NATIONAL STEEL CO Form 20-F May 01, 2018

As filed with the Securities and Exchange Commission on April 30, 2018.

UNITED STATES SECURITIES AND EXCHANGE COMMISSION Washington, D.C. 20549 **FORM 20-F** REGISTRATION STATEMENT PURSUANT TO SECTION 12(b) OR (g) OF THE SECURITIES **EXCHANGE ACT OF 1934** OR ANNUAL REPORT PURSUANT TO SECTION 13 OR 15(d) OF  $\mathbf{X}$ THE SECURITIES EXCHANGE ACT OF 1934 For the fiscal year ended December 31, 2017 TRANSITION REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934 OR SHELL COMPANY REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES **EXCHANGE ACT OF 1934** 

**Commission File Number 1-14732** 

### COMPANHIA SIDERÚRGICA NACIONAL

(Exact Name of Registrant as Specified in its Charter)

#### NATIONAL STEEL COMPANY

(Translation of Registrant's name into English)

#### THE FEDERATIVE REPUBLIC OF BRAZIL

(Jurisdiction of incorporation or organization)

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(Address of principal executive offices)

\_\_\_\_\_

Securities registered or to be registered pursuant to Section 12(b) of the Act.

#### Title of each class

### Name of each exchange on which registered

Common Shares without par value

American Depositary Shares (as evidenced by American

Depositary Receipts), each representing one share of Common

Stock

New York Stock Exchange\*

New York Stock Exchange

The Proposition of Common Stock Stock Exchange Stock

<sup>\*</sup> Not for trading purposes, but only in connection with the registration of American Depositary Shares pursuant to the requirements of the Securities and Exchange Commission.

Securities registered or to be registered pursuant to Section 12(g) of the Act:

None

Securities for which there is a reporting obligation pursuant to Section 15(d) of the Act:

None

Indicate the number of outstanding shares of each of the issuer's classes of capital or common stock as of December 31, 2017:

1,387,524,047 Common Shares without Par Value

Indicate by check mark if the registrant is a well-known seasoned issuer, as defined in Rule 405 of the Securities Act.

Yes R No

If this report is an annual or transition report, indicate by check mark if the registrant is not required to file reports pursuant to Section 13 or 15(d) of the Securities Exchange Act of 1934.

Yes R No

Indicate by check mark whether the registrant (1) has filed all reports required to be filed by Section 13 or 15(d) of the Securities Exchange Act of 1934 during the preceding 12 months (or for such shorter period that the registrant was required to file such reports), and (2) has been subject to such filing requirements for the past 90 days.

R Yes No

Indicate by check mark whether the registrant has submitted electronically and posted on its corporate Web site, if any, every Interactive Data File required to be submitted and posted pursuant to Rule 405 of Regulation S-T (§232.405 of this chapter) during the preceding 12 months (or for such shorter period that the registrant was required to submit and post such files).

Yes No

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, or a non-accelerated filer. See definition of "accelerated filer and large accelerated filer" in Rule 12b-2 of the Exchange Act. (Check one):

Large Accelerated Filer R Accelerated Filer Non-accelerated Filer Emerging growth company

If an emerging growth company that prepares its financial statements in accordance with U.S. GAAP, indicate by check mark if the registrant has elected not to use the extended transition period for complying with any new or revised financial accounting standards† provided pursuant to Section 13(a) of the Exchange Act.

† The term "new or revised financial accounting standard" refers to any update issued by the Financial Accounting Standards Board to its Accounting Standards Codification after April 5, 2012.

Indicate by check mark which basis of accounting the registrant has used to prepare the financial statements included in this filing:

U.S. GAAP

International Financial Reporting
Standards as issued by the
International Accounting Standards

Other

Board R

If "Other" has been checked in response to the previous question, indicate by check mark which financial statement item the registrant has elected to follow:

**Item 17 Item 18** 

If this is an annual report, indicate by check mark whether the registrant is a shell company (as defined in Rule 12b-2 of the Exchange Act).

