		**5,144**

2018

Investiment		Debt	
Nexa Resources Cajamarquilla S.A.	3,437	Votorantim S.A.	1,731
		Nexa Recursos Minerais S.A.	23
		Companhia Brasileira de Aluminio	1,556
		St. Marys Cement Inc.	1,937
Votorantim Cimentos S.A.	1,646	Votorantim Cimentos EAA Inversiones, S.L.	1,644
	5,083		**6,891**

The Company and its subsidiaries document and evaluate the effectiveness of the investment hedge operations on a monthly basis, as required under IFRS 9 – "Financial instruments: recognition and measurement".

The foreign exchange gain on the conversion of debts, net of income tax and social contribution, recognized as equity valuation adjustments on December 31, 2019, was R$ 92 (December 31, 2018, loss of R$ 931) (Note 29 (c)).

(iii) Cash flow and fair value interest rate risk

The interest rate risk arises from the fluctuations of each of the main indexes of interest rates from borrowing and from financial investments, which have an impact on the payments and receipts of the Company and its subsidiaries. Borrowing at fixed rates exposes the Company and its subsidiaries to fair value interest rate risk.

(iv) Commodity price risk

The Financial Policy of the Company's operating subsidiaries establishes guidelines to mitigate the risk of fluctuations in commodity prices that have an impact on the cash flow of the Company's operating subsidiaries.

The exposure to each commodity price considers the monthly projections of production, purchases of inputs and flows of maturities of the related hedges. Hedge transactions are classified into the following categories:

Fixed-price commercial transactions – hedge transactions that switch, from fixed to floating, the price contracted in commercial transactions with customers interested in purchasing products at a fixed price;

Hedges for "quotation periods" – hedges that set a price for the different "quotation periods" between the purchases of certain inputs (metal concentrate) and the sale of products arising from the processing of these inputs;

Hedges for "costs of inputs" – intended to ensure protection against volatility in the prices/costs of its operating subsidiaries for commodities such as oil and natural gas;

Hedges for "operating margin" – intended to set the operating margin for a portion of the production of certain operating subsidiaries.

(b) Credit risk

Derivative financial instruments and financial investments create exposure to credit risk of counterparties and issuers. The Company and its subsidiaries adopt the policy of working with issuers which have, at a minimum, been assessed by two of the following three rating agencies: Fitch Ratings, Moody's or Standard & Poor's ("S&P"). The minimum rating required for the counterparties is "A" (Brazilian scale) or "BBB-" (international scale), or equivalent. For financial assets where issuers do not meet the minimum credit risk ratings, criteria proposed by the Finance Committee are applied as an alternative.

The credit quality of financial assets is disclosed in Note 8. The ratings disclosed in this Note always represent the most conservative ratings of the agencies in question.

The pre-settlement risk methodology is used to assess counterparty risk on derivatives transactions, determining (via Monte Carlo simulations) the likelihood of a counterparty not honoring the financial commitments defined by the contract. The use of this methodology is described in the Votorantim Financial Policy.

(c) Liquidity risk

The following table analyzes the financial liabilities of the Company and its subsidiaries, by maturity, corresponding to the period remaining from the balance sheet date up to the contractual maturity date. The amounts disclosed in the table represent the undiscounted contractual cash flows, these amounts may not be reconciled with the amounts disclosed in the balance sheet.

	Note	Up to one year	From one to three years	From three to five years	From five to ten years	From ten years and above	Total
At December 31, 2019							
Borrowing (i)		1,362	5,506	6,918	9,126	4,544	27,456
Lease liabilities		229	288	177	119	28	841
Derivative financial instruments		69	117	51	213	2	452
Confirming payables	23	1,415					1,415
Trade payables		4,429					4,429
Dividends payable	15	120					120
Related parties	15	50					50
Use of public assets		88	152	254	732	1,233	2,459
		7,762	**6,063**	**7,400**	**10,190**	**5,807**	**37,222**
At December 31, 2018							
Borrowing (i)		6,176	5,625	7,243	9,335	4,420	32,799
Derivative financial instruments		144	69	31			244
Confirming payables	23	1,312					1,312
Trade payables		4,137					4,137
Dividends payable	15	482					482
Related parties	15	12	124				136
Use of public assets		83	159	306	635	1,356	2,539
		12,346	**5,977**	**7,580**	**9,970**	**5,776**	**41,649**

(i) Does not include the recorded fair value.

6.1.1 Derivatives contracted

Accounting policy

Initially, derivatives are recognized at fair value on the date of their contracting and are subsequently re-measured at their fair value. The method for recognizing the resulting gain or loss depends on whether or not the derivative is designated as a hedge instrument in cases of adoption of hedge accounting. If this is the case, the method depends on the nature of the item being hedged. The Company and its subsidiaries adopt hedge accounting and designates certain derivatives such as:

(i) Cash flow hedge

With a view to ensuring a fixed operating margin in reais for a portion of the production of the metal businesses, the subsidiaries enter into commodity forward contracts (zinc, aluminum and nickel) on sales of certain commodities combined with the sale of US Dollar forward contracts. These subsidiaries adopt hedge accounting for the derivative instruments entered into for this purpose.

The effective portion of changes in the fair value of derivatives that are designated and qualify as cash flow hedges is recognized in equity within "Carrying value adjustments". The gain or loss relating to the ineffective portion is recognized as "Operating income (expenses)". The amounts recognized in equity are recorded in the statement of income (in the same line item affected by the transaction originally hedged) upon realization of the hedged exports and/or sales referenced to London Metal Exchange ("LME") prices.

(ii) Fair value hedges

With the objective of maintaining the flow of the metal businesses' operating revenue pegged to LME prices, the subsidiaries enter into hedging transactions under which they convert sales at fixed prices to floating prices in commercial transactions with customers interested in purchasing products at a fixed price. Changes in the fair values of derivatives that are designated and qualify as fair value hedges are recorded in "Operating income (expenses)".

(a) Effects of derivative financial instruments on the balance sheet and cash flow

The table below summarizes the derivative financial instruments and the underlying hedged items:

Details of the main derivative operations

	Principal Value			2018					2019 Changes in fair value			2019	Fair value by maturity				
Programs	2019	2018	As per unit	Fair value	Inventory	Net revenue from products sold and services rendered	Cost of products sold and services rendered	Other operating income (expenses), net	Finance results, net	Other comprehensive income	Gain (lon) Realized	Fair value	2020	2021	2022	2023	2024+
Hedges for sale of zinc at a fixed price																	
Zinc forward	15,252	10,566	ton	(3)				(1)				(4)	(4)				
				(3)				**(1)**				(4)	(4)				
Hedges for mismatches of quotation period																	
Zinc forward	258,220	261,020	ton	(2)	2	12	(20)	(6)		5	(7)	(3)	(3)				
				(2)	**2**	**12**	**(20)**	**(6)**		5	(7)	(3)	(3)				
Operating margin hedging																	
Aluminum forward	151,800	127,750	ton	157		(8)				13	181	(19)	(17)	(2)			
Collars	18		USD							3		3	3				
USD forward	273	279	USD	(47)		15				35	(39)	42	38	4			
				110		7				51	142	26	24	2			
Foreign exchange risk																	
Collars	653	1,057	BRL	(6)					12		8	(2)	(2)				
USD forward		514	USD	(9)					(87)		(96)						
Turkish Lira forward	1	11	USD	(4)					(7)		(11)						
				(19)					(82)		(99)	(2)	(2)				
Interest rate risk																	
LIBOR floating rate vs. CDI floating rate swaps	315	373	USD	142					(6)		82	54	(24)	(39)	(74)	126	65
IPCA floating rate vs. CDI floating rate swaps	227		BRL						7		1	6	4	1	1		
CDI floating rate vs. USD rate swaps	747		BRL						(67)	(51)	9	(127)	(3)	10	18	19	(171)
IPCA floating rate vs. USD rate swaps	139		BRL						(1)	(2)		(3)	(1)	(1)	(1)		
				142					(67)	(53)	92	(70)	(24)	(29)	(56)	145	(106)
Total value of the derivative instruments				**228**	**2**	**19**	**(20)**	**(7)**	**(149)**	**3**	**128**	**(53)**	**(9)**	**(27)**	**(56)**	**145**	**(106)**

On December 31, 2019, the transactions involving derivative financial instruments, net of taxes, recognized in "Carrying value adjustments", amounted to R$ 83 .Besides this, there were hedge accounting operations, net of taxes, which amounted to R$ 142 in the unconsolidated subsidiaries, recognized in "Carrying value adjustments".

(b) Derivative financial instruments – Put-option

During the year ended December 31, 2018, the process by which Votorantim Siderurgia S.A. became a subsidiary of ArcelorMittal Brasil S.A. ("AMB") was concluded. Under the agreement between the parties, VSA became a minority stakeholder of 15% of AMB's combined long steel business which, in compliance with the applicable accounting rules, was recognized as a financial instrument, in accordance with CPC 48 – "Financial instruments". The change in fair value of this operation in the year resulted in a net gain of R$ 89, recorded under "Net financial result".

6.1.2 Fair value estimation

The main financial assets and liabilities are described below, as well as their valuation assumptions:

Financial assets – considering the nature and the terms, the amounts recorded approximate their realizable values.

Financial liabilities – these instruments are subject to the usual market interest rates. The market value was based on the present value of the expected future cash disbursements, at interest rates currently available for the issue of debts with similar maturities and terms.

The Company discloses fair value measurements according to their level of the following fair value measurement hierarchy:

Level 1 – Quoted prices (unadjusted) in active markets for identical assets and liabilities.

Level 2 – Inputs other than quoted prices included within level 1 that are observable for the asset or liability, either directly (that is, as prices) or indirectly (that is, derived from prices).

Level 3 – Inputs for the assets or liabilities that are not based on observable market data (that is, unobservable inputs).

As at December 31, 2019, the financial assets and liabilities carried at fair value were classified as levels 1 and 2 in the fair value measurement hierarchy.

		Fair value measured based on 2019		
	Note	Prices quoted in an active market (Level 1)	Valuation supported by observable prices (Level 2)	Fair value
Assets				
Cash and cash equivalents	9	3,833	2,429	6,262
Financial investments	10	1,392	3,075	4,467
Derivative financial instruments	6.1.1		399	399
Derivative financial instruments - put option	6.1.1		655	655
Financial instruments - firm commitment	16		29	29
Financial instruments - Suzano	13		2,749	2,749
		5,225	**9,336**	**14,561**
Liabilities				
Borrowing	21	13,014	8,068	21,082
Derivative financial instruments	6.1.1		452	452
Confirming payables	23		1,415	1,415
Financial instruments - firm commitment	16		203	203
Deferred revenue - silver streaming			727	727
		13,014	**10,865**	**23,879**

		Fair value measured based on 2018 Balance restated		
	Note	Prices quoted in an active market (Level 1)	Valuation supported by observable prices (Level 2)	Fair value
Assets				
Cash and cash equivalents	9	4,279	3,463	7,742
Financial investments	10	1,794	1,544	3,338
Derivative financial instruments	6.1.1		472	472
Financial instruments - firm commitment	16		202	202
		6,073	**5,681**	**11,754**
Liabilities				
Borrowing	21	16,413	8,072	24,485
Derivative financial instruments	6.1.1		244	244
Confirming payables	23		1,312	1,312
Financial instruments - firm commitment	16		180	180
Deferred revenue - silver streaming			774	774
		16,413	**10,582**	**26,995**

6.1.3 Sensitivity analysis

The main risk factors affecting the pricing of cash and cash equivalents, financial investments, loans and financing and derivative financial instruments are exposure to the fluctuation in the US Dollar, Euro, Turkish Lira, New Peruvian Sun, Argentine Peso and Bolivian interest rates, LIBOR, CDI, US Dollar coupon, commodity prices and electricity purchase and sale contracts. The scenarios for these factors are prepared using both market sources and specialized sources of information, in line with the Company's governance. The scenarios as at December 31, 2019 are described below:

Scenario I – Considers a shock to the market curves and quotations at December 31, 2019, according to the base scenario defined by management as at March 31, 2020;

Scenario II – Considers a shock of + or – 25% in the market curves at December 31, 2019;

Scenario III – Considers a shock of + or – 50% in the market curves at December 31, 2019.

						Impacts on profit (loss)					Impacts on comprehensive income				
						Scenario I	Scenarios II & III				Scenario I	Scenarios II & III			
Risk factors	**Cash and cash equivalents and financial investments (i)**	**Borrowing and related parties (i)**	**Derivative financial instruments/As per unit**		**Changes from 2019**	**Results of scenario I**	**-25%**	**-50%**	**+25%**	**+50%**	**Results of scenario I**	**-25%**	**-50%**	**+25%**	**+50%**
Foreign exchange rates															
USD	4,051	12,711	1,911	USD millions	-2.0%	18	71	214	(50)	(157)	199	2,494	4,988	(2,492)	(4,986)
EUR	244	1,580	1	EUR millions	-2.4%	(1)					32	338	677	(338)	(677)
PEN	148				-3.0%	(4)	(35)	(70)	35	70		(2)	(4)	2	4
BOB	22	460			-3.1%						14	110	219	(110)	(219)
TRY	60	75			-12.6%	(8)	(15)	(30)	15	30	10	19	38	(19)	(38)
ARS	52				-9.7%						(8)	(13)	(26)	13	26
	4,577	**14,826**	**1,912**			**5**	**21**	**114**		**(57)**	**247**	**2,946**	**5,892**	**(2,944)**	**(5,890)**
Interest rates															
BRL - CDI	5,461	3,307	4,068	BRL	-16 bps	11	94	189	(93)	(185)		(4)	(9)	3	5
USD - LIBOR		1,442	1,216	USD millions	2 bps	1	(8)	(16)	8	17		2	5	(2)	(5)
Dollar Coupon			1,007	USD millions	-19 bps	5	19	39	(18)	(36)	(14)	(55)	(114)	51	98
	5,461	**4,749**	**6,291**			**17**	**105**	**212**	**(103)**	**(204)**	**(14)**	**(57)**	**(118)**	**52**	**98**
Price of commodities															
Zinc			273,472	ton	4.7%	(23)	125	249	(125)	(249)	3	(18)	(36)	18	36
Aluminum			151,800	ton	-3.3%						34	263	525	(263)	(525)
			425,272			**(23)**	**125**	**249**	**(125)**	**(249)**	**37**	**245**	**489**	**(245)**	**(489)**
Firm commitment - electric energy															
Purchase and sale agreement - fair value			173	BRL			(3)	(7)	3	7					
			173				**(3)**	**(7)**	**3**	**7**					

(i) The balances presented do not reconcile with the notes, as the analysis carried out included only the most significant currencies and rates. Interest rates only include the principal amount.

7 Financial instruments by category

Accounting policy

The Company and its subsidiaries classify their financial instruments depending on the purpose for which the financial instruments were acquired. Management determines the classification of financial instruments upon initial recognition, in the following categories:

(a) Financial instruments at fair value through profit or loss

These are financial assets held for active and frequent trading. These assets are measured at their fair value, and the changes are recognized in the statement of income for the year.

(b) Financial instruments at fair value through other comprehensive income

Financial instruments that meet the criterion of contractual terms, which give rise to cash flows that are exclusively the payment of principal and interest and are maintained in a business model, the objective of which is achieved both by obtaining contractual cash flows and by sale of financial assets. The instruments in this classification are measured at fair value through other comprehensive income.

(c) Financial instruments at amortized cost

Financial instruments maintained in a business model whose purpose is to obtain contractual cash flows and their contractual terms give rise to cash flows that are exclusively the payment of principal and interest. The instruments in this classification are measured at amortized cost.

(d) Impairment of financial assets measured at cost

This is measured as the difference between the book value of the assets and the present value of the estimated future cash flows (excluding future credit losses that were not incurred), discounted at the current interest rate of financial assets. The book value of the asset is reduced and the amount of the loss is recognized in the statement of income.

If, in a subsequent period, the impairment loss decreases and the impairment can be objectively related to an event occurring after recognition of the impairment (such as an improvement in the debtor's credit rating), the reversal of the loss will be recognized in the statement of the results

	Note	2019	Restated 2018
Assets			
At amortized cost			
Trade receivables	11	2,196	2,546
Related parties	15	229	271
		2,425	**2,817**
Fair value through profit or loss			
Cash and cash equivalents	9	6,262	7,742
Financial investments	10	4,467	3,321
Derivative financial instruments	6.1.1		287
Derivative financial instruments - put option	6.1.1	655	744
Financial instruments - firm commitment	16	29	202
		11,413	**12,296**
Fair value through other comprehensive income			
Financial investments	10		17
Financial instruments - Suzano	13	2,749	
Derivative financial instruments	6.1.1	399	185
		3,148	**202**
Liabilities			
At amortized cost			
Borrowing	21	18,848	11,592
Trade payables		4,429	4,137
Related parties	15	50	136
Confirming payables	23	1,415	1,312
Use of public assets	26	1,238	1,189
		25,980	**18,366**
Fair value through profit or loss			
Borrowing	21	907	12,859
Derivative financial instruments	6.1.1	69	170
Financial instruments - firm commitment	16	203	180
		1,179	**13,029**
Fair value through other comprehensive income			
Derivative financial instruments	6.1.1	383	74
		383	**74**

8 Credit quality of financial assets

	2019			2018		
	Local rating	Global rating	Total	Local rating	Global rating	Total
Cash and cash equivalents						
AAA	1,563		1,563	1,404	39	1,443
AA+				4		4
AA	1	446	447	6	796	802
AA-	416	295	711		424	424
A+		884	884		543	543
A		994	994	1	1,783	1,784
A-		259	259		286	286
BBB+		384	384		759	759
BBB		130	130		118	118
BBB-		102	102		369	369
BB		29	29		21	21
BB-		9	9			
B-		76	76		64	64
B+		9	9		55	55
B					27	27
CCC		16	16			
Unrated (i)		649	649	11	1,032	1,043
	1,980	**4,282**	**6,262**	**1,426**	**6,316**	**7,742**
Financial investments						
AAA	3,840		3,840	3,024		3,024
AA+	45		45	51		51
AA	74	2	76	166		166
AA-	373	12	385	5		5
A+	20	13	33	19	29	48
A					2	2
BBB-		29	29			
B-					30	30
CCC		36	36			
Unrated	20	3	23	11	1	12
	4,372	**95**	**4,467**	**3,276**	**62**	**3,338**

	2019			2018		
	Local rating	Global rating	Total	Local rating	Global rating	Total
Derivative financial instruments						
AAA	377		377	242		242
AA		4	4	1	52	53
AA-	7		7	5		5
A+		2	2		134	134
A					1	1
A-		9	9			
Unrated (i)				37		37
	384	**15**	**399**	**285**	**187**	**472**
Financial instruments - Suzano						
AAA	2,749		2,749			
	2,749		**2,749**			
	9,485	**4,392**	**13,877**	**4,987**	**6,565**	**11,552**

The local and global ratings were obtained from ratings agencies (Standard & Poor's, Moody's and Fitch Ratings). The Company considered the ratings of Standard & Poor's and Fitch Ratings for presentation purposes, and the classification as established in the Company's Financial Policies.