Yes R No

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#### INTRODUCTION

Unless otherwise specified, all references in this annual report to:

- "we," "us," "our" or "CSN" are to Companhia Siderúrgica Nacional and its consolidated subsidiaries;
- "Brazil" are to the Federative Republic of Brazil;
- "Brazilian government" are to the federal government of Brazil;
- "real," "reais" or "R\$" are to Brazilian reais, the official currency of Brazil;
- "U.S. dollars," "\$," "US\$" or "USD" are to United States dollars;
- "km" are to kilometers, "m" are to meters, "mt" or "tons" are to metric tons, "mtpy" are to metric tons per year and "MV are to megawatts;
- "TEUs" are to twenty-foot equivalent units;
- "consolidated financial statements" are to our audited consolidated financial statements prepared in accordance with International Financial Reporting Standards, or IFRS, as issued by the International Accounting Standards Board, or IASB, as of December 31, 2015, 2016 and 2017 and for the years ended December 31, 2015, 2016 and 2017 together with the corresponding reports of our Independent Registered Public Accounting Firms; and
- "ADSs" are to CSN's American Depositary Shares and "ADRs" are to CSN's American Depositary Receipts.

#### FORWARD-LOOKING STATEMENTS

This annual report includes forward-looking statements, within the meaning of Section 27A of the U.S. Securities Act of 1933, as amended, or the Securities Act, and Section 21E of the U.S. Securities Exchange Act of 1934, as amended, or the Exchange Act, principally under the captions "Item 3. Key Information," "Item 4. Information on the Company," "Item 5. Operating and Financial Review and Prospects" and "Item 11. Quantitative and Qualitative Disclosures About Market Risk." We have based these forward-looking statements largely on our current beliefs, expectations and projections about future events and financial trends affecting us. Although we believe these estimates and forward-looking statements are based on reasonable assumptions, these estimates and statements are subject to several risks and uncertainties and are made in light of the information currently available to us.

Many important factors, in addition to those discussed elsewhere in this annual report, could cause our actual results to differ substantially from those anticipated in our forward-looking statements, including, among others:

- general economic, political and business conditions in Brazil and abroad, especially in China, which is the largest world steel producer and the main consumer of our iron ore;
- demand for and prices of steel and mining products;
- the effects of trends in the global financial markets and economic slowdowns;
- changes in competitive conditions and the general level of demand and supply for our products;

- our liquidity position and leverage and our ability to obtain financing on satisfactory terms;
- management's expectations and estimates concerning our future financial performance and financing plans;
- availability and price of raw materials;
- changes in international trade or international trade regulations;
- protectionist measures imposed by Brazil and other countries;
- our capital expenditure plans;
- inflation, interest rate levels and fluctuations in foreign exchange rates;
- our ability to develop and deliver our products on a timely basis;
- lack of infrastructure in Brazil;
- electricity and natural gas shortages and government responses to these;
- existing and future governmental regulation; and
- the risk factors discussed under the caption "Item 3D. Risk Factors."

We caution you that the foregoing list of significant factors may not contain all of the material factors that are important to you. The words "believe," "may," "will," "aim," "estimate," "plan," "continue," "anticipate," "intend," "expect" a words are intended to identify forward-looking statements. Forward-looking statements include information concerning our possible or assumed results of operations, business strategies, financing plans, competitive position, industry environment, potential growth opportunities, the effects of regulation and the effects of competition, among others.

Forward-looking statements speak only as of the date they were made, and we undertake no obligation to publicly update or to revise any forward-looking statements after we distribute this annual report because of new information, future events or other factors. In light of the risks and uncertainties described above, the forward-looking events and circumstances discussed in this annual report might not occur and are not an indication of future performance. As a result of various factors, including those risks described in "Item 3D. Risk Factors," undue reliance should not be placed on these forward-looking statements.

#### PRESENTATION OF FINANCIAL AND OTHER INFORMATION

Our audited consolidated financial statements as of December 31, 2017 and 2016 and for the years ended December 31, 2017, 2016 and 2015 included elsewhere in this annual report have been presented in thousands of *reais* (R\$) and prepared in accordance with IFRS as issued by the IASB. See note 2.a. to our audited consolidated financial statements.

We have translated some of the Brazilian *real* amounts contained in this annual report into U.S. dollars solely for the convenience of the reader at the rate of R\$3.308 to US\$1.00, which was the U.S. dollar selling rate as of December 31, 2017, as reported by the Central Bank of Brazil, or the Central Bank. The U.S. dollar equivalent information presented in this annual report should not be construed as implying that the Brazilian *real* amounts represent, or could have been or could be converted into, U.S. dollars at such rates or at any other rate. See "Exchange Rates" for more detailed information regarding the translation of *reais* into U.S. dollars.

Certain figures included in this annual report have been subject to rounding adjustments. Accordingly, figures shown as totals in certain tables may not represent an arithmetic sum of the figures that precede them.

#### **PART I**

### Item 1. Identity of Directors, Senior Management and Advisors

Not applicable.

#### **Item 2. Offer Statistics and Expected Timetable**

Not applicable.

#### **Item 3. Key Information**

#### 3A. Selected Financial Data

We present in this section the summary financial and operating data derived from our audited consolidated financial statements as of and for the years ended December 31, 2017, 2016, 2015, 2014 and 2013.

# **Summary Financial and Operating Data**

The following tables present summary consolidated financial and operating data for each of the periods indicated.

	Year Ended December 31,					
<b>Income Statement</b>						
Data:	20171	2017	2016	$2015^{2}$	2014	2013
	(in millions					
	of US\$,		(in millions o	of R\$, except pe	er share data)	
	except per share data)					
Net operating	,					
revenues	5,600	18,525	17,149	15,262	16,126	17,312
Cost of products sold	(4,110)	(13,596)	(12,640)	(11,740)	(11,592)	(12,423)
Gross profit	1,490	4,929	4,509	3,522	4,534	4,889
Operating expenses	,	,	,	,	,	,
Selling	(549)	(1,815)	(1,697)	(1,430)	(1,042)	(875)
General and	(126)	(416)	(518)	(470)	(438)	(486)
administrative	(120)	(410)	(316)	(470)	(436)	(400)
Equity in results of	33	109	65	1,160	331	158
affiliated companies				•		
Other expenses	(196)	(647)	(1,077)	(1,341)	(657)	(1,134)
Other income <sup>3</sup>	249	824	663	3,610	90	567
Total	(588)	(1,945)	(2,564)	1,529	(1,716)	(1,770)
Operating income	902	2,984	1,945	5,051	2,818	3,119
Non-operating income		, -	<i>y</i>	- ,	,	-, -
(expenses), net						
Financial income	89	295	644	488	172	171
Financial expenses	(834)	(2,759)	(3,166)	(3,853)	(3,253)	(2,683)
(Loss) income before						
taxes	157	520	(577)	1,686	(263)	608
Income tax						
Current	(109)	(359)	(206)	(136)	(528)	(1,291)
Deferred	(15)	(50)	(60)	(2,768)	679	1,217
	,	,	, ,			,
Net income						
(loss) from continuing	34	111	(843)	(1,218)	(112)	534
operations						
Net income						
(loss) from			(4.0)			
discontinued	-	-	(10)	2	-	-
operations						
Net income (loss) for						
the period	34	111	(853)	(1,215)	(112)	534
me periou						

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Net income (loss) attributable to noncontrolling interest	31	101	82	(2)	(7)	25
Net income (loss) attributable to Companhia Siderúrgica Nacional	3	10	(935)	(1,213)	(105)	509
Basic earnings per common share Diluted earnings per common share	0.00229 0.00229	0.00757 0.00757	(0.68876) (0.68876)	(0.89461) (0.89461)	(0.07443) (0.07443)	0.34913 0.34913