(i) Refers to values invested in offshore banks, which are not rated by any ratings agency.

ASSETS

9 Cash and cash equivalents

Accounting policy

Cash and cash equivalents include cash, bank deposits and other highly liquid short-term investments whose original maturities are less than three months, which are readily convertible into a known amount of cash and which are subject to an insignificant risk of change in value.

(a) Breakdown

Cash and cash equivalents in local currency include deposits in current bank accounts and government securities (overnight operations) or financial institutions, indexed to the interbank deposit rate. Cash equivalents in foreign currency are mainly composed of financial instruments in local currency.

	2019	2018
		Restated
Local currency		
Cash and banks	9	28
Bank Deposit Certificates - ("CDBs")	567	3
Repurchase agreements - public securities	561	1,395
	1,137	**1,426**
Foreign currency		
Cash and banks	3,263	2,856
Time deposits	1,862	3,460
	5,125	**6,316**
	6,262	**7,742**

10 Financial investments

Accounting policy

Financial investments are held for the purpose of servicing investments whose maturities are long-term from the date of acquisition.

(a) Breakdown

Most financial investments have immediate liquidity, however, they are classified as financial investments based on the original maturities, considering the intended allocation of funds. The investments in national currency comprise government securities or financial institutions indexed to the interbank deposit rate. Foreign currency-denominated investments consist mainly of fixed-income financial instruments in local currency (time deposits).

	2019	2018
		Balance restated
Fair value through profit or loss		
Bank Deposit Certificates - ("CDBs")	2,248	1,321
Financial Treasury Bills - ("LFTs")	1,218	1,763
Repurchase agreements - public securities	173	106
Repurchase agreements - private securities		54
Investment fund quotas	669	15
Financial investments in foreign currency	64	62
Financial bills - private securities	3	
	4,375	**3,321**
Fair value through other comprehensive income		
Bank Deposit Certificates - ("CDBs")	60	17
	60	**17**
Amortized cost		
Financial investments in foreign currency	32	
	32	
	4,467	**3,338**
Current	4,444	3,315
Non-current	23	23
	4,467	**3,338**

11 Trade receivables

Accounting policy

Trade receivables are amounts due from customers for merchandise sold or services performed in the ordinary course of the Company's business.

Trade receivables are recognized initially at fair value and subsequently measured at amortized cost using the effective interest rate method, less provision for impairment of trade receivables. Receivables from customers abroad are presented based on the exchange rates prevailing at the balance sheet date.

(a) Breakdown

	Note	2019	2018
Trade receivables – Brazil		1,144	1,308
Trade receivables – foreign customers		1,230	1,398
Related parties	15	13	14
		2,387	2,720
Allowance for doubtful accounts		(191)	(174)
		(191)	(174)
		2,196	2,546

(b) Breakdown by currency

	2019	2018
Brazilian real	1,018	1,217
U.S. dollar	764	741
Colombian peso	125	120
Euro	60	102
Turkish lira	16	88
Uruguayan peso	67	82
Moroccan dirham	35	62
Argentine peso	60	61
Others	51	73
	2,196	2,546

(c) Changes in estimated loss for doubful accounts

	2019	2018
Opening balance	(174)	(159)
Additions, net	(56)	(21)
Receivables written off as uncollectible (i)	39	13
Effect of subsidiaries excluded from consolidation		(7)
Closing balance	(191)	(174)

(i) The debits on the estimated loss account with doubtful accounts are generally written off when there is no expectation of recovery of funds.

(d) Aging of trade receivables

	2,019	2,018
Current	1,864	2,184
Up to three months past due	282	295
Three to six months past due	4	22
Over six months past due	237	219
	2,387	2,720

12 Inventory

Accounting policy

Inventories are stated at the lower of cost and net realizable value. Cost is determined using the weighted average cost method. The cost of finished goods and work in progress comprises raw materials, direct labor, other direct costs and related production overheads. Raw materials derived from biological assets are measured at fair value, less estimated point-of-sale costs at the point of harvest, when they are transferred to inventories in non-current assets.

Net realizable value is the estimated selling price in the ordinary course of business, less conclusion costs and selling expenses. Imports in transit are stated at the accumulated cost of each import.

The subsidiaries, at least once a year, carry out a physical inventory check. Inventory adjustments are recorded under "Cost of goods sold and services rendered".

The provision for inventory losses refers substantially to obsolete and low turnover materials.

	2019	2018
Finished products	862	845
Semi-finished products	1.587	1.499
Raw materials	826	832
Auxiliary materials and consumables	995	896
Imports in transit	79	142
Other	173	82
Provision for inventory losses	(393)	(482)
	4.129	**3.814**

13 Financial Instruments – Suzano

	Closing	2018
Shares	75,180,059	75,180,059
Suzano Papel e Celulose S.A. (SUZB3) share (R$) (i)	39.00	36.57
Financial instrument – Suzano	**2,932**	**2,749**
Fair value change		(183)
Income tax and social contribution		62
Adjustment to the fair value, net of tax (note 29 (c))		**(121)**

(i) Uses the average share price quote for the last ninety days of the closing date.

14 Taxes recoverable

Accounting policy

The recoverable taxes are held in assets mainly for the purpose of recognizing in the balance sheet of the entity the book values that will be object of future recovery.

	2019	2018
Corporate Income Tax ("IRPJ") and Social Contribution on Net Income ("CSLL")	1,826	1,751
Social Contribution on Revenue ("COFINS") (i)	1,963	1,057
State Value-added Tax on Sales and Services ("ICMS")	695	594
Social Integration Program ("PIS") (i)	400	230
Value-added Tax ("VAT") (foreign companies)	249	297
Withholding Income Tax ("IRRF")	47	62
ICMS on property, plant and equipment	76	59
"IRPJ/CSLL" - "Plano verão"	32	30
Excise Tax ("IPI")	31	28
Social Security Credit (ii)	20	
Other	106	96
	5,445	**4,204**
Current	1,968	1,473
Non-current	3,477	2,731
	5,445	**4,204**

(ii) The variation refers substantially to the PIS and COFINS credit recognized in the subsidiary CBA, VCSA and the indirect subsidiary VCNNE, in the amounts of R$ 1.186, as described in Note 1.1 (d).

(iii) The variation refers to out-of-date credit due to surveys on social security contributions recognized in the subsidiary CBA.

15 Related parties

Accounting policy

Related parties are individuals or legal entities that are related to the entity that reports the financial statements.

Assets	Trade receivables		Dividends receivable		Non-current assets	
	2019	2018	2019	2018	2019	2018
Related companies and joint ventures						
Cementos Avellaneda S.A.	2	3	9			
Cementos Granadilla S.L.	1	1				3
Banco Votorantim S.A.				9		
Cementos Especiales De Las Islas, S.A.						
Citrosuco S.A. Agroindústria (i)		1			159	216
Citrosuco GmbH (i)					52	50
Supermix Concreto S.A.	5	4				
VTRM Energia Participações S.A			65	5		
Others	5	5	7		18	2
	13	**14**	**81**	**14**	**229**	**271**
Current	13	14	81	14		
Non-current					229	271
	13	**14**	**81**	**14**	**229**	**271**

(i) Refers to accounts receivable related to assets in excess of the basic net assets invested in Citrosuco's operation. The realization period is linked to the performance of each item under the contractual rules laid down in the shareholder agreement and the closing memorandum signed between Fischer S.A. – Commerce, Industry and Agriculture and Votorantim.

Liabilities	Trade receivables		Dividends receivable		Non-current assets	
	2019	2018	2019	2018	2019	2018
Parent company						
Hejoassu Administração S.A.				415		
Related companies and joint ventures						
Suzano Papel e Celulose S.A.		13				117
Superior Materials Holdings, LLC	7	7				
Others	5	19			50	19
	12	**39**		**415**		**136**
Non-controlling interests			120	67		
Current	12	39	120	482		
Non-current					50	136
	12	**39**	**120**	**482**	**50**	**136**

Profit and loss	Sales (purchases), net		Financial profit (loss), net	
	2019	2018	2019	2018
Related companies and joint ventures				
Cementos Avellaneda S.A.		36		
Cementos Especiales De Las Islas, S.A.	23	27		
Cementos Granadilla S.L.	15	20		
Citrosuco S.A. Agroindústria	44	32		
Suzano Papel e Celulose S.A.	6	43		
Midway Group, LLC	32	27		
Supermix Concreto S.A.	201	204		
Superior Materials Holdings, LLC	75	66		
Others	31	20	(5)	(2)
	427	**475**	**(5)**	**(2)**

16 Financial instruments – firm commitment

The controlled company Votorantim Comercializadora de Energia Ltda. ("Votener") centralizes energy purchase and sale transactions to meet the demands of Votorantim companies. A portion of these transactions takes the form of contracts that have been entered into and continue to be carried out for the purpose of receiving the energy for own use or delivering the energy of self-production, in accordance with the productive demands of the Company's subsidiaries and, therefore, meet the definition of a financial instrument.

Another part of these transactions refers to purchases and sales of energy, not used in the productive process of Votorantim companies, being transacted in the active market, and therefore, it meets the definition of financial instruments, due to the fact of being liquidated in energy, and promptly convertible into cash. Such contracts are recorded as derivatives in accordance with IFRS 9 / CPC 48 and are recognized in the Company's balance sheet at fair value on the date the derivative is entered into and is revalued to fair value at the balance sheet date.

The fair value of these derivatives is estimated based, in part, on quotations of prices published in active markets, to the extent that such observable market data exist, and partly by the use of valuation techniques, which considers:

(i) prices established in the purchase and sale operations;

(ii) risk margin in the supply and (iii) projected market price in the period of availability. Whenever the fair value at initial recognition for these contracts differs from the transaction price, gain or loss, it is recognized in profit or loss for the year.

The Company, through its indirect subsidiary Votener, operates in the Regulated Contracting Environment ("ACR") and participated in the 13th electric power purchase auction on April 30, 2014, in which, through a firm commitment, it made sales until December 2019. These transactions, on initial recognition, resulted in gains from the sale of surplus energy to the Company, which was recognized at fair value. The net difference of expenses and revenues generated by the realization of the fair value, through the physical settlement of the sale and purchase agreements, was recognized as an expense in the amount of R$ 142 in "Other operating expenses, net" (Note 32).

In addition, the other operations carried out by the subsidiaries in the Free Contracting Environment ("ACL"), which meet the definition of a financial instrument, were likewise recognized at fair value. The realization of the fair value in the amount of R$ 53 was recognized as an expense in "Other operating expenses, net" (Note 32).

The values quoted above have the following composition:

	ACR			ACL				Total	
	CBA	Votorantim Energia	Total	Votorantim Cimentos	CBA	Votorantim Energia	Total	2019	2018
Realization	(105)	(31)	(136)	(31)	(17)	(80)	(128)	(264)	(199)
Recognition					28	46	74	74	65
Constitution (reversal)	(5)	(1)	(6)					(6)	2
	(110)	**(32)**	**(142)**	**(31)**	**11**	**(34)**	**(54)**	**(196)**	**(132)**

The table below shows the composition of the assets and liabilities:

	ACL				Total	
	Votorantim Cimentos	CBA	Votorantim Energia	Total	2019	2018
Assets						
Current						202
Non-current			29	29	29	
			29	**29**	**29**	**202**
Liabilities						
Current	(10)	(17)	(54)	(81)	(81)	(19)
Non-current	(34)	(77)	(11)	(122)	(122)	(161)
	(44)	**(94)**	**(65)**	**(203)**	**(203)**	**(180)**

17 Investments

Accounting policy

Investments in affiliates, subsidiaries and joint ventures are accounted for using the equity method of accounting as of the date they become their jointly controlled joint ventures.

Affiliates are those entities in which the Company, directly or indirectly, has significant influence, but not control or joint control over financial and operating policies. In order to be classified as a jointly controlled entity, there must be a contractual agreement that allows the Company to share control of the entity and gives the Company the right to the net assets of the jointly controlled entity, not the right to its specific assets and liabilities.

The Company also recognizes its assets in accordance with the venturer's participation in the assets, liabilities, revenues and expenses of the controlled entity on a proportional basis. This implies recognizing the venturer's share of the assets, liabilities, income and expenses of the joint ventures by adding such amounts to its own assets, liabilities, revenues and expenses by the straight-line method, including such amounts in corresponding to the balance sheet and income statement of the same nature.

(i) Impairment of investments

For the calculation of the recoverable amounts of the investments, the Company and its subsidiaries use criteria similar to those used to test goodwill impairment.

(a) Breakdown

Main consolidated companies	Percentage of total and voting capital		Headquarters	Main activity
	2019	2018		
Subsidiaries				
Acerbrag S.A.	100.00	100.00	Argentina	Steel
Votorantim FinCO GmbH	100.00	100.00	Austria	Trading
Calmit Mineração e Participação Ltda.	100.00	100.00	Brazil	Holding
Acariuba Mineração e Participação Ltda.		100.00	Brasil	Holding
Companhia Brasileira de Alumínio	100.00	100.00	Brazil	Aluminum
Interávia Transportes Ltda.		100.00	Brazil	Transportation
Santa Cruz Geração de Energia S.A.	100.00	100.00	Brazil	Electric power
Silcar Empreendimentos, Comércio e Participações Ltda.	100.00	100.00	Brazil	Holding
Votener - Votorantim Comercializadora de Energia Ltda.	100.00	100.00	Brazil	Electric power
Votorantim Cimentos N/NE S.A.	100.00	100.00	Brazil	Cement
Votorantim Cimentos S.A.	100.00	100.00	Brazil	Cement
Votorantim Energia Ltda.	100.00	100.00	Brazil	Holding
Votorantim Finanças S.A.	100.00	100.00	Brazil	Finance
Votorantim Geração de Energia S.A.	100.00	100.00	Brazil	Holding
Votorantim Investimentos Latino-Americanos S.A.		100.00	Brazil	Holding
Nexa Recursos Minerais S.A.	66.40	70.24	Brazil	Zinc
Votorantim Cement North America Inc.	100.00	100.00	Canada	Holding
Acerías Paz del Río S.A.	91.20	82.42	Colombia	Steel
Votorantim Cimentos EAA Inversiones, S.L.	100.00	100.00	Spain	Holding
St. Marys Cement Inc.	100.00	100.00	USA	Cement
St. Helen Holding II B.V.	100.00	100.00	Cayman Islands	Holding
Hailstone Ltd.	100.00	100.00	British Virgin Islands	Holding
Nexa Resources S.A.	64.25	64.25	Luxembourg	Holding
Votorantim Cimentos International S.A.	100.00	100.00	Luxembourg	Holding
Votorantim RE	100.00	100.00	Luxembourg	Insurance
Nexa Resources Atacocha S.A.A.	91.00	91.00	Peru	Mining
Nexa Resources Perú S.A.A	80.06	80.23	Peru	Mining
Nexa Resources Cajarmarquilla S.A.	99.91	99.91	Peru	Zinc
Cementos Artigas S.A.	51.00	51.00	Uruguay	Cement

Main consolidated companies	Percentage of total and voting capital 2019	2018	Headquarters	Main activity
Joint operations				
Baesa - Energética Barra Grande S.A.	15.00	15.00	Brazil	Electric power
Campos Novos Energia S.A.	44.76	44.76	Brazil	Electric power
Great Lakes Slag Inc.	50.00	50.00	Canada	Cement
Voto - Votorantim Overseas Trading Operations IV Ltd.		50.00	Cayman Islands	Trading
Exclusive investment funds				
Fundo de Investimento Pentágono VC Multimercado – Crédito Privado	100.00	100.00	Brazil	Finance
Fundo de Investimento Pentágono CBA Multimercado – Crédito Privado	100.00	100.00	Brazil	Finance
Fundo de Investimento Pentágono VSA Multimercado – Crédito Privado	100.00	100.00	Brasil	Finance
Odessa Multimercado Crédito Privado	93.49	96.91	Brazil	Finance
Odessa Multimercado Crédito Privado Fundo de investimento VC	100.00	100.00	Brazil	Finance
Odessa Multimercado Crédito Privado Fundo de investimento VM	100.00	100.00	Brazil	Finance