	As of December 31,						
Balance Sheet Data:	2017	2017	2016	2015	2014	2013	
Dutu.	(in millions of US\$, except per share data)	(in millions of R\$, except per share data)					
Current assets Investments	3,592 1,662	11,881 5,499	12,445 4,568	16,431 3,998	15,936 13,665	16,403 13,487	
Property, plant and equipment	5,431	17,965	18,136	17,826	15,624	14,911	
Other assets	2,982	9,865	9,005	9,084	4,542	5,602	
<b>Total assets</b>	13,667	45,210	44,154	47,339	49,767	50,403	
Current liabilities	3,226	10,670	5,497	5,082	6,363	5,564	
Non-current liabilities Stockholders' equity	7,936	26,252	31,272	35,166	37,669	36,770	
	2,505	8,288	7,385	7,091	5,735	8,069	
Total liabilities and stockholders' equity	13,667	45,210	44,154	47,339	49,767	50,403	
Paid-in capital	1,372	4,540	4,540	4,540	4,540	4,540	
Common shares (in millions of shares) Dividends declared	1,388	1,388	1,388	1,388	1,388	1,457	
and interest on stockholders' equity  Dividends declared and interest on	-	-	-	275	700	800	
stockholders' equity per common share (in reais)	-	-	-	0.20	0.50	0.55	

- (1) Translated solely for the convenience of the reader at the rate of R\$3.308 to US\$1.00, which was the U.S. dollar selling rate as of December 31, 2017, as reported by the Central Bank.
- (2) The results of our former subsidiary Cia. Metalic Nordeste, or Metalic, were excluded from net operating revenues, cost of sales and/or services, gross profit, operating expenses, other operating expenses, other operating income, financial results and income taxes and were included in "Net income (loss) from discontinued operations" due to the sale of Metalic in November 2016. For further information, see "Item 4B. Business Overview—Downstream Facilities—Metalic."
- (3) Our 2015 financial information was impacted by the business combination of CSN Mineração as described in "Item 5A. Operating Results."
- (4) We paid dividends related to the fiscal year ended December 31, 2015 in 2016 before the second restatement of our financial statements as of and for the year ended December 31, 2015. As a consequence of this second restatement, which resulted in a net loss for 2015, we recorded the payment as a payment from our profit reserve account (statutory reserve of working capital) existing at the time of the distribution. The payment was not allocated to the minimum mandatory dividends for the year ended December 31, 2015 as established at our 2016 annual shareholders' meeting, held in April 2016. For a discussion of our dividend policy and dividend and interest payments, see "Item 8A. Consolidated Statements and Other Financial Information—Dividend Policy."

# **Exchange Rates**

Brazil's foreign exchange system allows the purchase and sale of foreign currency and the international transfer of *reais* by any person or legal entity, regardless of amount, subject to certain regulatory procedures.

During the last decade, the Brazilian currency has experienced frequent and substantial variations in relation to the U.S. dollar and other foreign currencies.

The Central Bank has intervened occasionally to mitigate volatility in foreign exchange rates. We cannot predict whether the Central Bank or the Brazilian government will continue to allow the *real* to float freely or will intervene in the exchange rate market through a currency band system or otherwise. The *real* may significantly depreciate or appreciate against the U.S. dollar.

The following tables present the U.S. dollar selling rate, expressed in reais (R\$/US\$), for the periods indicated:

	Period-End	Average <sup>(1)</sup> (R\$ per U	Low JS\$)	High
Year		(It per c	,54)	
2013	2.343	2.161	1.953	2.446
2014	2.656	2.355	2.197	2.740
2015	3.905	3.338	2.575	4.195
2016	3.259	3.484	3.119	4.156
2017	3.308	3.193	3.051	3.381

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2018 (through April 26, 2018) 3.467 3.283 3.139 3.504

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	<b>Month-End</b>	$Average^{(1)}$	Low	High
		(R\$ per US\$)		
Month				
October 2017	3.276	3.191	3.131	3.280
November 2017	3.262	3.259	3.214	3.292
December 2017	3.308	3.291	3.232	3.333
January 2018	3.162	3.211	3.139	3.270
February 2018	3.245	3.242	3.173	3.282
March 2018	3.324	3.279	3.225	3.338
April 2018 (through April 26, 2018)	3.467	3.404	3.310	3.504

Source: Central Bank

(1) Represents the average of the exchange rates during the period.

We pay cash dividends and make other cash distributions, if any, with respect to our common shares in Brazilian currency. Accordingly, exchange rate fluctuations may affect the U.S. dollar amounts received by ADS holders upon conversion into U.S. dollars of such distributions for payment by the depositary. Fluctuations in the exchange rate between the Brazilian *real* and the U.S. dollar may also affect the U.S. dollar equivalent of the *real* price of our common shares on the B3 S.A. – *Brasil*, *Bolsa*, *Balcão*, or the B3.

### 3B. Capitalization and Indebtedness

Not applicable.

#### 3C. Reasons for the Offer and Use of Proceeds

Not applicable.

### 3D. Risk Factors

An investment in our ADSs or common shares involves a high degree of risk. You should carefully consider the risks described below before making an investment decision. Our business, financial condition and results of operations could be materially and adversely affected by any of these risks. The trading price of our ADSs could decline due to any of these risks or other factors, and you may lose all or part of your investment.

For purposes of this section, when we state that a risk, uncertainty or problem may, could or will have an "adverse effect" on us or "adversely affect" us, we mean that the risk, uncertainty or problem could have an adverse effect on our business, financial condition, results of operations, cash flow, prospects and/or the trading price of our ADSs, except as otherwise indicated. The risks described below are those that we currently believe may materially and adversely affect us.

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# **Risks Relating to Brazil**

The Brazilian government has exercised, and continues to exercise, significant influence over the Brazilian economy and such involvement, along with general political and economic conditions, could adversely affect us.

The Brazilian government has frequently intervened in the Brazilian economy and occasionally made drastic changes in policy and regulations. The Brazilian government's actions to control inflation and affect other policies and regulations have often involved, among other measures, increases in interest rates, changes in tax and social security policies, price controls, currency exchange and remittance controls, devaluations, capital controls and limits on imports. We may be adversely affected by changes in policy or regulations at the federal, state or municipal level involving or affecting the following factors, among others:

- interest rates;
- exchange controls;
- currency fluctuations;
- inflation;
- price volatility of raw materials and our final products;

- lack of infrastructure in Brazil;
- energy and water supply shortages and rationing programs;
- liquidity of the domestic capital and lending markets;
- regulatory policy for the mining, steel, cement, logistics and energy industries;
- environmental policies and regulations;
- tax policies and regulations, including frequent changes that may result in uncertainties regarding future taxation; and
- other political, social and economic developments in or affecting Brazil.

Uncertainty over whether the Brazilian government will implement changes in policy or regulation affecting these or other factors may contribute to economic uncertainty in Brazil and to heightened volatility in the Brazilian securities markets and securities issued abroad by Brazilian companies.

After two years of economic contraction, Brazil's gross domestic product, or GDP, grew by 1.0% in 2017, as compared to (3.5)% in 2016, (3.5)% in 2015, 0.5% in 2014 and 3.0% in 2013.

We have been, and will continue to be, affected by the weakness of the Brazilian GDP. We cannot assure you that the Brazilian GDP will increase or remain stable. Developments in the Brazilian economy may affect Brazil's growth rates and, consequently, the demand for our products.