Main non-consolidated companies	Percentage of total capital 2019	2018	Head-quarters	Main activity
Associates				
Cementos Avellaneda S.A.	49.00	49.00	Argentina	Cement
Alunorte - Alumina do Norte S.A.	3.52	3.52	Brazil	Mining
IMIX Empreendimentos Imobiliários Ltda.	25.00	25.00	Brazil	Mining
Mineração Rio do Norte S.A.	12.50	12.50	Brazil	Mining
Supermix Concreto S.A.	25.00	25.00	Brazil	Concrete
Cementos Especiales de las Islas S.A.	50.00	50.00	Spain	Cement
Joint ventures				
Citrosuco GmbH	50.00	50.00	Austria	Agribusiness
Banco Votorantim S.A.	50.00	50.00	Brazil	Finance
Citrosuco S.A. Agroindústria	50.00	50.00	Brazil	Agribusiness
Juntos Somos Mais Fidelização S.A.	45.00	45.00	Brazil	Services
VTRM Energia Participações S.A.	50.00	50.00	Brazil	Electric power
Hutton Transport Ltda.	25.00	25.00	Canada	Transportation
Midway Group, LLC.	50.00	50.00	USA	Cement
Superior Materials Holdings, LLC.	50.00	50.00	USA	Cement
RMC Leasing	50.00	50.00	USA	Rental equipment

(b) **Information about the companies investees**

The following is a summary of selected financial information of the principal associates and joint ventures as at December 31, 2019:

	Current assets	Non-current assets	Current liabilities	Non-current liabilities	Equity	Net revenue	Operation results	Finance income (costs)	Profit (loss) for the year	Total and voting capital (%)
Investments accounted for based on the equity method – Associates										
Cementos Avellaneda S.A.	375	1,016	439	10	941	1,494	359	(4)	269	49%
Alunorte – Alumina do Norte S.A.	9,280		2,391	3,370	3,519	6,022	411	(386)	3	3%
IMIX Empreendimentos Imobiliários Ltda.	13	7			19	6	6	1	6	25%
Mineração Rio do Norte S.A.	493	2,487	668	1,329	982	1,432	349	(167)	144	10%
Supermix Concreto S.A.	205	275	162	86	230	1,239	(2)	2	2	25%
Cementos Especiales de las Islas S.A.	104	114	25	8	185				30	50%
Joint ventures										
Citrosuco GmbH	3,794	829	720	343	3,560	3,183	(104)	22	(105)	50%
Banco Votorantim S.A.	48,215	48,316	58,025	27,750	10,756	8,169	12,125		1,594	50%
Citrosuco S.A. Agroindústria	3,384	4,274	1,750	5,728	181	2,795	(159)	(311)	(461)	50%
Jaguatirica empreendimento imobiliário SPE S.A.	207	7	1	1	211	11	6		5	50%
Juntos Somos Mais Fidelização S.A.	61	9	44		27	49	(7)	2	(3)	45%
VTRM Energia Participações S.A.	271	3,866	138	67	3,832		(37)	2	551	50%
Hutton Transport Ltda.	35	61	14	2	75				12	25%
Midway Group, LLC.	28	26	9		51				19	50%
RMC Leasing LLC	5	15			31					50%
Superior Materials Holdings, LLC	94	59	39		125				57	50%

(c) Changes in investees

	Profit (loss) for the year		Equity in the results of investees patrimonial		Investment balance	
	Equity	"Profit (loss) for the year"	2019	2018	2019	2018
Investments accounted for based on the equity method – Associates						
Cementos Avellaneda S.A.	941	269	132	81	578	502
Alunorte - Alumina do Norte S.A.	3,519	3		(28)	107	107
IMIX Empreend. Imobiliários Ltda.	19	6	2	1	5	3
Mineração Rio do Norte S.A.	982	144	14	2	98	90
Supermix Concreto S.A.	230	2	1	(4)	58	57
Cementos Especiales De Las Islas, S.A.	185	30	15	12	77	77
Outros				(1)	81	162
Joint ventures						
Citrosuco GmbH (i)	3,560	(105)	(88)	156	2,643	2,613
Banco Votorantim S.A. (ii)	10,756	1,594	797	530	5,383	5,063
Citrosuco S.A. Agroindústria (i)	181	(461)	(267)	(171)	387	610
Jaguatirica Empreendimento Imobiliário SPE S.A. (i)	211	5	2		111	67
Juntos Somos Mais Fidelização S.A.	27	(3)	(1)	(3)	12	5
VTRM Energia Participações S.A. (i)	3,832	551	271	328	2,058	1,844
Hutton Transport Ltda.	75	12	3	4	19	20
Midway Group, LLC.	51	19	9	6	26	23
RMC Leasing LLC	31				15	10
Superior Materials Holdings, LLC	125	57	29	24	62	57
Fibria Celulose S.A.				181		
			919	**1,118**	**11,720**	**11,310**

	2019	2018
		Reapresentado
Opening balance for the year	11,310	13,372
Equity in the results of investees	919	1,118
Foreign exchange variations	(56)	208
Addition	156	1,409
Disposals	(68)	(245)
Fair value of available for sale asset - Banco Votorantim S.A.	44	
Dividends	(613)	(127)
Gain on fair value adjustment on deconsolidation		144
Initial adoption of IFRS 9		(337)
Reclassification for assets classified as held for sale		(4,305)
Other	28	73
Closing balance for the year	**11,720**	**11,310**

(i) The following investments consider the goodwill paid on the acquisition of investments and the surplus value, which is amortized in the income statement of the parent company:

	Goodwill		Added Value	
	2019	2018	2019	2018
Citrosuco S.A. Agroindústria	194	194	112	139
Citrosuco GmbH	145	141	752	726
Jaguatirica Empreendimento Imobiliário SPE S.A.	5			
VTRM Energia Participações S.A.			141	144

(i) On December 31, 2019 the investment included the adjustment to fair value amounting to R$ 495 (December 31, 2018 – R$ 495).

18 Property, plant and equipment

Accounting policy

(i) Property, plant and equipment

Property, plant and equipment are stated at their historical cost of acquisition or construction, less accumulated depreciation. Historical cost also includes finance costs related to the acquisition or construction of qualifying assets.

Subsequent costs are included in the asset's carrying amount or recognized as a separate asset, as appropriate, only when it is probable that future economic benefits associated with these costs will flow to the Company and they can be measured reliably. The carrying amount of the replaced items or parts is derecognized.

All other repairs and maintenance are charged to the statement of income during the financial period in which they are incurred. The cost of major refurbishments is included in the carrying value of the asset when future economic benefits exceed the performance initially expected for the existing asset. Refurbishment expenses are depreciated over the remaining useful life of the related asset.

Land is not depreciated. Depreciation of other assets is calculated using the straight-line method to reduce their cost to their residual values over their estimated useful lives.

An asset's carrying amount is written down immediately to its recoverable amount when the asset's carrying amount is greater than its estimated recoverable amount, in accordance with the criteria adopted by the Company in order to determine the recoverable amount.

Gains and losses on disposals are determined by comparing the sales amount with the carrying amount and are recognized within "Other operating income (expenses), net" in the statement of income.

(ii) Impairment of non-financial assets

Assets that are subject to depreciation and amortization are reviewed for impairment whenever events or changes in economic, operating or technological circumstances may indicate impairment or loss of book value. An impairment loss is recognized when the carrying amount of the asset or cash generating unit ("CGU") exceeds its recoverable amount, adjusting the carrying amount to the recoverable amount.

The recoverable amount is the greater of an asset's fair value less costs to sell and its value-in-use. For the purpose of impairment assessment, assets are grouped at the lowest levels for which there are separately identifiable cash flows (CGUs). Non-financial assets, except goodwill, which have been impaired, are subsequently reviewed for the analysis of a possible reversal of impairment, at the balance sheet date.

The recoverability of the assets that are used in the activities of the Company and its subsidiaries is evaluated whenever events or changes in circumstances indicate that the book value of an asset or group of assets may not be recoverable based on future cash flows. If the carrying amount of these assets exceeds their recoverable value, the net amount is adjusted and their useful life is adjusted to new levels.

(a) Breakdown and changes

	Land and improvements	Buildings and construction	Machinery, equipment and facilities	Vehicles		Furniture and fittings	Construction in progress	Asset retirement obligation	Leasehold improvements	Other	2019 Total	2018 Total
Opening balance for the year												
Cost	2,060	10,890	35,376	1,225		241	2,785	917	519	527	54,540	52,346
Accumulated depreciation	(62)	(4,624)	(21,341)	(1,000)		(172)		(484)	(296)	(348)	(28,327)	(26,123)
Net opening balance for the year	**1,998**	**6,266**	**14,035**	**225**		**69**	**2,785**	**433**	**223**	**179**	**26,213**	**26,223**
Additions	8	5	47	6		3	3,115	3		2	3,189	2,567
Disposals	(19)	(17)	(64)	(2)		(6)	(2)		(2)	(3)	(115)	(103)
Depreciation	(5)	(378)	(1,658)	(75)		(17)		(35)	(25)	(4)	(2,197)	(1,985)
Foreign exchange variation	29	40	110	10			163	4	16	(49)	323	947
Effect of subsidiaries included in (excluded from) consolidation	(3)	22	11	11		1					42	(1,286)
Reversal for impairment	(1)	(57)	(80)					(171)			(309)	29
Cash flow revaluation (i)								291			291	64
Revision of estimated cash flow												(225)
Exchange variation of countries with hyperinflationary economy							10			75	85	138
Transfers (ii)	26	351	1,550	165		8	(2,491)		17		(374)	(156)
Closing balance for the year	**2,033**	**6,232**	**13,951**	**340**		**58**	**3,580**	**525**	**229**	**200**	**27,148**	**26,213**
Cost	2,100	11,246	36,839	1,381		236	3,580	1,058	564	548	57,552	54,540
Accumulated depreciation	(67)	(5,014)	(22,888)	(1,041)		(178)		(533)	(335)	(348)	(30,404)	(28,327)
Net closing balance for the year	**2,033**	**6,232**	**13,951**	**340**		**58**	**3,580**	**525**	**229**	**200**	**27,148**	**26,213**
Average annual depreciation rates – %	1	4	9	20	–	11	–	5	9	–		

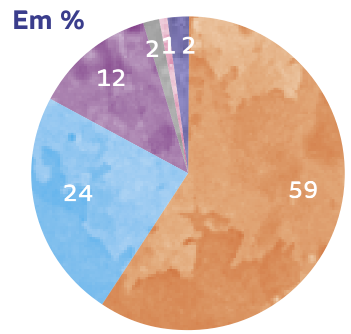
(i) Refers, substantially, to item 1.1 (q)

(i) The transfers are related to the reclassification from "Construction in progress" within "Property, plant and equipment", "Goodwill", "Software", "Rights to use natural resources" and "Others" within "Intangible assets".

(b) Construction in progress

The balance is composed mainly of expansion and optimization projects related to industry.

Segment	2019	2018
Nexa Resources	2,123	1,353
Votorantim Cimentos	849	771
CBA	448	492
Long steel	60	92
Votorantim Energia	23	25
Other	77	52
	3,580	**2,785**



The main projects in progress by business segment are as follows:

Nexa Resources	2019	2018
Expansion and modernization projects	1,403	683
Sustaining	460	354
Security, health and enviromental projects	213	223
Information technology	45	53
Other	2	40
	2,123	**1,353**

Votorantim Cimentos	2019	2018
Sustaining	282	220
Industrial modernization	115	161
Cement grinding - Pecém - Brazil	76	39
New production line in Sobral - CE	72	34
New lines of co-processing	51	35
Hardware and software	33	15
Factory in Nobres - MT	29	17
Geology and mining rights	28	10
Environment and security	25	67
Other	138	173
	849	**771**

CBA	2019	2018
Rondon Bauxite projects	118	114
Furnace refurbishment	111	131
Furnace rooms project	44	30
Plastic transformation and foundry projects	27	3
Alumina factory project	24	48
Revitalization and adequacy of power plant	22	4
Automation system modernization	21	29
Projetos de Fundição	19	7
Projetos de Mineração	18	22
Projetos de Segurança, Saúde e Meio Ambiente		29
Other	44	75
	448	**492**

Long steel	2019	2018
Sustaining	53	80
Security projects, health and environment projects - Colombia	3	7
Other	4	5
	60	**92**

Votorantim Energia	2019	2018
Corumba - GO projects	20	19
Information technology	2	4
Other	1	2
	23	**25**

19 Intangible assets

Accounting policy

(i) Goodwill

Goodwill represents the excess of the cost of an acquisition over the net fair value of assets and liabilities of the acquired entity. Goodwill on acquisitions of subsidiaries is recorded as "assets" in the consolidated financial statements. Goodwill is tested annually for impairment and carried at cost less accumulated impairment losses. Impairment losses on goodwill are not reversed. Gains and losses on the disposal of an entity include the carrying amount of goodwill relating to the entity sold.

Goodwill is allocated to CGUs for the purpose of impairment testing. The allocation is made to those CGUs or groups of CGUs that are expected to benefit from the business combination in which the goodwill arose.

Annually, the Company and its subsidiaries review the net book value of goodwill, in order to assess whether there was impairment. The recoverable amounts of CGUs were determined according to the value in use, based on the discounted cash flow model. The recoverable amount is sensitive to the rate used in the discounted cash flow model, as well as the expected future cash receipts and the growth rate used for extrapolation purposes.

(ii) Rights over natural resources

Costs for the acquisition of rights to explore and develop mineral properties and to explore wind resources are capitalized and amortized using the straight-line method over their useful lives, or, when applicable, based on the depletion of the mines in question. Once the mine or wind farm starts operating, these costs are amortized and considered a cost of production.

Depletion of mineral resources and wind farms is calculated based on extraction and utilization, respectively, taking into consideration their estimated productive lives.

(iii) Computer software

Computer software licenses and development costs directly attributable to software are recorded as intangible assets. These costs are amortized over the estimated useful life of the software (three to five years).

(iv) Use of public assets

This represents the amounts established in the concession contracts regarding the rights to hydroelectric power generation (onerous concession) under Use of Public Assets agreements.

These transactions are accounted for at the time when the operating permit is awarded, regardless of the disbursement schedule established in the contract. Upon inception, this liability (obligation) and intangible asset (concession right) correspond to the total amount of the future obligations discounted to their present value.

The amortization of the intangible asset is calculated on a straight-line basis over the period of the authorization to use the public asset. The financial liability is updated by the effective interest method and reduced by the payments contracted.

(v) Contractual customer relationships and non-competition agreements

Contractual customer relationships and non-competition agreements acquired in a business combination are recognized at fair value at the acquisition date. The contractual customer relations and non-competition agreements have a finite useful life and are carried at cost less accumulated amortization. Amortization is calculated using the straight-line method over the estimated useful lives.

(a) Breakdown and changes

	Rights over natural resources	Goodwill	Asset retirement obligation	Use of public assets	Contracts, customer relationships and agreements	Software	Rights over trademarks and patents	Other	2019 Total	2018 Total
Opening balance for the year										
Cost	9,827	5,797	337	540	268	526	208	918	18,421	16,510
Accumulated amortization	(3,575)		(135)	(198)	(199)	(368)	(56)	(398)	(4,929)	(4,435)
Net opening balance for the year	**6,252**	**5,797**	**202**	**342**	**69**	**158**	**152**	**520**	**13,492**	**12,075**
Additions		5	21		18	1	2	12	59	115
Disposals	(7)					(2)			(9)	(32)
Amortization and depletion	(510)		(18)	(19)	(19)	(58)		(9)	(633)	(486)
Foreign exchange variation	66	206	4		3	1		22	302	1,585
Reclassification from assets classified as held-for-sale										(5)
Effect of subsidiaries included in (excluded from) consolidation					12				12	(97)
Reversal for impairment (i)	(380)							(25)	(405)	24
										184
Revision of estimated cash flow			91						91	(27)
Transfers	255					73	(1)	47	374	156
Closing balance for the year	**5,676**	**6,008**	**300**	**323**	**83**	**173**	**153**	**567**	**13,283**	**13,492**
Cost	10,263	6,008	457	540	310	602	206	1,003	19,389	18,421
Accumulated amortization	(4,587)		(157)	(217)	(227)	(429)	(53)	(436)	(6,106)	(4,929)
Net closing balance for the year	**5,676**	**6,008**	**300**	**323**	**83**	**173**	**153**	**567**	**13,283**	**13,492**
Average annual amortization and depletion rates - %	6		7	7	7	20				

(i) Refers, substantially, to impairment in the subsidiary Nexa described in item 1.1 (n).

(b) Goodwill on acquisitions

Accounting policy

The Company and its subsidiaries use the acquisition method to account for business combinations. The consideration transferred for the acquisition of a subsidiary is the fair value of the assets transferred, the liabilities incurred and the equity interests issued by the Company. The consideration transferred includes the fair value of assets or liabilities resulting from a contingent consideration arrangement, when applicable. Acquisition-related costs are expensed as incurred. Identifiable assets acquired and liabilities assumed in a business combination are measured initially at their fair values at the acquisition date.

The Company and its subsidiaries recognize any non-controlling interest in the acquiree on an acquisition-by-acquisition basis, either at fair value or at the non-controlling interest's proportionate share of the fair value of the acquiree's identifiable net assets. Non-controlling interests are determined on each acquisition.

	2019	2018
		Restated
Votorantim Cimentos		
North America	1,499	1,391
United Materials LLC		
Europe, Ásia e África		
Votorantim Cimentos EAA Inversiones S.L.	1,294	1,268
Comercializadora de Cenizas S.L.	5	4
Cementos Antequera S.A.	3	3
Latin America		
Cementos Artigas S.A.	11	12
Brazil		
Cimento Vencemos do Amazonas Ltda.	64	92
Engemix S.A.	76	76
CJ Mineração Ltda.	16	16
	2,968	**2,862**
Nexa Resources		
Latin America		
Nexa Resources Perú S.A.A.	2,330	2,241
Nexa Resources Cajamarquilla S.A.	373	358
Brazil		
Campos Novos Energia S.A.	26	26
Pollarix S.A.	1	1
	2,730	**2,626**
Long steel		
Latin America		
Acergroup S.A.	149	149
Acerholding S.A.	6	9
Acerbrag S.A.	1	2
	156	**160**

	2019	2018
		Restated
CBA		
Brazil		
Campos Novos Energia S.A.	32	32
Metalex Ltda.	49	49
Rio Verdinho Energia S.A.	29	29
Machadinho Energética S.A.	15	15
BAESA - Energética Barra Grande S.A.	7	7
	132	**132**
Holdings e others		
Latin America		
Votorantim Andina S.A.	16	16
Brazil		
Fazenda Bodoquena Ltda.	1	1
Jaguatirica	5	
	22	**17**
	6,008	**5,797**

(c) Impairment test for goodwill

Assets that have an indefinite useful life, for example goodwill, are not subject to amortization and are tested annually for impairment.

The Company and its subsidiaries evaluate at least annually the recoverability of the carrying value of the operating segment of each CGU. The process of estimating these values involves the use of assumptions, judgments and estimates of future cash flows that represent the best estimate of the Company and its subsidiaries.

The Company's management determined the budgeted gross margin based on past performance and its expectations of market development. The discount rates used are pre-tax and reflect specific risks related to the operating segment or the CGU being tested.

These calculations use cash flow projections, before income tax and social contributions, based on financial budgets approved by management for a five-year period. Cash flow that exceeds the five-year period is extrapolated using the estimated growth rates. The growth rate does not exceed the average long-term growth rate of the operating sector of each segment.

The calculations of the value-in-use were based on the discounted cash flow model, and are based on the assumptions below:

	Discount rate
Votorantim Cimentos	5,86% to 14,93%
CBA	5,57% to 10,15%
Nexa Resources	6,38% to 7,10%
Long steel (i)	8,63% to 16,85%
Holding and other	6,31% to 8,94%

(i) The fair value calculations were based on the discounted cash flow model, and are based on the premise that growth rates take into account independent information about projections, such as LME quotes (mainly zinc and copper) .

20 Right of use assets

(a) Breakdown and changes

							2019
	Note	Land and improvements	Property, buildings and commercial rooms	Machinery, equipment and facilities	IT equipment	Vehicles and vessels	Total
Initial adoption		91	177	83	24	291	666
Remeasurement of principal		4	21	177	4	149	355
Remeasurement of interest		(19)	(6)				(25)
New contracts		(12)	(46)	(61)	(17)	(101)	(237)
Amortization		12	14	6	1	21	54
Closing balance for the		76	**160**	**205**	**12**	**360**	**813**
Cost		88	206	266	29	461	1.050
Accumulated amortization		(12)	(46)	(61)	(17)	(101)	(237)
Net closing balance for the		76	**160**	**205**	**12**	**360**	**813**
Average annual amortization rates – %		12	**18**	**35**	**62**	**33**	

21 Borrowing

Accounting policy

Borrowings are initially recognized at fair value, net of transaction costs incurred, and subsequently carried at amortized cost. Any difference between the proceeds (net of transaction costs) and the total amount payable is recognized in the statement of income over the period of the borrowings using the effective interest rate method.

Borrowing costs directly related to the acquisition, construction or production of a qualifying asset that requires a substantial period of time to get ready for its intended use or sale are capitalized as part of the cost of that asset when it is probable that future economic benefits associated with the item will flow to the Company and costs can be measured reliably. The other borrowing costs are recognized as finance costs in the period in which they are incurred.

(a) Breakdown and fair value

Type	Average annual charges	Current 2019	Current 2018	Non-current 2019	Non-current 2018	Total 2019	Total 2018	Fair value 2019	Fair value 2018
Local currency									
Debenture	110.26% CDI / CDI + 3.80% / IPCA + 3.80%	424	91	2,287	2,718	2,711	2,809	2,678	2,749
Export credit notes (i)	112.70% CDI / CDI + 1.5%	8		1,078		1,086		1,081	
BNDES	TJLP + 2.36% / 1.86% fixed rate BRL / SELIC + 2.99% / IPCA + 5.04%	97	95	641	635	738	730	720	687
Development promotion agency	10.00% fixed rate BRL / TJLP + 0.65%	7	51	23	198	30	249	32	246
FINAME	4.60% fixed rate BRL	17	21	43	68	60	89	59	83
Other		29	11	29	11	58	22	59	20
		582	**269**	**4,101**	**3,630**	**4,683**	**3,899**	**4,629**	**3,785**
Foreign currency									
Eurobonds - USD	5.89% fixed rate USD	137	3,077	10,156	10,742	10,293	13,819	11,550	13,829
Eurobonds - EUR	3.39% fixed rate EUR	26	978	1,576	1,541	1,602	2,519	1,682	2,584
Loans - Law 4131/1962 (ii)	LIBOR + 0.48%	2	594	905	864	907	1,458	907	1,481
Eurobonds - BOB	5.38% fixed rate BOB	1		315		316		316	
Syndicated loan/bilateral agreements	EURIBOR + 2.00% / LIBOR + 1.10% / 8.43% fixed rate	22	225	358	1,399	380	1,624	394	1,626
Export prepayments	LIBOR + 1.27%			799	765	799	765	823	799
Working capital	IBR + 2.71% / 5.68% fixed rate COP	146	111			146	111	146	112
Development promotion agency	LIBOR + 1.10%	31	30	171	195	202	225	210	236
Other		7	7	420	24	427	31	425	33
		372	**5,022**	**14,700**	**15,530**	**15,072**	**20,552**	**16,453**	**20,700**
		954	**5,291**	**18,801**	**19,160**	**19,755**	**24,451**	**21,082**	**24,485**
Current portion of long-term borrowing		562	4,854						
Interest on borrowing		236	324						
Short-term borrowing		156	113						
		954	**5,291**						

(i) Loan agreements (NCE – Export Credit Note) of the subsidiary CBA are intended to financing export-related operations and are linked to swap contracts (derivative financial instrument), which aim to switch floating rate exposure exchange in Brazilian reais (CDI) to an exchange rate pre-fixed in US Dollars, resulting in a weighted average cost of 5.00% per year. The subsidiary Nexa also has NCE contracts, which have linked swap contracts, which aim to exchange the exposure of floating rates in LIBOR to CDI + spread. These swaps were contracted together with the financing and with the same financial institution.

(ii) (Loans relating to Law 4131/1962 are subject to swaps that are indexed both to exchange rates (LIBOR and fixed rates for floating CDI rates) and to currencies (US Dollars for reais) and resulted in a final weighted cost of 109.20% p.a. of the CDI. Borrowing of this type relates to compou-nd financial instruments, contracted as a single product with the financial institution (debt in US Dollars + swap a percentage of the CDI in reais). The terms and conditions of the loan and derivative instruments are configured as a compound operation, so that the resulting cost is a debt adjusted by the CDI in reais. The difference in me-asurement between the two instruments (loan at amortized cost x derivative at fair value), creates an accounting mismatch in the statement of income. To eliminate this accounting mismatch, some of the borrowing contracts made from August 2015, were designated as at fair value, and the effect of this designation is the measurement of debt at fair value through profit or loss, according to Note 33.

Key:

BNDES – National Bank for Economic and Social Development.

BRL – Brazilian currency (Real).

CDI – Interbank Deposit Certificate.

COP – Colombian Peso.

EUR – European Union currency (Euro).

EURIBOR – Euro Interbank Offered Rate.

FINAME – Government Agency for Machinery and Equipment Financing.

IBR – Interbank Rate (Colombia).

INR – Indian Rupee

IPCA – Extended Consumer Price Index.

LIBOR – London Interbank Offered Rate.

SELIC – Special System for Clearance and Custody.

TJLP – Long-term interest rate set by the National Monetary Council. Until December 2017, the TJLP is the BNDES basic cost of financing. As of January 2018, the Long Term Rate (TLP) became the main financial cost of BNDES financing.

USD – US Dollar.

(b) Changes

	2019	2018
Opening balance for the year	**24,451**	**24,630**
New borrowing	4,323	3,639
Interest	1,007	1,359
Addition of borrowing fees, net of amortization	17	26
Fair value adjustment	22	(28)
Effect of subsidiaries excluded in consolidation		(909)
Foreign exchange variation	507	2,771
Payments - interest	(1,217)	(1,423)
Payments - principal	(9,356)	(5,532)
Gain on debt renegotiation		(69)
Others	1	(13)
Closing balance for the year	**19,755**	**24,451**

(c) New borrowing and amortizations

Through the funding and prepayment of certain debts, the Company seeks to extend the average maturities, as well as to balance the exposure to different currencies for loans and financing against cash generation in these currencies.

The main amortization in the year was as follows:

New borrowing

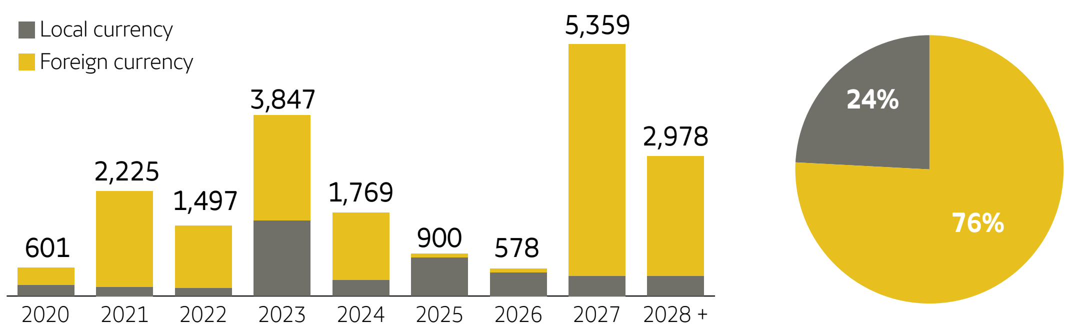
Date	Company	Type	Currency	Principal	Principal BRL	Maturity	Cost	Custo
Apr-19	Itacamba Cementos S.A.	Syndicated / Bilateral Loans	BOB	(244)	(140)	2027	5.68% Fixed rate	5.68% Pré
Apr-19	Itacamba Cementos S.A.	Debt in the local market	BOB	(116)	(65)	2025	4.75% Fixed rate	4.75% Pré
Apr-19	Votorantim Cimentos Internacional	Syndicated / Bilateral Loans	USD	(21)	(82)	2020	LIBOR 03M + 1.10%	LIBOR 03M + 1.10%
Apr-19	Itacamba Cementos S.A.	Debt in the local market	BOB	(419)	(241)	2029	5.55% Fixed rate	5.55% Pré
Apr-19	Companhia Brasileira de Aluminio	Export Credit Note	BRL	(787)	(787)	2027	5.03% Fixed rate	5.03% Pré
May-19	Companhia Brasileira de Aluminio	Export Credit Note	BRL	(198)	(198)	2027	4.92% Fixed rate	4.92% Pré
May-19	Companhia Brasileira de Aluminio	Export Credit Note	BRL	(100)	(100)	2027	4.90% Fixed rate	4.90% Pré
Sep-19	Companhia Brasileira de Aluminio	BNDES	BRL	(90)	(90)	2034	4.15% Fixed rate	4.15% Pré
Sep-19	Votorantim Cimentos N/NE S.A.	Borrowing Law 4131 - MTM	USD	(75)	(305)	2024	107% CDI	107% CDI
Oct-19	Nexa Recursos Minerais S.A.	Export Credit Note	BRL	(90)	(374)	2024	CDI + 1.30%	CDI + 1.30%
Dec-19	Votorantim Cimentos N/NE S.A.	Certificate of Real Estate Receivables	BRL	(179)	(179)	2029	IPCA + 3.80%	IPCA + 3.80%
Dec-19	Votorantim Cimentos S.A.	Certificate of Real Estate Receivables	BRL	(348)	(348)	2029	IPCA + 3.80%	IPCA + 3.80%

(i) The Export Credit Note and BNDES modalities have a fixed rate in US Dollars as described in item (a).

Amortizations

Date	Company	Type	Currency	Principal	Principal BRL	Maturity	Cost	Observação
Feb-19	Votorantim Cimentos Internacional	Eurobonds	EUR	(61)	(256)	2021	Prepayment	Pré-pagamento
Feb-19	Votorantim Cimentos Internacional	Eurobonds	EUR	(151)	(640)	2022	Prepayment	Pré-pagamento
Feb-19	Votorantim Cimentos Internacional	Eurobonds	USD	(540)	(2,014)	2041	Prepayment	Pré-pagamento
Feb-19	Votorantim S.A.	Law 4131	USD	(50)	(185)	2020	Prepayment	Pré-pagamento
Feb-19	Votorantim S.A.	Law 4131	USD	(100)	(377)	2021	Prepayment	Pré-pagamento
Apr-19	Itacamba Cementos S.A.	Syndicated / Bilateral Loans	BOB	(268)	(154)	2025	Prepayment	Pré-pagamento
Apr-19	Itacamba Cementos S.A.	Syndicated / Bilateral Loans	BOB	(201)	(116)	2025	Prepayment	Pré-pagamento
Apr-19	Votorantim S.A.	Law 4131	USD	(73)	(282)	2021	Prepayment	Pré-pagamento
May-19	Companhia Brasileira de Aluminio	Eurobonds	USD	(256)	(1,007)	2024	Prepayment	Pré-pagamento
May-19	Votorantim Cimentos EAA Inversiones S.L.	Syndicated / Bilateral Loans	EUR	(30)	(132)	2021	Prepayment	Pré-pagamento
Jun-19	Itacamba Cementos S.A.	Syndicated / Bilateral Loans	BOB	(133)	(75)	2025	Prepayment	Pré-pagamento
Jun-19	Itacamba Cementos S.A.	Syndicated / Bilateral Loans	BOB	(129)	(73)	2025	Prepayment	Pré-pagamento
Jul-19	Votorantim S.A.	Debenture	BRL	(550)	(550)	2024	Prepayment	Pré-pagamento
Nov-19	Votorantim Cimentos Internacional	Syndicated / Bilateral Loans	USD	(75)	(313)	2024	Prepayment	Pré-pagamento
Nov-19	Votorantim Cimentos EAA Inversiones S.L.	Syndicated / Bilateral Loans	TRY	(120)	(88)	2023	Prepayment	Pré-pagamento
Nov-19	Votorantim Cimentos S.A.	BNDES	BRL	(52)	(52)	2028	Prepayment	Pré-pagamento
Dec-19	Votorantim Cimentos Internacional	Syndicated / Bilateral Loans	USD	(30)	(123)	2024	Prepayment	Pré-pagamento

(d) Maturity



(e) Breakdown by currency

	Current		Non-current		Total	
	2019	2018	2019	2018	2019	2018
USD	174	3,707	12,597	13,083	12,771	16,790
Real	582	269	4,101	3,630	4,683	3,899
Euro	25	1,098	1,576	1,879	1,601	2,977
Bolivian	2	64	459	406	461	470
Turkish lire	34	39	42	148	76	187
Colombian peso	132	111			132	111
Other	5	3	26	14	31	17
	954	**5,291**	**18,801**	**19,160**	**19,755**	**24,451**

(f) Breakdown by index

	Current		Non-current		Total	
	2019	2018	2019	2018	2019	2018
Local currency						
CDI	431	91	2,848	2,718	3,279	2,809
TJLP	73	79	238	314	311	393
TLP	30	32	312	289	342	321
Fixed rate	28	53	74	209	102	262
SELIC	20	14	114	100	134	114
IPCA			515		515	
	582	**269**	**4,101**	**3,630**	**4,683**	**3,899**

	Current		Non-current		Total	
	2019	2018	2019	2018	2019	2018
Foreign currency						
Fixed rate	251	4,729	12,262	13,160	12,513	17,889
LIBOR	36	230	2,438	2,331	2,474	2,561
EURIBOR		11		39		50
Other	85	52			85	52
	372	**5,022**	**14,700**	**15,530**	**15,072**	**20,552**
	954	**5,291**	**18,801**	**19,160**	**19,755**	**24,451**

(f) Collateral

As at December 31, 2019, R$ 5,859 (December 31, 2018 R$ 10.389) of the balance of borrowing of the Company and its subsidiaries was collateralized under promissory notes and sureties and R$ 895 of property, plant and equipment items (December 31, 2018: R$ 792) was collateralized by liens on the financed assets.

(h) Covenants/financial ratios

Certain borrowing items are subject to compliance with certain financial ratios ("covenants"). Where applicable, such obligations are standardized for all loan and financing agreements.

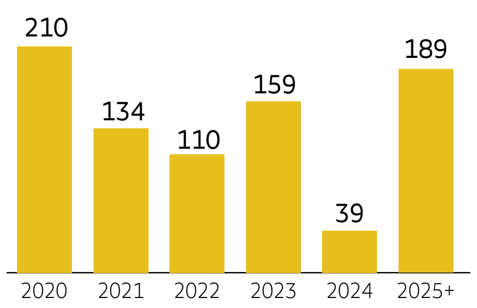
The Company and its subsidiaries were in compliance with all of these covenants, as applicable.

22 Lease liabilities

(a) Changes to lease obligations – IFRS16

	2019
Initial adoption IFRS 16	666
New contracts	355
Amortization	(217)
Fair value adjustment	13
Foreign exchange variation	24
Closing balance for the year	**841**
Current	210
Non-current	631
	841

(b) Maturity profile



23 Confirming payables

The Company and subsidiaries have entered into agreements with financial institutions, aiming to anticipate receivables from suppliers in domestic and foreign markets. As part of this operation, suppliers transfer the right to receive their accounts receivable related to sales of goods to financial institutions.

Operations – Confirming payables	2019	2018
		Restated (Note 2.3)
Domestic market	256	349
Foreign market	1,159	963
	1,415	**1,312**

24 Current and deferred income tax and social contribution

Accounting policy

The income tax and social contribution expense for the period comprises current and deferred taxes. Taxes on profit are recognized in the statement of income, except to the extent that they relate to items recognized directly in equity. In such cases, the taxes are also recognized in comprehensive income or directly in equity.

The current and deferred income tax and social contribution is calculated on the basis of the tax laws enacted or substantively enacted at the balance sheet date in the countries where the entities operate and generate taxable income. Management periodically evaluates positions taken by the Company in income tax returns with respect to situations in which applicable tax regulation is subject to interpretation. It establishes provision where appropriate on the basis of amounts expected to be paid to the tax authorities.