# Political instability may adversely affect us.

Brazilian markets have experienced heightened volatility in recent years due to uncertainties derived from the ongoing *Lava Jato* investigation, which is being conducted by the Federal Prosecutor's Office (*Ministério Público Federal*) and its impact on the Brazilian economy and political environment. Numerous members of the Brazilian government and of the legislative branch, as well as senior officers of large state-owned and private companies, have been convicted of political corruption of officials accepting bribes by means of kickbacks on contracts granted by the government to several infrastructure, oil and gas and construction companies. Profits from these kickbacks financed the political campaigns of political parties that were unaccounted for or not publicly disclosed, and served to further the personal enrichment of the recipients of the bribery scheme. As a result, a number of senior politicians, including congressmen and officers of the major state-owned and private companies in Brazil, resigned or have been arrested, including, most recently, former President of Brazil, Luiz Inácio Lula da Silva, who was arrested in April 2018.

The ultimate outcome of these investigations is uncertain, but they have already had an adverse impact on the image and reputation of the implicated companies, and on the general market perception of the Brazilian economy. The development of these unethical conduct cases has and may continue to adversely affect us.

After the impeachment of President Dilma Rousseff in August 2016, Vice President Michel Temer was sworn in as the new President of Brazil until the next presidential election in October 2018. The Brazilian economy has been and continues to be subject to the effects of uncertainty regarding the results of the next presidential election. We cannot predict the effects of these recent developments and the current ongoing political uncertainties on the Brazilian economy.

The Brazilian government has exercised, and continues to exercise, significant influenceover the Brazilian economy

# Exchange rate instability may adversely affect us and the market price of our common shares and ADSs.

The Brazilian currency has, during the last decade, experienced frequent and substantial variations in relation to the U.S. dollar and other foreign currencies. In 2015, the real depreciated 47% reaching R\$3.905 per US\$1.00 as of December 31, 2015. In 2016, the *real* appreciated against the U.S. dollar, reaching R\$3.259 per US\$1.00 as of December 31, 2016. The exchange rate remained relatively stable in 2017 and was R\$3.268 per US\$1.00 as of December 31, 2017. On April 26, 2018, the exchange rate was R\$3.947 per US\$1.00.

Depreciation of the *real* against the U.S. dollar creates inflationary pressures in Brazil and causes increases in interest rates, which negatively affect the growth of the Brazilian economy as a whole, curtail access to foreign financial markets and may prompt government intervention, including recessionary governmental policies. Depreciation of the *real* against the U.S. dollar may also, in the context of an economic slowdown, lead to decreased consumer spending, deflationary pressures and reduced growth of the Brazilian economy.

On the other hand, appreciation of the *real* relative to the U.S. dollar and other foreign currencies could lead to a deterioration of the Brazilian foreign exchange current accounts, as well as dampen export-driven growth. Depending on the circumstances, either depreciation or appreciation of the *real* could materially and adversely affect the growth of the Brazilian economy and us, as well as impact the U.S. dollar value of distributions and dividends on and the U.S. dollar equivalent of the market price of our common shares and ADSs.

In the event the *real* depreciates in relation to the U.S. dollar, the cost in *reais* of our foreign currency-denominated borrowings and imports of raw materials, particularly coal and coke, will increase. On the other hand, if the *real* appreciates in relation to the U.S. dollar, it will cause *real*-denominated production costs to increase as a percentage of total production costs and cause our exports to be less competitive. We have a total U.S. dollar-denominated or -linked indebtedness of R\$14,781 million, which represents 50% of our total indebtedness, as of December 31, 2017.

# Government efforts to combat inflation may hinder the growth of the Brazilian economy and could harm us.

Historically, Brazil has experienced high inflation rates. Inflation and certain actions taken by the Central Bank to curb it have had significant negative effects on the Brazilian economy. Inflation as measured by the national broad consumer price index (*Índice Nacional de Preços ao Consumidor Amplo*), or IPCA, was 10.7%, 6.3% and 3.0% in 2015, 2016 and 2017, respectively, and 10.5%, 7.2% and (0.5)% as measured by the general market price index (*Índice Geral de Preços do Mercado*), or IGP-M.

The base interest rate for the Brazilian banking system is the Central Bank's Special System for Settlement and Custody (Sistema Especial de Liquidação e Custódia) rate, or SELIC rate. As of December 31, 2015, 2016 and 2017, the SELIC rate was 14.25%, 13.65% and 7.00% respectively. In its twelfth consecutive cut since October 2016, the Central Bank further reduced the SELIC rate to 6.50% in March 2018.