The current income tax and social contribution are presented net, separated by taxpaying entity, in liabilities when there are amounts payable, or in assets when the amounts prepaid exceed the total amount due on the reporting date.

Deferred tax assets are recognized only to the extent it is probable that future taxable profit will be available against which the temporary differences and/or tax losses can be utilized.

Deferred income tax assets and liabilities are presented net in the balance sheet when there is a legal right and the intention to offset them upon the calculation of current taxes, generally related to the same legal entity and the same taxation authority. Thus, deferred tax assets and liabilities in different entities or in different countries are presented separately, and not net.

The Company and its subsidiaries are subject to income taxes in all countries in which it operates. The provision for income tax is calculated individually by the entity based on tax rates and rules effective at the entity's location. The Company and its subsidiaries also recognizes liabilities for anticipated tax audit issues based on estimates of whether additional taxes will be due. Where the final tax outcome of these matters is different from the amounts that were initially recorded, such differences will have an impact on the current and deferred tax assets and liabilities in the period in which the determination is made.

(a) Reconciliation of income tax and social contribution expenses

The current amounts are calculated based on the current rates levied on taxable income, adjusted upwards or downwards by the respective additions and exclusions.

The income tax and social contribution amounts presented in the statements of income for the year ended December 31 are reconciled to their Brazilian standard rates as follows

	2019	2018
		Restated
Profit before income tax and social contribution	**7,128**	**3,504**
Standard rates	**34%**	**34%**
Income tax and social contribution at standard rates	**(2,424)**	**(1,191)**
Adjustments for the calculation of income tax and social contribution at effective rates		
Equity	312	380
Tax effect of the corporate reorganization VCSA	82	(431)
Realization of comprehensive income on disposals of investments	37	1
Dividends received	15	(53)
Tax on mining operations	(29)	(52)
Differential rate of foreign companies	(37)	559
Tax loss carryforward and non-deferred tax base	(216)	(60)
Other exclusions (additions), net	94	(164)
Income tax and social contribution calculated	(2,166)	(1,011)
Current	**(1,461)**	**(455)**
Deferred	(705)	(556)
Income tax and social contribution expenses	**(2,166)**	**(1,011)**
Effective rate - %	30%	29%

(b) Breakdown of deferred tax balances

	2019	2018
		Restated
Tax credits on tax losses	2,371	2,669
Tax credits on temporary differences		
Estimation for losses on investments, fixed and intangible assets	1,011	857
Tax, civil and labor provision	597	574
Tax benefit on goodwill	504	503
Deferred of losses on derivative instruments	343	(77)
Foreign exchange	278	761
Asset retirement obligation	187	182
Use of public assets	149	154
PPR - Provision for profit sharing	129	113
Environmental liabilities	109	128
Estimation for inventory losses	93	78

	2019	2018
		Restated
Settlement credits for estimated loss	74	62
Provision for energy charges	54	49
Financial instruments - firm commitment	50	(8)
Provision for social security obligations	48	41
Estimated asset disposals	3	2
Other tax credits	168	197
Tax debits on temporary differences		
Adjustment of useful lives of PP&E (depreciation)	(1,981)	(2,192)
Market value Milpo	(1,162)	(1,233)
Adjust the fair value in the Suzano transaction	(549)	
Goodwill amortization	(299)	(405)
Capitalized interest	(206)	(141)
Goodwill	(182)	(435)
Market value assets	(179)	123
Gain in fair value in VTRM´s operation	(48)	(50)
Market value adjustment	(34)	(35)
Asset retirement obligation	(9)	(10)
Other tax debits	(265)	(22)
Net	**1,254**	**1,885**
Net deferred tax assets related to the same legal entity	**3,341**	**4,079**
Net deferred tax liabilities related to the same legal entity	(2,087)	(2,194)

(c) Effects of deferred income tax and social contribution on the profit for the year and comprehensive income

	2019	2018
Opening balance for the year	1,885	2,114
Deferred income tax and social contribution on hedge accounting	49	396
Effects on the results of the semester - discontinued operations	51	112
Effects of foreign exchange variations in other comprehensive income	(29)	(196)
Effects on the results for the year - continuing operations	(705)	(556)
Others	3	15
Closing balance for the year	**1,254**	**1,885**

(d) Realization of deferred income tax and social contribution on tax losses

	2019	Percentage
In 2020	78	3%
In 2021	364	15%
In 2022	60	3%
In 2023	140	6%
After 2024	1,729	73%
	2,371	**100%**

25 Provision

Accounting policy

The Company and its subsidiaries are a party to tax, civil, labor and other legal claims in progress at different Court levels. Provision against potentially unfavorable outcomes of litigation in progress is established and updated based on management evaluation, as supported by external legal counsel, and requires a high level of judgment regarding the matters involved.

The judicial deposits are monetarily restated and when they have a corresponding provision they are presented net in "Provision". Judicial deposits that do not have a corresponding provision are presented in non-current assets.

(i) Provision for tax, civil, labor, environmental and other legal claims

The provision for tax, civil, labor, environmental and other legal claims is recognized when: (i) the Company has a present legal or constructive obligation as a result of past events, (ii) it is probable that an outflow of resources will be required to settle the obligation, and (iii) the amount can be reliably estimated. Losses classified as possible are not recognized for accounting purposes, and are disclosed in the notes. Contingencies with probability of loss classified as remote are not provisioned nor disclosed, except when the Company and its subsidiaries consider their disclosure justified. The classification of losses between possible, probable and remote is based on the management's assessment, based on the opinion of its legal advisors.

Provision is measured at the present value of the expenditures expected to be required to settle the obligation using a pre-tax rate that reflects current market assessments of the time value of money and the risks specific to the obligation. The increase in the provision due to time elapsing is recognized as interest expense. Provision does not include future operating losses.

(ii) Asset retirement obligations

The calculation of asset retirement obligations involves judgment about certain assumptions. In environmental terms, they refer to the future obligation to restore the ecological conditions similar to those existing before the beginning of the project or activity, or to carry out compensatory measures, agreed upon with the applicable bodies, as a result of the impossibility of returning the areas to the pre-existing condition. These obligations arise from the beginning of the environmental degradation of the area occupied by the operation or from formal commitments made to the environmental body, under which the degradation must be compensated. The dismantling and removal of an asset from an operation occurs when it is permanently retired, through the interruption of its activities, or by its sale or disposal.

Expenditures relating to mine retirement are recorded as asset retirement obligations. The asset retirement cost, equivalent to the present value of the obligation (liability), is capitalized as part of the carrying amount of the asset, which is depreciated over its useful life.

The Company and its subsidiaries recognize a liability based on the fair value for the demobilization of assets in the period in which they occur, against the corresponding intangible asset. The Company and its subsidiaries consider the accounting estimates related to the recovery of degraded areas and the costs of closing a mine as a critical accounting practice because it involves expressive amounts of provisions and these are estimates that involve several assumptions such as interest rates, inflation, useful life of the assets considering the current stage of exhaustion, the costs involved and the projected depletion dates of each mine. These estimates are reviewed annually by the Company and its subsidiaries.

(iii) Obligation for environmental liabilities

The environmental liability must be recognized when there is an obligation on the part of the Company and its subsidiaries that incurred an environmental cost not yet paid, provided that it meets the recognition criteria as an obligation. Therefore, this type of liability is defined as being a present obligation of the Company and its subsidiaries that arose from past events.

(a) Breakdown and changes

						2019	2018
	Asset retirement obligation	Legal claims					
		Tax	Labor	Civil	Other		
Opening balance for the	**1,334**	**853**	**84**	**283**	**41**	**2,595**	**2,587**
Additions	33	93	245	41	9	421	314
Reversals		(41)	(36)	(46)	(14)	(137)	(434)
Judicial deposits, net of write-offs		(3)	26	8		31	80
Settlement in cash	(61)	(18)	(19)	(20)	(4)	(122)	(156)
Settlements with escrow deposits			(137)	(26)		(163)	(14)
Effect of subsidiaries included in (excluded from) consolidation							(26)
Present value adjustment	78					78	67
Monetary restatement	1	(7)	13	12	(2)	17	82
Foreign exchange variation	32	1				33	98
Revision of estimated cash flow (i)	384					384	(3)
Closing balance for the	**1,801**	**878**	**176**	**252**	**30**	**3,137**	**2,595**

(i) Amount refers, substantially, to item 1.1 (q).

(b) Provision for tax, civil, labor, other contingencies and outstanding judicial deposits

	2019				2018			
	Judicial deposits	Provision	Net amount	Remaining judicial deposits (i)	Judicial deposits	Provision	Net amount	Remaining judicial deposits (i)
Tax	(129)	1,007	878	182	(126)	979	853	545
Labor	(110)	286	176	46	(214)	298	84	80
Civil	(21)	273	252	108	(28)	311	283	124
Other	(1)	31	30	9	(1)	42	41	6
	(261)	**1,597**	**1,336**	**345**	**(369)**	**1,630**	**1,261**	**755**

(i) The variation was, substantially, from the collection of judicial deposits related to the ICMS process in the PIS and COFINS calculation basis..

(c) Litigation with likelihood of loss considered possible

The Company and its subsidiaries are party to litigations representing a risk of possible loss, for which no constituted provision has been made, as detailed below.

	2019	2018
Tax (c.1)	11,671	11,162
Civil (c.2)	7,900	7,430
Environmental	612	516
Labor and social security	276	374
	20,459	**19,482**

(c.1) Comments on contingent tax and public rights liabilities with likelihood of loss considered possible

The contingent liabilities relating to tax lawsuits in progress with a likelihood of loss considered possible, for which no provision has been recorded, are commented on below. In the table below we present an analysis of the relevance of these lawsuits:

Nature	2019	2018
Tax assessment notice - "IRPJ/CSLL"	1,686	1,884
"IRPJ/CSLL" – Profits abroad	1,096	1,052
"ICMS" – Credit	818	818
Disallowances of "PIS/COFINS" credits	713	680
Compensation for exploration for mineral resources ("CFEM")	499	608
Disallowance of "IRPJ/CSLL" negative balance	485	493
Tax assessment notice – "ICMS"	308	315
Offset of tax loss – 30% limit (merger)	299	286
"ICMS" on electricity charges	222	204
"IRPJ/CSLL" – Transfer costs	206	198
Error in fiscal classification - Importation	181	172
Collection of ICMS due to divergences regarding the destination of the property	108	104
"IRPJ/CSLL" – Deduction of expenses	77	74
Other lawsuits	4,973	4,274
	11,671	**11,162**

(i) Tax assessment notice – "IRPJ / CSLL"

In December 2016, the subsidiary VCSA was assessed by the Brazilian Federal Revenue Office in the historical amount of R$ 470 demanding the collection of IRPJ and CSLL relating to the period of 2011, due to the alleged undue deduction of operating expenses and costs. In January 2018, the VCSA became aware of the Lower Court decision from the Federal Revenue's Judgment Office, which judged the appeal partially with grounds, reducing the lawsuit by approximately R$ 114. In December 2018, the Appeal of the Administrative Board of Tax Appeals was dismissed and the Voluntary Appeal was partially accepted for the VCSA, at this moment we await the formalization of the Court Decision. As at December 31, 2018, the restated amount of the contingency was R$ 580, of which R$ 53 was assessed as probable loss and was properly accrued, and the remaining R$ 219 was assessed as possible loss.

In December 2017, the VCSA received a tax assessment notice from the Brazilian Federal Revenue Office in the amount of R$ 1,295 for alleged non-payment or underpayment of IRPJ and CSLL relating to the period from 2012 to 2013, due to: (i) capital gain allegedly obtained due to a barter made by the VCSA; and (ii) amortization of goodwill supposedly incorrect. In October 2018, the VCSA took cognizance of the decision of the lower court, which ruled that the

VCSA´s challenge was unfavorable. In December 2018, the Appeal of the Administrative Board of Tax Appeals was dismissed and the Voluntary Appeal was partially accepted for the VCSA, at this moment we await the formalization of the Court Decision. At December 31, 2019, the restated amount of the contingency assessed as possible loss was R$ 1,467.

(ii) Profits abroad – "IRPJ/CSLL"

The Company and its subsidiaries have assessments drawn up by the Brazilian Federal Revenue Office, for alleged nonpayment of IRPJ and CSLL, on profits earned abroad by its subsidiaries or affiliates, in the periods of 2007, 2008, 2010, 2012, 2013 and 2014.

The balance substantially composed by the Company, amounted R$ 1,096 at December 31, 2019 (R$ 1,052 as at December 31, 2018). All cases are awaiting judgment at the administrative level.

(iii) ICMS credit

Between 2011 and 2013, eight notices of infringement and fines were filed against the Company's subsidiary Citrovita Agro Industrial Ltda. ("CAI"), mainly aimed at the collection of ICMS credited, as highlighted in invoices for the transfer of other subsidiaries, with the specific purpose of non taxable export. The tax assessment notices totaled R$ 818 as at December 31, 2019.

(iv) PIS / COFINS credit statement

Substantially comprised by the subsidiary CBA, which has Decisional Orders and tax assessments relating to the PIS and COFINS credits, referring to the items applied in the production process, which, in the opinion of the Brazilian Federal Revenue Office, would not generate the right to credit of the said contributions. The amount restated as of December 31, 2019 was R$ 690. Currently, all the processes await administrative decision.

In the opinion of Management and in the opinion of its independent legal advisors, in light of precedents and case law, the likelihood of loss of the process is considered possible.

(v) Financial Compensation for the Exploration of Mineral Resources – CFEM

The subsidiaries Nexa BR, CBA and VCSA had several assessments drawn up by the National Department of Mineral Production – "DNPM" for alleged failure to pay or lower collection of CFEM from 1991 to 2015. As of December 31, 2019, the amount of possible loss amounted to R$ 499.

(vi) IRPJ/CSLL negative balance credit

VSA and its subsidiaries CBA received decisions regarding the gloss of negative balance of IRPJ credits, totaling the updated amount of R$ 485 as of December 31, 2019. Currently, the cases await an administrative decision due to the presentation of a challenge by the Company and its Subsidiaries.

In the opinion of Management and in the opinion of its independent legal advisors, it appears that there was a misconception on the part of RFB when assessing the amounts presented by the Company and its subsidiaries, which is why the likelihood of loss in the lawsuits is considered possible.

(vii) Tax assessment notice – ICMS

In the fourth quarter of 2016, the subsidiary CAI received a tax assessment notice whose value up to December 31, 2019 amounts R$ 128. The process currently awaits judgment of the special appeal filed by the company before the Tax and Taxes Court of São Paulo Paulo.

(viii) ICMS on electricity charges

The subsidiary CBA has judicial and administrative discussions regarding the incidence of ICMS on the sector charges levied on the electricity tariff. As of December 31, 2019, the amount in controversy of these discussions amounts to R$ 222.

In the opinion of Management and in the opinion of its independent legal advisors, the assessment is unfounded, which is why the likelihood of loss of the process is considered possible.

(ix) IRPJ/CSLL – Transfer Price

Between 2007 and 2010, four tax assessments were filed against its subsidiary CAI, aiming at the collection of IRPJ and CSLL, and the adjustment in the basis of tax losses and the negative basis of CSLL, due to the losses made in the adjustments made by the Company in this transfer pricing calculations in 2003 and 2004. In October 2018, one of the cases was closed in a favorable manner to the CAI, with the amount of R$ 206 remaining under administrative discussion, restated up to December 31, 2019. The active processes await judgment of appeals by the Administrative Council of Tax Appeals.

(x) Tax classification mismatch – Import

In March 2017, the subsidiary CBA was assessed on account of a supposed error in the tax classification on the importation of inputs, resulting in the tax requirement (IPI, PIS, COFINS E II), whose value in December 2019 amounts to R$ 181.

Because the undisputed legal counsel wrongly understood the complaint, the subsidiary CBA filed a challenge that was favorably judged in the first administrative instance. Currently, the case awaits judgment by the CARF of the voluntary appeal filed by the Attorney General of the National Treasury.

In the opinion of Management and in the opinion of its independent legal advisors, the likelihood of loss of said process is considered possible.

(xi) Collection of ICMS due to divergences regarding the destination of the item

The subsidiary CBA was assessed for alleged failure to pay ICMS, due to the credit claims arising from the acquisition of assets due to divergences regarding the allocation of assets in the amount of R$ 108.

In the opinion of Management and in the opinion of its independent legal advisors, the criteria adopted in relation to the destination of the assets are in accordance with the pertinent legislation and the probability of loss of the process is considered possible.

(xii) IRPJ/CSLL – Expense Deduction

In December 2016, the subsidiary CAI was assessed by the RFB for the collection of IRPJ and CSLL, due to the gloss of exclusions from the calculation base of said taxes in the 2011 calendar year. The amounts required by the tax assessment notice total R$ 77. In the last quarter of 2018, a partial cancellation of the tax assessment notice was filed by the Regional Judgment Office (DRJ), and judgment on the Voluntary Appeal filed is currently awaiting.

(c.2) Comments on contingent civil liabilities with likelihood of loss considered possible

Nature	2019	2018
Public civil suit – Violation of the economic order	4,176	4,023
Administrative investigations carried out by the Secretariat of Economic Law	2,105	2,052
Other lawsuits	1,619	1,355
	7,900	**7,430**

(i) Civil class action – Cartel

The Office of the Public Prosecutor of the State of Rio Grande do Norte filed a civil class action against the subsidiary VCSA, together with eight other defendants, including several of Brazil's largest cement manufacturers, alleging the formation of a cartel, demanding that: (1) the defendants make an indemnity payment, jointly, amounting to R$ 5,600, in favor of the civil class action, due to pain and suffering and property collective damage; (2) the defendants make a payment of 10% of the total amount paid by the customers for the acquisition of cement or concrete under the brands owned by the defendants, during the period from 2002 to 2006, due to individual consumer damages; (3) that the defendants pay the following penalties according to Article 23 Section 1 and Article 24 of Law 8,884/1994: (i) in addition to the payment mentioned in item (1) above, a fine ranging from 1% to 30% of annual gross revenues relating to the fiscal year immediately preceding the year in which the alleged violation occurred, but not less than the monetary advantage acquired; and (ii) a prohibition, for a period not shorter than five years, from obtaining financing from governmental financial institutions or from participating in bidding processes conducted by the federal, state or municipal governments and their entities. In view of the total number of the claims in item (1) above in the amount of R$ 5,600 and because of the claims alleging joint liability, VCSA estimated that, based on its market share, its share of the liability would be approximately R$ 2,400. However, there can be no assurance that this apportionment would prevail and that VCSA will not be held liable for a different proportion, which may be larger, or for the total number of these claims. Additionally, there can be no assurance that VCSA will not be required to pay other amounts as compensation for damages caused to consumers as mentioned in item (2) above and/or the fine mentioned in item (3) above.

In the last quarter of 2018, an order was issued rejecting the arguments presented by the defendants and determining the production of expert evidence. At the moment a decision is awaited on the motions to clarify against such order. The likelihood of loss in this matter is considered possible, and the VCSA has not recorded any provision for this claim. As at December 31, 2019, the restated balance of the contingency was R$ 4,176.

(ii) Administrative Proceedings by SDE, currently CADE (Brazilian antitrust agency)

In 2006 the SDE initiated administrative proceedings against the largest Brazilian cement companies, including VCSA, alleging that the large cement companies would have breached Brazilian antitrust laws, such as in terms of price fixing and the formation of a cartel. After the finding of facts, the CADE court judged the lawsuit, issuing the final terms of the judgment on July 29, 2015, applying several penalties to the companies.

The penalties imposed on VCSA include the payment of a fine of approximately R$ 1,566 and an obligation for VCSA to sell: (1) all its interests in other cement and concrete companies in Brazil; (2) 20% of its installed capacity of concrete services in Brazil, in relevant markets in which VCSA has more than one concrete plant; and (3) a specific cement asset that, in CADE's opinion, was directly related to the alleged illegal act of which VCSA is accused. Other non-monetary penalties were also imposed on VCSA, including: (1) the obligation to publish CADE's decision in one of the five biggest Brazilian newspapers; (2) a prohibition against contracting with official financial institutions for credit lines with financing conditions subsidized by public programs or resources provided by these institutions; and (3) a recommendation to the Federal Revenue that they restrict or limit certain other benefits and tax incentives.

In November 2015, VCSA filed an annulment action to cancel the decision issued at the administrative level or, at least, to reduce the applied penalties. The injunction was granted on November 24, 2015, suspending the effects of the decision issued by CADE at the administrative level, preventing CADE from demanding the fulfillment of the obligations and/or executing the penalties until a judgment of the merits. CADE was summoned and filed its defense, while VCSA presented its reply in November 2016. Recently, an economic expert evidence has been accepted. The parties indicated technical assistants and made questions. The expert is requested to inform if he accepts the charge and presents an estimate of the fees. The VCSA classified the likelihood of loss on this lawsuit as possible.

During 2017, some construction companies and concrete producers filed lawsuits for indemnity claims against Votorantim Cimentos and other companies which were convicted by CADE, due to the alleged formation of a cartel in the cement and concrete markets, in summary claiming that the cartel caused economic and non-economic losses. In January 2018, the first sentence dismissing the merit of the indemnity claims was issued. In December 2019, there were already 26 decisions dismissing the merit in the lower court. Moreover, ten of these lawsuits already recognized that eventual damages arising from the facts identified in the administrative proceeding of CADE had already expired, of which seven were final decisions.

26 Use of public assets

Accounting policy

The amount is originally recognized as a financial liability (obligation) and as an intangible asset (right to use a public asset) which corresponds to the amount of the total annual charges over the period of the agreement discounted to present value (present value of the future payment cash flows).

The subsidiaries own or participate in companies that hold concession contracts in the electrical energy industry. Most of these contracts provide for annual payments from the commencement of operations and are adjusted by the General Market Price Index for the Use of Public Assets.

The contracts have an average duration of 35 years, and the amounts to be paid annually are as follows:

Plants/Companies	Investor	Concession start date	Concession end date	Payment start date	2019 Ownership interest	2019 Intangible assets (Note 18)	2019 Liabilities	2018 Ownership interest	2018 Intangible assets (Note 18)	2018 Liabilities
Salto Pilão	Companhia Brasileira de Alumínio	nov-01	dec-36	jan-10	60%	173	538	60%	184	518
Salto do Rio Verdinho	Companhia Brasileira de Alumínio	aug-02	sep-37	oct-10	100%	7	22	100%	7	21
Itupararanga	Companhia Brasileira de Alumínio	nov-03	dec-23	jan-04	100%		2	100%		2
Piraju	Companhia Brasileira de Alumínio	dec-98	jan-34	feb-03	100%	1	6	100%	1	6
Ourinhos	Companhia Brasileira de Alumínio	jul-00	aug-35	sep-05	100%	1	5	100%	1	5
Baesa - Energética Barra Grande	Companhia Brasileira de Alumínio	jun-01	may-36	jun-07	15%	12	45	15%	13	45
Capim Branco I e Capim Branco II	Pollarix S.A.	aug-01	sep-36	oct-07	13%	2	12	13%	3	11
Picada	Pollarix S.A.	may-01	jun-36	jul-06	100%	17	76	100%	17	69
Enercan - Campos Novos Energia S.A	CBA Energia Participações S.A.	apr-00	may-35	jun-06	24%	2	7	24%	2	7
Enercan - Campos Novos Energia S.A	Pollarix S.A.	apr-00	may-35	jun-06	21%	2	6	21%	2	6
Pedra do Cavalo	Votorantim Cimentos N/NE S.A.	mar-02	apr-37	apr-06	100%	106	519	100%	112	499
						323	1,238		342	1,189
Current							87			83
Non-current						323	1,151		342	1,106
						323	1,238		342	1,189

27 Deferred revenue obligation for performance

Accounting policy

Deferred revenue, arising from the anticipation of receivables from financial institutions, represents an obligation for the subsidiaries to physically deliver the electric energy already sold to customers and consequently to pass on to the financial institution the amount received from the sale of energy. The obligation is performed monthly, after the transfer of energy to the client and consequent financial transfer to the financial institution.

In December 2014, the subsidiary indirect Votener ceded to a financial institution the receivables due until December 2019 as a result of certain contracts for the Sale of Electric Energy in the Regulated Environment ("CCEAR"), which are being carried out with the physical delivery of energy. This transaction corresponded to R$ 1,252, and has no right of return and/or type of co-obligation of the Company on the receivables. Due to the assignment of receivables, Votener received a total amount of R$ 905, and the interest to be appropriated from the transaction will be recognized pro rata to the result during the term of the agreement.

In May 2015, Votener carried out a second credit assignment operation, without any right of return and/or co-obligation of the subsidiary, in the total amount of R$ 368. By assigning the receivables, Votener received the total amount R$ 251, and interest to beappropriated from the operation will be recognized pro rata to the result during the term of the agreement.

The updated value of these operations at December 31, 2019 was R$ 32 (December 31, 2018, R$ 271).

28 Pension plan and post-employment health care benefits

Accounting policy

The Company, through its subsidiaries abroad (VCNA, VCEAA, Artigas and APDR) and in Brazil (VCNNE), participates in pension plans managed by a private pension entity, which provide post-employment benefits to employees.

The liability recognized in the balance sheet in respect of defined benefit pension plans is the present value of the defined benefit obligation at the balance sheet date minus the fair value of plan assets. The defined benefit obligation is calculated annually by independent actuaries using the projected unit credit method. The present value of the defined benefit obligation is determined by discounting the estimated future cash outflows using market interest rates that are denominated in the currency in which the benefits will be paid, and that have terms to maturity approximating the terms of the related pension obligation. In countries where there is no active market related to such obligations, market rates for government securities are used.

Actuarial gains and losses arising from changes in actuarial assumptions are recognized within "Carrying value adjustments" in the period in which they arise.

Past-service costs are recognized immediately in the statement of income, unless the changes to the pension plan are conditional on the employees remaining in service for a specified period of time (the vesting period). In this case, past-service costs are amortized on a straight-line basis over the vesting period.

For defined contribution plans, the Company pays contributions to the pension plan administrators on a compulsory, contractual or voluntary basis. The Company no longer has payment obligations once the contributions are paid. Contributions are recognized as employee benefit expense when due. Prepaid contributions are recognized as an asset to the extent that a cash refund or a reduction in the future payments is available.

The Company's subsidiaries have a defined contribution plan for employees. Certain subsidiaries, however, have a defined benefit plan.

The table below shows where the balances and activities related to post-employment benefit are allocated in the consolidated financial statements.

	2019	2018
Rights recorded in the balance sheet with:		
Pension plan benefits	40	25
Assets recorded in the balance sheet	40	25
Obligations recorded in the balance sheet with:		
Pension plan benefits	172	155
Post-employment healthcare benefits	195	164
Liabilities recorded in the balance sheet	367	319
Expenses recognized in the statement of income with:		
Pension plan benefits	18	19
Post-employment healthcare benefits	13	12
	31	31
Remeasurement with:		
Pension plan benefits - gross amount	35	(39)
Deferred income tax and social contribution	(10)	5
Pension plan benefits - net amount	25	(34)

(a) Defined contribution pension plan

The Company and its Brazilian subsidiaries sponsor private pension plans available to all employees administered by Fundação Senador José Ermírio de Moraes ("FUNSEJEM"), a private, not for profit, pension fund. Under the terms of the regulations of the fund, the contributions of the employees to FUNSEJEM are matched by the sponsors in accordance with the level of remuneration of the employee. For employees whose remuneration is lower than the threshold established by the regulations, the Company matches the contributions that represent up to 1.5% of their monthly remuneration. For employees whose remuneration exceeds the threshold, the Company matches the contributions of employees that represent up to 6% of their monthly remuneration. Voluntary contributions can also be made to FUNSEJEM. Once the plan contributions are made, no additional contributions are required.

(b) Defined benefit pension plan

The Company has subsidiaries with defined pension plans in North America, South America and Europe, which follow similar regulatory standards. The defined benefit pension plans also offer health care and life insurance, among other benefits. The cost of the retirement benefits and the other benefits of the plan granted to employees are determined by the projected benefit method on a pro rata basis considering the length of service and the best expectations of management regarding the return on plan assets, salary adjustments, costs and mortality trends, and the age of retirement of employees.

The amounts recognized in the balance sheet are determined as follows:

	2019	2018
Present value of funded obligations	1,175	1,031
Fair value of plan assets	(951)	(814)
Deficit of funded plans	224	217
Present value of non-funded obligations	88	68
Total deficit of defined benefit pension plans	312	285
Impact of the minimum funding requirement/assets ceiling	15	9
Assets and liabilities in the balance sheet	327	294

The changes in the defined benefit obligation and the fair value of the plan assets during the year were as follows:

	Present value of funded and unfunded obligations	Fair value of plan assets	Total	Impact of the minimum requirement of the funds/ asset celing	Total	Total
Opening balance	**1,100**	**(815)**	**285**	**9**	**294**	**317**
Current service cost	8		8		8	9
Finance cost (income)	57	(33)	24		24	25
Past service cost and curtailments	(3)		(3)	1	(2)	(2)
	62	**(33)**	**29**	**1**	**30**	**32**
Re-measurements:						
Return on assets, excluding the amount included as finance income		(78)	(78)		(78)	29
Losses (gains) arising from changes in demographic assumptions	(8)		(8)		(8)	
Losses (gains) arising from changes in financial assumptions	126		126		126	(69)
Losses arising from experience	(14)		(14)		(14)	(6)
Changes in the asset ceiling, excluding the amount included as finance cost				6	6	7
	104	**(78)**	**26**	**6**	**32**	**(39)**
Foreign exchange gains (losses)	73	(57)	16		16	30
Contributions:						
Employer		(10)	(10)		(10)	(6)
Payments of the plans:						
Payment of benefits	(56)	21	(35)		(35)	(36)
Assumed/(acquired) in a business combination						(4)
Closing balance	**1,283**	**(972)**	**311**	**16**	**327**	**294**

The defined benefit obligation and the plan assets, by country, are as follows:

											Percentual
					2019						2018
	Brazil	Europe	"North America"	Colombia	Total	Brazil	Europe	"North America"	Uruguay	Colombia	Total
Present value of the obligation	44	14	825	292	1,175	43	29	697		263	1,032
Fair value of plan assets	(61)		(739)	(151)	(951)	(53)		(619)		(142)	(814)
	(17)	14	86	141	224	(10)	29	78		121	218
Present value of non-financial obligations		52	33	3	88		31	32	5		68
"Impact of the minimum requirement of the funds/asset ceiling"	15				15	8					8
	(2)	66	119	144	327	(2)	60	110	5	121	294

The actuarial assumptions used were as follows:

					2019						2018
	Brazil	Europe	"North America"	Colombia	Total	Brazil	Europe	"North America"	Uruguay	Colombia	Total
Discount rate	6.54%	8.47%	3.00%	6.30%	6.08%	10.51%	6.12%	3.84%	10.92%	7.50%	7.78%
Inflation rate	3.50%	3.90%	2.00%	3.50%	3.23%	5.37%	1.33%	2.00%		3.50%	3.05%
Future salary increases	2.94%	7.57%	2.50%	3.50%	4.13%	4.88%	7.00%	2.50%	6.92%	3.50%	4.96%
Increases in future pension plans	3.50%				3.50%	5.37%					5.37%

(c) Post-employment benefits (pension and health care)

The Company operates post-employment health care plans through indirect subsidiaries in North America, VCNA, and in Europe, VCEAA. The accounting method, assumptions and frequency of evaluations are similar to those used for the defined benefit pension plans. Most of these plans are not funded.

The obligations relating to these plans are included in the movement of the defined benefit obligations previously presented.

29 Equity

Accounting policy

(i) Share capital

Share capital is represented exclusively by common shares classified as equity.

(ii) Dividends

This is recognized as a liability in the Company's financial statements at year-end based on the Company's bylaws. Any amount that exceeds the minimum required, 25% of the profit for the year, is only recognized on the date it is approved by the stockholders at a General Meeting. When a Company presents a loss in the year, there is no dividend.

(iii) Earnings per share

Earnings per share are calculated by dividing the profit attributable to the controlling stockholders by the weighted average number of common shares during the year. The weighted average number of shares is calculated based on the periods in which the shares were outstanding.

(iv) Statutory reserve

The statutory reserve is constituted by the appropriation of 5% of the net income for the fiscal year or remaining balance, limited to 20% of the capital stock. Its purpose is to ensure the integrity of social capital. It can only be used to offset losses and increase capital. When the Company presents a loss in the year, there will be no legal reserve.

The retained earnings reserve refers to the retention of the remaining balance of retained earnings in order to meet the business growth plan established in the Company's investment plan.

(v) Government grants

The tax incentive reserve is credited with tax incentive benefits, which are recognized in the income statement for the year and allocated to retained earnings for this reserve. These incentives are not included in the calculation of the mandatory minimum dividend.

(vi) Equity valuation adjustments

The equity valuation adjustments include:

(a) Effective portion of the cumulative net change in fair value of hedge instruments used in hedge of cash flow until the recognition of the cash flows that were hedged.

(b) Cumulative translation adjustments with the exchange differences arising from the translation of the financial statements of foreign operations.

(c) Effective portion with exchange differences of hedge of the Company's net investments in a foreign operation.

(d) Actuarial losses (gains) and measures with retirement benefits.

(a) Share capital

On December 31, 2019 and December 31, 2018, the fully subscribed and paid-up capital of the Company was R$ 28,656, consisting of 18,278,789 thousand common shares.

(b) Dividends

In the second quarter of 2019, the Ordinary and Extraordinary Shareholders' Meeting resolved to cancel the mandatory minimum dividends of 2018, in the amount of R$ 415.

During the first half of 2019, the Company resolved to pay its parent company Hejoassu Administração S.A. the amount of R$ 1,475 corresponding to dividends related to part of the balance of the "Profit reserves" account accumulated up to December 31, 2018.

(c) Carrying value adjustments

	Attributable to the owners of the Company							
	Currency translation of investees located abroad	Hedge accounting for net investments abroad, net of taxes	Hedge accounting for the operations of subsidiaries	Fair value of available-for-sale financial assets of non-consolidated investments	Suzano shares fair value	Remeasurement of retirement benefits	Other comprehensive income	Total
At January 1, 2018	**4,990**	**(4,175)**	**(118)**	**266**		**(81)**	**(148)**	**734**
Currency translation of investees located abroad	1,555							1,555
Hedge accounting for net investments abroad, net of taxes		(931)						(931)
Hedge accounting for the operations of subsidiaries			158					158
Fair value of available-for-sale financial assets of non-consolidated investments				(74)				(74)
Remeasurement of retirement benefits						34		34
Inflation adjustment for hyperinflationary economies							419	419
							43	43
							(1)	(1)
At December 31, 2018 (restated)	**6,545**	**(5,106)**	**40**	**192**		**(47)**	**313**	**1,937**
Currency translation of investees located abroad	96							96
Hedge accounting for net investments abroad, net of taxes		92						92
Hedge accounting for the operations of subsidiaries			(39)					(39)
Fair value of available-for-sale financial assets of non-consolidated investments				43				43
	(15)							(15)
Adjustment to the fair value of the shares held at Suzano S.A., net of the tax					(121)			(121)
Adjust the fair value of the shares held at Suzano, net of the tax	(108)							(108)
Realization of comprehensive results on Voto liquidation - Votorantim Overseas Trading Operations IV Ltd.	(103)	22	(16)			(7)	104	
Reclassification of components of comprehensive income							(63)	(63)
Realization of comprehensive results in the sale of partipation at Fibria							340	340
Remeasurement of retirement benefits						(133)		(133)
							(57)	(57)
							(24)	(24)
At December 31, 2019	**6,415**	**(4,992)**	**(15)**	**235**	**(121)**	**(187)**	**613**	**1,948**

(d) **Non-controlling interests**

	2019	2018
Nexa Resources S.A. (i)	3,158	3,431
Nexa CJM	826	885
Nexa Perú	446	564
Cementos Artigas S.A.	203	212
Yacuces, S.L.	124	139
Itacamba Cemento S.A.	100	99
Acerías Paz Del Rio S.A.	63	22
Other	218	271
	5,138	5,623

(i) The variation refers to the issuance of new shares and sale of interest by VSA.