Inflation and the Brazilian government's measures to fight it, principally the Central Bank's monetary policy, have had and may have significant effects on the Brazilian economy and us. Tight monetary policies with high interest rates have restricted and may restrict Brazil's growth and the availability of credit. Conversely, more lenient government and Central Bank policies and interest rate decreases have triggered and may trigger increases in inflation, and, consequently, growth volatility and the need for sudden and significant interest rate increases, which could negatively affect us and increase the payments on our indebtedness.

# Developments and the perception of risk in other countries, especially other emerging market countries, may adversely affect the trading price of Brazilian securities, including our common shares and ADSs.

The market value of securities of Brazilian issuers is affected by economic and market conditions in other countries, especially other emerging market countries. Although economic conditions in these countries may differ significantly from economic conditions in Brazil, investors' reactions to developments in these other countries may have an adverse effect on the market value of securities of Brazilian issuers. Crises in the United States, the European Union or emerging market countries may diminish investor interest in securities of Brazilian issuers, including ours. This could adversely affect the trading price of our common shares and/or ADSs, and could also make it more difficult for us to gain access to the capital markets and finance our operations on acceptable terms, or at all.

# Risks Relating to Us and the Industries in Which We Operate

We are exposed to substantial changes in the demand for steel and iron ore, which significantly affect the prices of our products and may adversely affect us.

The steel and mining industries are highly cyclical, both in Brazil and abroad. The demand for steel and mining products and, thus, the financial condition and results of operations of companies in these industries, including us, are generally affected by macroeconomic fluctuations in the world economy and the economies of steel-producing countries, including trends in the automotive, construction, home appliances and packaging industries, as well as other industries which rely on steel distributors. A worldwide recession, an extended period of below-trend growth in developed countries or a slowdown in the emerging markets that are large consumers of our products (such as the domestic Brazilian market for our steel products and the Chinese market for iron ore) could sharply reduce demand for our products. In addition, flat steel competes with other materials that may be used as substitutes, such as aluminum (particularly in the automotive and packaging industry), cement, composites, glass, plastic and wood. Government regulatory initiatives mandating the use of such materials in lieu of steel, whether for environmental or other reasons, as well as the development of other new substitutes for steel products, could also significantly reduce market prices and demand for steel products and thereby reduce our cash flow and profitability. Any material decrease in demand or increase in supply for steel and iron ore in the domestic or export markets served by us could have a material adverse effect on us.

# Prices charged for iron ore are subject to volatility. International iron ore prices may decrease significantly and have a material and adverse impact on us or require us to suspend certain of our projects and operations.

Our iron ore prices are determined by a variety of pricing factors, which are generally based on market price indices. Our iron ore prices, and consequently our revenues from our iron ore operations, are subject to volatility, which may adversely affect us. According to the average Platts IODEX (62% Fe CFR China), in 2017, average iron ore prices increased 22.0% to US\$71.3/dmt, from US\$58.4/dmt in 2016. In 2016, average iron ore prices increased 5.3% to US\$58.4/dmt, from US\$55.5/dmt in 2015. As of April 24, 2018, the index was US\$67.25/dmt. Partly due to these changes in iron ore prices, revenues from our mining business represented 21%, 27% and 25% of our total net revenues in 2015, 2016 and 2017, respectively. A decrease in iron ore market prices may adversely affect our operations or even require us to suspend certain projects and operations as well as record impairment of assets, which could adversely affect us.

# Adverse economic conditions in China and an increase in global iron ore production capacity could have a negative impact on us.

China has been the main driver of global demand for minerals and metals over the past decade, effectively driving global prices for iron ore and steel In 2017, China accounted for 79% of the global seaborne iron ore trade. The percentage of our iron ore sales volume consumed in China was around approximately 70% in 2017, as compared to approximately 60% in 2016. China is also the largest world steel producer, accounting for approximately 50% of global steel production.