30 Net revenue from products sold and services rendered

Accounting policy

Revenue represents the fair value of the consideration received or receivable from the sale of goods in the ordinary course of business of the subsidiaries. Revenue is shown net of value added tax, rebates and discounts after elimination of sales among consolidated companies.

The subsidiaries recognizes revenue when: (i) the amount of revenue can be measured reliably; (ii) it's probable that future economic benefits will flow to the entity; and (iii) specific criteria have been met for each of the Company's and its subsidiaries' activities.

Revenue will not be reliably measured if all terms of sale are not resolved. The subsidiaries bases its estimates on historical results, taking into account the type of customer, the type of transaction and the specificities of each agreement.

Revenue recognition is based on the following principles:

(i) Sales of products and service

Revenue is shown net of value added tax, returns, rebates and discounts, after eliminating sales within the consolidated companies.

(ii) Sale of surplus energy

The Company's energy sales contracts are carried out in the free and regulated environments of Brazilian commercialization, being fully registered with CCEE, the agent responsible for accounting and settlement of the entire national integrated system (SIN).

The accounting measurement of the volume of energy to be billed results from the processing of the physical measurement, adjusted to the apportionment of losses reported by the CCEE.

Energy sales operations, which meet the definition of a financial instrument, are recognized in the financial statements at fair value.

(a) Reconciliation of revenues

	2019	2018 Restated
Gross revenue		
Sales of products – domestic market	15,478	15,901
Sales of products – foreign market	16,189	16,012
Supply of electrical energy	3,180	3,314
Services provided	600	521
	35,447	**35,748**
Taxes on sales, services and other deductions	(4,540)	(4,817)
Net revenue	**30,907**	**30,931**

(b) Information on geographical areas in which the Company operates

The geographical areas are determined based on the location of the customers. The net revenue of the subsidiaries classified by currency and destination, is as follows:

(i) Revenue by destination

	2019	2018 Restated
Brazil	15,049	15,268
United States	3,664	2,961
Peru	2,350	2,459
Argentina	1,346	1,421
Colombia	1,196	1,260
Canada	1,224	1,137
Spain	605	676
Turkey	414	663
Luxembourg	571	631
Switzerland	417	598
Morocco	487	447
Uruguay	353	390
Japan	282	344
Bolívia	351	304
Belgium	101	257
Tunisia	253	232
Taiwan	132	231
Chile	322	202
Austria	157	147
Singapore	392	139
Germany	90	76
Equador	51	64
Italia	73	50
India	3	29
Other countries	1,024	945
	30,907	**30,931**

(ii) Revenue by currency

	2019	2018 Restated
Real	14,696	15,028
US Dollar	10,478	10,082
Canadian dollar	1,224	1,127
Colombian Peso	1,043	1,066
Argentinian Peso	1,088	1,062
Euro	698	729
Turkish Lira	275	488
Dirham	487	447
Dinar	257	232
Other currencies	661	670
	30,907	**30,931**

31 Expenses by nature

	2019				2018
	Cost of products sold and services rendered	Selling	General and administrative	Total	Total
Raw materials, inputs and consumables	15,010	23	12	15,045	15,460
Employee benefit expenses (a(ii))	2,995	394	1,111	4,500	4,700
Depreciation, amortization and depletion	2,901	42	124	3,067	2,455
Transportation expenses	2,034	36	7	2,077	1,817
Outsourced services	1,481	92	839	2,412	2,024
Other expenses	1,391	286	403	2,080	1,465
	25,812	**873**	**2,496**	**29,181**	**27,921**

(a) Employee benefit expenses

(i) Health care (post-retirement)

The liability related to the health care plan for retired employees is stated at the present value of the obligation, less the market value of the plan assets, adjusted by actuarial gains and losses and past-service costs, in a manner similar to the accounting methodology used for defined benefit pension plans. The post-retirement health care obligation is calculated annually by independent actuaries. The present value of the post-retirement health care obligation is determined based on an estimate of the future cash outflow.

Actuarial gains and losses arising from changes in actuarial assumptions are fully recognized within "Carrying value adjustments" in the period in which they arise.

(ii) Employee profit sharing

Provision is recorded to recognize the expenses related to employee profit sharing. This provision is calculated based on qualitative and quantitative targets established by management and recorded in the statement of income as "Employee benefits".

	2019	2018
Salaries and bonuses	2,787	2,951
Payroll charges	1,066	1,040
Benefits	647	709
	4,500	**4,700**

32 Other operating expenses, net

	Note	2019	2018
Gain on Fibria's trasaction	1.1 (b)	6,772	
Tax recovery (i)		817	498
Gain in fair value in VTRM´s operation	18 e 19	(714)	53
Net income from sale of investiment - US ZINC		(467)	(575)
Tax benefits		(270)	(18)
Gain on sale of fixed assets	16	(196)	(132)
Gain on scrap sales		144	110
Royalties on natural resources		56	57
Income from rentals and leasing		(56)	(46)
Financial instrument - firm commitment		54	48
Expenses on not activatable projects		(53)	
Provision, net		8	42
Reversal for impairment of investments, fixed and intangible assets		7	75
Other income, net			300
Outras receitas (despesas) líquidas			126
Gain on hedge		(110)	54
		5,992	**592**

(i) Refers mainly to PIS and COFINS credits recognized in the subsidiaries CBA, VCSA and the indirect subsidiary VCNNE, in the amount of R$ 747 according to Note 1.1 (d).

33 Finance results, net

Accounting policy

(i) Financial income (expenses)

These comprise interest rates on loans and financial investments, monetary and exchange variation on assets and liabilities, linked to loans with a swap instrument, as a result of the exchange variation net of gains and losses on derivative financial instruments (swap contracts) and various discounts that are recognized in the income for the year on the accrual basis.

(ii) Foreign exchange variations

A foreign currency transaction shall be initially recognized in the functional currency by applying the spot exchange rate between the functional currency and the foreign currency on the transaction date on the amount in foreign currency.

At the end of each reporting period, monetary items in foreign currency must be converted using the closing exchange rate.

Foreign exchange variations arising from the settlement of monetary items or the translation of monetary items at rates different from those for which they were converted at the initial measurement during the period or in previous financial statements shall be recognized in the statement of income in the year in which they arise.

	2019	2018
Finance income		
Interest on financial assets (i)	568	476
Income from financial investments	434	389
Gain on debt renegotiation	120	103
Reversal of monetary restatement of provision	59	42
Fair value of borrowing	45	64
Discounts obtained	20	35
Gain on debt renegotiation		69
Other finance income	21	79
	1,267	**1,257**

	2019	2018
Finance costs		
Interest on borrowing	(1,178)	(1,394)
Capitalization of borrowing costs	49	43
Award paid in bond buyback (tender offer)	(172)	
Monetary restatement of provision	(219)	(194)
Fair value of borrowing and financing	(127)	(155)
Borrowing fees	(140)	(102)
Interest and monetary restatement - use of public assets (ii)	(101)	(108)
Interest on anticipation of receivables	(101)	(101)
Adjustment to present value CPC 12	(101)	(96)
"PIS/COFINS" on financial results	(60)	(46)
Income tax on remittances of interest abroad	(45)	(111)
Interest on silver streaming	(26)	(27)
Other finance costs	(291)	(238)
	(2,512)	**(2,529)**
Results of derivative financial instruments		
Revenue	139	370
Expenses	(374)	(162)
	(235)	**208**
Foreign exchange variation, net	**(137)**	**(976)**
Finance results, net	**(1,617)**	**(2,040)**

(i) Refers substantially to the PIS and COFINS credit recognized in the subsidiaries VCSA, CBA and VCNNE, in the amounts of R$ 439 according to Note 1.1 (d).

34 Tax benefits

VCSA and its subsidiaries have tax incentives within certain state and federal industrial development programs. The state programs are aimed at attracting industrial investments seeking regional decentralization, promoting employment and income generation, besides complementing and diversifying the industrial matrix of the states. These fiscal incentives are approved by the states in the form of percentage financing of up to 75%, presumed credit with a percentage of up to 95% and deferral of the payment of taxes or partial reductions of the amount due for imports of assets and inputs.

35 Insurance

The Company and its subsidiaries maintain civil liability policies for executives and directors, in addition to insurance coverage for equity risks and loss of profits. Such policies have coverage, conditions and limits, considered by Management to be adequate to the inherent risks of the operation.

36 Supplementary information – Business segments

In order to provide more detailed information the Company has elected to present financial information organized into two business segments.

The following information refers to the breakdown of VSA by business segments and considers the eliminations of balances and transactions between companies in the same segment, before: (i) eliminations between business segments; (ii) eliminations of investments held by the holding companies. Additionally, the eliminations and reclassifications among the companies are presented so that the net results reconcile with the consolidated financial information of VSA according to the supplementary information. This supplementary information is not intended to be in accordance with, and is not required by, the accounting practices adopted in Brazil, or by IFRS.

(a) Capital management

The financial leverage ratios are calculated according to the information of the industrial segments, considering the accumulated results for 12 months, as loan covenants, and are summarized as follow:

		Industrial segments	
Adjusted EBITDA	Note	2019	2018
			Restated
Net income for the semester		4,925	2,309
Plus (less):			
Continuing operations			
Equity in the results of investees		(1,022)	(1,938)
Net financial results		1,624	2,048
Income and social contribution taxes		2,168	1,013
Depreciation, amortization and depletion		3,067	2,455
Discontinued operations			
Net financial results		38	6
Income and social contribution taxes		(3)	(99)
Depreciation, amortization and depletion			55
EBITDA before other additions and exceptional items		**10,797**	**5,849**
Plus:			
Dividends received		65	942
Extraordinary items			
EBITDA - discontinued operations		2	10
Non-recurring items - discontinued operations			211
Gain on sale of investments, net		(6,719)	(130)
Reversal for impairment of property, plant, equipment and intangible assets		723	(24)
Gain by adjustment to fair value in deconsolidation of VTRM			(302)
Other		252	322
Adjusted annualized EBITDA (A)		**5,120**	**6,878**
Net debt			
Borrowing	21	19,755	24,451
Lease liabilities	22	841	
Cash and cash equivalents, financial investments and derivative financial instruments		(10,614)	(11,236)
Net debt (B)		**9,982**	**13,215**
Gearing ratio (B/A)		**1.95**	**1.92**

(b) Balance sheet – business segments

Assets	Votorantim Cimentos	Nexa Resources	CBA	Long steels (*)	Votorantim Energia	Holding and other	Eliminations	Total, industrial segments	Votorantim Finanças	Eliminations	Total, consolidated
											2019
Current											
"Cash and cash equivalents, financial investments and derivative financial instruments"	3,011	3,070	649	104	102	3,770		10,706	62		10,768
Trade receivables	675	714	404	185	449	92	(323)	2,196			2,196
Inventory	1,668	1,190	928	342		1		4,129			4,129
Taxes recoverable	359	382	640	71	8	423		1,883	85		1,968
Dividends receivable	9		6		69	178	(181)	81			81
Financial instruments - firm commitment											
Other assets	248	204	41	45	50	58	(25)	621			621
	5,970	5,560	2,668	747	678	4,522	(529)	19,616	147		19,763
Non-current assets											
Long-term receivables											
"Financial investments and derivative financial instruments"	205	60	95					360			360
Financial instruments - Suzano						2,749		2,749			2,749
Derivative financial instruments - put option						655		655			655
Taxes recoverable	1,906	430	738	22		381		3,477			3,477
Related parties	24	19	28			266	(108)	229			229
Deferred income tax and social contribution	381	1,079	841	168	14	592	239	3,314	27		3,341
Judicial deposits	183	29	115	2		16		345			345
Financial instruments - firm commitment					29			29			29
Other assets	444	112	18	60		68	24	726			726
	3,143	1,729	1,835	252	43	4,727	155	11,884	27		11,911
Investments	1,007		204		2,464	34,391	(26,340)	11,726	5,378	(5,384)	11,720
Property, plant and equipment	12,877	7,845	4,721	1,107	35	563		27,148			27,148
Intangible assets	6,458	7,055	492	33	550	211	(1,516)	13,283			13,283
Right-of-use assets	537	119	16	111	10	20		813			813
Biological assets			1	5		79		85			85
	24,022	16,748	7,269	1,508	3,102	39,991	(27,701)	64,939	5,405	(5,384)	64,960
Total assets	29,992	22,308	9,937	2,255	3,780	44,513	(28,230)	84,555	5,552	(5,384)	84,723

(*) Relates to long steel operations abroad (Argentina and Colombia).

Liabilities and equity	Votorantim Cimentos	Nexa Resources	CBA	Long steels (*)	Votorantim Energia	Holding and other	Eliminations	Total, industrial segments	Votorantim Finanças	Eliminations	Total, consolidated
											2019
Current liabilities											
Borrowing	540	134	126	133		21		954			954
Lease liabilities	101	66	9	18	3	13		210			210
Derivative financial instruments	15	33	21					69			69
Confirming payable	552	334	335	194				1,415			1,415
Trade payables	2,045	1,669	407	194	396	16	(298)	4,429			4,429
Salaries and payroll charges	356	233	123	39	20	65		836			836
Taxes payable	235	39	42	90	10	8		424			424
Advances from customers	25	10	20	39	1	7		102			102
Dividends payable	156	27	14		77	39	(193)	120			120
Use of public assets	35	7	45					87			87
Related parties											
Financial instruments - firm commitment	10		17		54			81			81
Deferred revenue - performance obligation					32			32			32
Deferred revenue - silver streaming		106						106			106
Other	393	187	50	24		184		838			838
	4,463	2,845	1,209	731	593	353	(491)	9,703			9,703
Liabilities related to assets held-for-sale	2							2			2
	4,465	2,845	1,209	731	593	353	(491)	9,705			9,705
Non-current liabilities											
Borrowing	9,840	5,947	2,030			984		18,801			18,801
Lease liabilities	445	72	7	93	6	8		631			631
Derivative financial instruments	110	55	218					383			383
Deferred income tax and social contribution	568	1,083		18	43	207		1,919	168		2,087
Related parties	122	4	30		1	21	(128)	50			50
Provision	1,183	1,002	684	103	1	164		3,137			3,137
Use of public assets	483	87	580			1		1,151			1,151
Pension plan	227			140				367			367
Financial instruments - firm commitment	45		77					122			122
Deferred revenue - performance obligation											
Deferred revenue - silver streaming		621						621			621
Other	230	263	43	93	10	120		759		2	761
	13,253	9,134	3,669	447	61	1,505	(128)	27,941	168	2	28,111
Total liabilities	17,718	11,979	4,878	1,178	654	1,858	(619)	37,646	168	2	37,816

Liabilities and equity	Votorantim Cimentos	Nexa Resources	CBA	Long steels (*)	Votorantim Energia	Holding and other	Eliminations	Total, industrial segments	Votorantim Finanças	Eliminations	Total, consolidated
											2019
Equity											
Total equity attributable to owners of the Company	11,629	8,526	4,874	805	3,126	42,655	(29,852)	41,763	5,384	(5,378)	41,769
Non-controlling interests	645	1,803	185	272			2,241	5,146		(8)	5,138
Total equity	12,274	10,329	5,059	1,077	3,126	42,655	(27,611)	46,909	5,384	(5,386)	46,907
Total liabilities and equity	29,992	22,308	9,937	2,255	3,780	44,513	(28,230)	84,555	5,552	(5,384)	84,723

(*) Relates to long steel operations abroad (Argentina and Colombia).

(c) Statement of income – business segments

	Votorantim Cimentos	Nexa Resources	CBA	Long steels (*)	Votorantim Energia	Holding and other	Eliminations	Total, industrial segments	Votorantim Finanças	Eliminations	Total, consolidated
											2019
Continuing operations											
Net revenue from products sold and services rendered	13,027	9,200	5,264	2,133	4,229	75	(3,021) (**)	30,907			30,907
Cost of products sold and services rendered	(10,689)	(7,669)	(4,606)	(1,715)	(4,103)	(51)	3,021 (**)	(25,812)			(25,812)
Gross profit	**2,338**	**1,531**	**658**	**418**	**126**	**24**		**5,095**			**5,095**
Operating income (expenses)											
Selling	(714)	(99)	(36)	(21)		(3)		(873)			(873)
General and administrative	(914)	(803)	(214)	(155)	(94)	(302)		(2,482)	(14)		(2,496)
Other operating income (expenses), net	686	(1,073)	(178)	110	(56)	6,503		5,992			5,992
	(942)	**(1,975)**	**(428)**	**(66)**	**(150)**	**6,198**		**2,637**	**(14)**		**2,623**

	2019										
	Votorantim Cimentos	Nexa Re-sources	CBA	Long steels (*)	Votorantim Energia	Holding and other	Eliminations	Total, industrial segments	Votorantim Finanças	Eliminations	Total, conso-lidated
Profit (loss) before equity results and finance results	**1,396**	**(444)**	**230**	**352**	**(24)**	**6,222**		**7,732**	**(14)**		**7,718**
Result from equity investments											
Equity in the results of investees	189	(3)	14		356	933	(575) (**)	914	797	(792)	919
Realization of other comprehensive income on disposal of investments	108							108			108
	297	**(3)**	**14**		**356**	**933**	**(575)**	**1,022**	**797**	**(792)**	**1,027**
Finance results, net											
Finance income	547	122	313	25	99	283	(127) (**)	1,262	7		1,269
Finance costs	(1,240)	(487)	(447)	(145)	(116)	(206)	127 (**)	(2,514)			(2,514)
Results of derivative financial instruments	(77)	12	(68)			(102)		(235)			(235)
Foreign exchange gains (losses), net	(42)	(49)	(46)	(52)		52		(137)			(137)
	(812)	**(402)**	**(248)**	**(172)**	**(17)**	**27**		**(1,624)**	**7**		**(1,617)**
Profit (loss) before income tax and social contribution	**881**	**(849)**	**(4)**	**180**	**315**	**7,182**	**(575)**	**7,130**	**790**	**(792)**	**7,128**
Income tax and social contribution											
Current	(290)	(171)	(42)	(87)	(14)	(857)		(1,461)			(1,461)
Deferred	(5)	411	11	14	25	(1,163)	(**)	(707)	2		(705)
Profit (loss) for the year from continuing operations	**586**	**(609)**	**(35)**	**107**	**326**	**5,162**	**(575)**	**4,962**	**792**	**(792)**	**4,962**
Discontinued operations											
Loss from discontinued operations	(37)							(37)			(37)
Profit (loss) for the year attributable to the owners	**549**	**(609)**	**(35)**	**107**	**326**	**5,162**	**(575)**	**4,925**	**792**	**(792)**	**4,925**
Profit (loss) attributable to the owners of the Company	479	(486)	(64)	55	326	5,108	(248) (**)	5,170	792	(792)	5,170
Profit (loss) attributable to non-controlling interests	70	(123)	29	52			(273) (**)	(245)			(245)
Profit (loss) for the year	**549**	**(609)**	**(35)**	**107**	**326**	**5,108**	**(521)**	**4,925**	**792**	**(792)**	**4,925**

(*) Relates to long steel operations abroad (Argentina and Colombia).

(**) Relates substantially to the net revenue from electric energy operations to CBA and VCSA.

											2018
	Votorantim Cimentos	Nexa Re-sources	CBA	Long steels (*)	Votorantim Energia	Holding and other	Eliminations	Total, industrial segments	Votorantim Finanças	Eliminations	Total, conso-lidated
Continuing operations											
Net revenue from products sold and services rendered	12,610	9,066	5,417	2,112	4,456	47	(2,777) (**)	30,931			30,931
Cost of products sold and services rendered	(10,224)	(6,904)	(4,468)	(1,893)	(4,283)	(34)	2,777 (**)	(25,029)			(25,029)
Gross profit	**2,386**	**2,162**	**949**	**219**	**173**	**13**		**5,902**			**5,902**
Operating income (expenses)											
Selling	(613)	(69)	(36)	(25)		(12)		(755)			(755)
General and administrative	(810)	(553)	(197)	(133)	(94)	(337)		(2,124)	(13)		(2,137)
Other operating income (expenses), net	596	(345)	(35)	231	345	(89)	(111) (**)	592			592
	(827)	**(967)**	**(268)**	**73**	**251**	**(438)**	**(111)**	**(2,287)**	**(13)**		**(2,300)**
Operating Profit (loss) before equity results and finance results	**1,559**	**1,195**	**681**	**292**	**424**	**(425)**	**(111)**	**3,615**	**(13)**		**3,602**
Result from equity investments											
Equity in the results of investees	120		(27)		343	1,323	(645) (**)	1,114	530	(526)	1,118
						820		820			820
Realização de resultados abrangentes na alienação de investimentos	4							4			4
	124		**(27)**		**343**	**2,143**	**(645)**	**1,938**	**530**	**(526)**	**1,942**
Finance results, net											
Finance income	647	233	152	11	108	230	(132) (**)	1,249	8		1,257
Finance costs	(1,250)	(417)	(395)	(152)	(154)	(293)	132 (**)	(2,529)			(2,529)
Results of derivative financial instruments	34	(9)		8		175		208			208
Foreign exchange gains (losses), net	(319)	(538)	(283)	(33)		(217)	414 (**)	(976)			(976)
	(888)	**(731)**	**(526)**	**(166)**	**(46)**	**(105)**	**414**	**(2,048)**	**8**		**(2,040)**
Profit (loss) before income tax and social contribution	**795**	**464**	**128**	**126**	**721**	**1,613**	**(342)**	**3,505**	**525**	**(526)**	**3,504**
Income tax and social contribution											
Current	(127)	(251)	(26)	(70)	(23)	42		(455)			(455)
Deferred	(600)	107	(48)	87	(116)	63	(51) (**)	(558)	2		(556)
Profit (loss) for the from continuing operations	**68**	**320**	**54**	**143**	**582**	**1,718**	**(393)**	**2,492**	**527**	**(526)**	**2,493**
Discontinued operations											
Loss from discontinued operations	(58)					(125)		(183)			(183)
Profit (loss) for the year attributable to the owners	**10**	**320**	**54**	**143**	**582**	**1,593**	**(393)**	**2,309**	**527**	**(526)**	**2,310**
Profit (loss) attributable to the owners of the Company	(46)	274	43	97	582	1,645	(493) (**)	2,102	526	(526)	2,102
Profit attributable to non-controlling interests	56	46	11	46			48 (**)	207	1		208
Profit (loss) for the year	**10**	**320**	**54**	**143**	**582**	**1,645**	**(445)**	**2,309**	**527**	**(526)**	**2,310**

(*) Relates to long steel operations abroad (Argentina and Colombia).
(**) Relates substantially to the net revenue from electric energy operations to CBA and VCSA.

(d) **EBITDA ajustado –Adjusted EBITDA – business segments**

										2019
	Votorantim Cimentos	Nexa Resources	CBA	Long steel (*)	Votorantim Energia	Holding and other	Eliminations	Total, industrial segments	Votorantim Finanças	Total, consolidated
Net revenue from products sold and services rendered	13,027	9,200	5,264	2,133	4,229	75	(3,021) (**)	30,907		30,907
Cost of products sold and services rendered	(10,689)	(7,669)	(4,606)	(1,715)	(4,103)	(51)	3,021 (**)	(25,812)		(25,812)
Gross profit	**2,338**	**1,531**	**658**	**418**	**126**	**24**		**5,095**		**5,095**
Operating income (expenses)										
Selling	(714)	(99)	(36)	(21)		(3)		(873)		(873)
General and administrative	(914)	(803)	(214)	(155)	(94)	(302)		(2,482)	(14)	(2,496)
Other operating income (expenses), net	686	(1,073)	(178)	110	(56)	6,503		5,992		5,992
	(942)	**(1,975)**	**(428)**	**(66)**	**(150)**	**6,198**		**2,637**	**(14)**	**2,623**
Profit (loss) before equity results and finance results	**1,396**	**(444)**	**230**	**352**	**(24)**	**6,222**		**7,732**	**(14)**	**7,718**
Plus:										
Depreciation, amortization and depletion - continuing operations	1,222	1,245	463	104	5	28		3,067		3,067
EBITDA	**2,618**	**801**	**693**	**456**	**(19)**	**6,250**		**10,799**	**(14)**	**10,785**
Plus:										
Dividends received	65				69		(69)	65	540	605
Exceptional items										
Gain on sale of investments, net						(6,719)		(6,719)		(6,719)
Reversal for impairment - fixed assets	14	564	145					723		723
Other	(39)		24			267		252		252
Adjusted EBITDA	**2,658**	**1,365**	**862**	**456**	**50**	**(202)**	**(69)**	**5,120**	**526**	**5,646**

(*) Relates to long steel operations abroad (Argentina and Colombia).
(**) Relates substantially to the net revenue from electric energy operations to CBA and VCSA.

2018

	Votorantim Cimentos	Nexa Resources	CBA	Long steel (*)	Votorantim Energia	Holding and other	Eliminations	Total, industrial segments	Votorantim Finanças	Total, consolidated
Net revenue from products sold and services rendered	12,610	9,066	5,417	2,112	4,456	47	(2,777) (**)	30,931		30,931
Cost of products sold and services rendered	(10,224)	(6,904)	(4,468)	(1,893)	(4,283)	(34)	2,777 (**)	(25,029)		(25,029)
Gross profit	**2,386**	**2,162**	**949**	**219**	**173**	**13**		**5,902**		**5,902**
Operating income (expenses)										
Selling	(613)	(69)	(36)	(25)		(12)		(755)		(755)
General and administrative	(810)	(553)	(197)	(133)	(94)	(337)		(2,124)	(13)	(2,137)
Other operating income (expenses), net	596	(345)	(35)	231	345	(89)	(111)	592		592
	(827)	**(967)**	**(268)**	**73**	**251**	**(438)**	**(111)**	**(2,287)**	**(13)**	**(2,300)**
Profit (loss) before equity results and finance results	**1,559**	**1,195**	**681**	**292**	**424**	**(425)**	**(111)**	**3,615**	**(13)**	**3,602**
Plus:										
Depreciation, amortization and depletion - continuing operations	1,038	974	303	91	27	22		2,455		2,455
EBITDA	**2,597**	**2,169**	**984**	**383**	**451**	**(403)**	**(111)**	**6,070**	**(13)**	**6,057**
Plus:										
Dividends received	46				8	896	(8)	942	143	1,085
Exceptional items										
Gain on sale of investments, net	4	(1)	(111)			(133)	111	(130)		(130)
Reversal for impairment - fixed assets	(8)	12	(41)			13		(24)		(24)
Fair value of biological assets										
Gain by adjustment to fair value of VTRM´s operation					(302)			(302)		(302)
Other	(15)					337		322		322
Adjusted EBITDA	**2,624**	**2,180**	**832**	**383**	**157**	**710**	**(8)**	**6,878**	**130**	**7,008**

(*) Relates to long steel operations abroad (Argentina and Colombia).
(**) Relates substantially to the net revenue from electric energy operations to CBA and VCSA.

37 Subsequent events

(a) Acquisition of a manufacturing unit

In August 2019, the subsidiary CBA announced the signing of the share purchase and sale agreement with the purpose of fully acquiring the shares of Arconic Industria e Comércio de Metais Ltda, a unit located in Pernambuco, in the Northeast of Brazil, which will complement the CBA's laminated product line. The effective control of the operations was transferred to CBA in February 2020. The price paid for the acquisition totaled R$ 225 and a gain by an advantageous purchase of R$ 139 in the application of the acquisition method provided for in CPC15 for the accounting record of the operation.

(b) Option to purchase Piauí II and III

In January 2020, the indirect subsidiary VTRM exercised its option to purchase Piauí II and III, for the development of new wind farms in the Northeast region of Brazil, with an investment of approximately R$ 2,000. The construction of the parks is scheduled to begin in 2021, with start-up between 2022 and 2023.

Each of the complexes will consist of five wind farms located in the region in Serra do Inácio. Ventos do Piauí II will have 100% of its structure distributed between 3 Piauí municipalities (Curral Novo, Paulistana and Betânia do Piauí) and the Ventos do Piauí III complex will have wind turbines installed in Curral Novo (Piauí), Araripina and Ouricuri (Pernambuco). Together, the new complexes will have an installed generation capacity of 411.6 MW and will make the indirect subsidiary VTRM responsible for approximately 1.0 GW of installed generation capacity in that region.

(c) Amendment to the loan agreement pursuant to Law No. 4,131 / 1962 by VCSA

On January 30, 2020, the subsidiary VCSA renegotiated the contractual terms of the loan under Law No. 4,131 / 1962, contracted in March 2018, in the total amount of USD 100 million. The Company extended the final maturity from 2023 to 2025 and renegotiated the cost of the swap (derivative financial instrument) from 112.00% to 107.00% of the CDI.

The swap linked to the operation, contracted jointly with the same financial institution as the loan, aims at both the exchange of exposure to the floating rate LIBOR to the floating rate CDI, as well as the exchange of currency from dollar to real (debt in dollar + swap to real in% CDI).

(d) Distribution of dividends by the subsidiary Nexa

On February 13, 2020, the Board of Directors of the subsidiary Nexa approved, subject to ratification by the shareholders of the subsidiary Nexa, in accordance with the laws of Luxembourg, distribution of dividends to the shareholders of the subsidiary Nexa, registered on March 16, 2020, approximately USD 50 million to be paid on March 30, 2020.

(e) Export financing

In February 2020, the subsidiary CBA signed a loan agreement (NCE – Export Credit Note) aimed at financing its exports in the amount of R $ 250 with maturity on February 14, 2029. It is noteworthy that the loan is characterized as "Green Financing" based on the guidelines of the Green Loan Principles. The operation has a swap contract (derivative financial instrument – hedge accounting), which aims to exchange exposure to the floating rate CDI in reais for a fixed rate in US dollars, resulting in a final cost of 4.25% per year.

(f) Dividend resolution – VSA

On January 20, 2020, the Company resolved to its parent company Hejoassu Administração S.A., the amount of R$ 401 corresponding to dividends related to the portion of the balance of the "Profit Reserves" account, accumulated from previous years. The amount was paid in full by February 10, 2020.

Independent auditor's limited assurance

Report on sustainability information in the 2019 Annual Report (free translation of the original in Portuguese)

To the Board of Directors and Stockholders
Votorantim S.A.
São Paulo - SP

Introduction

Votorantim S.A. "Votorantim" or "Company" engaged us to present our limited assurance report on the compilation of sustainability information in the Votorantim 2019 Annual Report for the year ended December 31, 2019.

Management's responsibilities

Management of Votorantim is responsible for the preparation and fair presentation of the information in the 2019 Annual Report, presented in accordance with the Global Reporting Initiative (GRI Standards) and for such internal controls as it determines necessary to prepare of information free from material misstatement, whether due to fraud or error.

Independent auditor's responsibilities

Our responsibility is to express a conclusion on the information included in the 2019 Annual Report based on our limited assurance engagement carried out in accordance with the Technical Communication CTO 01, "Issuance of an Assurance Report related to Sustainability and Social Responsibility", issued by the Federal Accounting Council (CFC), based on the Brazilian standard NBC TO 3000, "Assurance Engagements Other than Audit and Review", also issued by the CFC, which is equivalent to the international standard ISAE 3000, "Assurance engagements other than audits or reviews of historical financial information", issued by the International Auditing and Assurance Standards Board (IAASB). Those standards require that we comply with ethical and independence requirements, and other responsibilities, including in relation to the Brazilian Standard on Quality Control (NBC PA 01) and, therefore, the maintenance of a comprehensive quality control system, including formal compliance policies and procedures for ethical requirements, professional standards and legal and regulatory requirements.

These standards also require the work to be planned and performed to obtain limited assurance that the information included in the 2019 Annual Report, taken as a whole, is free from material misstatement.

A limited assurance engagement conducted in accordance with the Brazilian standard NBC TO 3000 and ISAE 3000 mainly consists of making inquiries of management and other professionals of the entity involved in the preparation of the sustainability information, as well as applying analytical procedures to obtain evidence that enables the issue of a limited assurance conclusion on the information taken as a whole. A limited assurance engagement also requires the performance of additional procedures when the independent auditor becomes aware of matters that lead the auditor to believe that the information taken as a whole might present significant misstatements.

The procedures selected are based on our understanding of the procedures applied in the compilation and presentation of the information in the 2019 Annual Report, other engagement circumstances and our analysis of the areas in which significant misstatements might exist. The following procedures were adopted:

(a) Planning the work, taking into consideration the materiality and the volume of quantitative and qualitative information and the operating and internal control systems used to prepare the information in the 2019 Annual Report;
(b) Understanding the calculation methodology and the procedures adopted for the compilation of indicators through interviews with the managers responsible for the preparation of the information;
(c) Applying analytical procedures to quantitative information and making inquiries regarding the qualitative information and its correlation with the indicators disclosed in the information in the 2019 Annual Report;
(d) Comparing the financial indicators with the financial statements and/or accounting records.

The limited assurance engagement also included the application of procedures to assess compliance with the guidelines and criteria of the Global Reporting Initiative (GRI Standards) applied in the compilation of the information related to sustainability included in the 2019 Annual Report.

We believe that the evidence we have obtained is sufficient and appropriate to provide a basis for our limited assurance conclusion.

Scope and limitations

The procedures applied in a limited assurance engagement are substantially less detailed than those applied in a reasonable assurance engagement, the objective of which is the issuance of an opinion on the sustainability information in the 2019 Annual Report. Consequently, we were not able to obtain reasonable assurance that we might become aware of all significant matters that might be identified in an assurance engagement, the objective of which is the issue of an opinion. Had we performed an engagement with the objective of issuing an opinion, we might have identified other matters and possible misstatements in the information related to sustainability in the 2019 Annual Report. Therefore, we do not express an opinion on this information.

Non-financial data are subject to more inherent limitations than financial data, due to the nature and diversity of the methods used to determine, calculate and estimate these data. Qualitative interpretations of the relevance, materiality, and accuracy of the data are subject to individual assumptions and judgments. Furthermore, we did not carry out any work on the data reported for prior periods, nor future projections and goals.

The preparation and presentation of the sustainability indicators were performed pursuant to the criteria of the GRI Standards and, therefore, do not aim to provide assurance with regard to the compliance with social, economic, environmental, or engineering laws and regulations. However, the aforementioned standards establish the presentation and disclosure of possible cases of non-compliance with such regulations when sanctions or significant fines are applied. Our limited assurance report should be read and understood in this context, which is inherent to the criteria selected (GRI Standards).

Conclusion

Based on these procedures, no matter has come to our attention that causes us to believe that the information included in the 2019 Annual Report of Votorantim S.A. has not been compiled, in all material respects, in accordance with the Global Reporting Initiative (GRI Standards).

São Paulo, March 26, 2020

PricewaterhouseCoopers
Contadores Públicos Ltda.
CRC 2SP023.173/O-4

Maurício Colombari
Contador
CRC 1SP195838/O-3

CORPORATE INFORMATION

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