A contraction of China's economic growth could result in lower global demand for iron ore and steel and increase the global steel industry's over-capacity, which would materially and adversely affect companies in the industry, including us. Poor performance in the Chinese real estate sector and low investments in infrastructure, two of the largest markets for carbon steel in China, could also negatively affect us. China's GDP increased 6.9% in 2017 compared to 6.7% in 2016 and 6.9% in 2015.

In addition, in recent years, major iron ore suppliers have increased the pace of their new projects, which could result in increased supply and decreased seaborne iron ore prices. In addition, the recent upsurge in iron ore prices could also stimulate high cost producers to resume operations, expanding the available supply base. Either of these scenarios could have an adverse impact on us.

# We may not be able to adjust our mining production volume in a timely or cost-efficient manner in response to changes in demand.

Revenues from our mining business represented 21%, 27% and 25% of our total net revenues in 2015, 2016 and 2017, respectively. If we are required to operate at significant idle capacity during periods of weak demand, we may suffer higher unit production costs since a significant portion of our cost structure is fixed in the short-term due to the high capital intensity of mining operations. In addition, efforts to reduce costs during periods of weak demand could be limited by labor regulations or agreements.

Conversely, our ability to rapidly increase our production capacity is limited by these same factors, which could render us unable to fully satisfy an upsurge in demand for our iron ore. When demand exceeds our production capacity, we may meet excess customer demand by purchasing iron ore from unrelated third parties and reselling it,

which would increase our costs and narrow our operating margins. If we are unable to satisfy excess customer demand in this way, we may lose customers. In addition, operating close to full capacity may expose us to higher costs, including demurrage fees due to capacity restraints in our logistics systems.

# A decrease in the availability or an increase in the price of raw materials for steel production, particularly coal and coke, may adversely affect us.

In 2017, raw material costs accounted for 58% of our total steel production costs. Our main raw materials include iron ore, coal, coke, limestone, dolomite, manganese, zinc, tin and aluminum. We depend on third parties for some of our raw material requirements, including importing all of the coal required to produce coke and approximately 49% of our coke requirements. In addition, we require significant amounts of energy, in the form of natural gas and electricity, to power our plants and equipment.

Any prolonged interruption in the supply of raw materials, natural gas, or electricity, or substantial increases in their prices, could materially and adversely affect us. Interruptions and price increases could result from changes in laws or trade regulations, the availability and cost of transportation, suppliers' allocations to other purchasers, interruptions in production by suppliers and/or accidents or similar events on suppliers' premises or along the supply chain. Our inability to pass these cost increases onto our customers or to meet our customer demand because of unavailability of key raw materials could also have a material and adverse effect on us.

# Our steel products face significant competition, including price competition, from other domestic or foreign producers, which may adversely affect our profitability and market share.

The global steel industry is highly competitive with respect to price, product quality, customer service and technological advances permitting reduced production costs. Several factors influence Brazil's export of steel products, including protectionist policies of other countries, especially the United States, disputes regarding these policies before the World Trade Organization, the Brazilian government's exchange rate policy and the growth rate of the world economy. Further, continuous advances in materials sciences and technology have given rise to improvements in products such as plastics, aluminum, ceramics and glass, permitting them to serve as substitutes for steel. Due to high start-up costs, the economics of operating a steelworks facility on a continuous basis may encourage mill operators to maintain high levels of output, even in times of low demand, which results in oversupply and increases the pressure on industry profit margins. In addition, downward pressure on steel prices by our competitors may affect our profitability.

The steel industry has historically suffered from structural over-capacity which has worsened due to a substantial increase in production capacity in the developing world, particularly China and India, as well as other emerging markets. China is the largest global steel producer and, in addition, Chinese and certain steel exporting countries have favorable conditions (excess steel capacity, undervalued currency or higher market prices for steel in non-domestic markets), which can have a significant impact on steel prices in other markets. If we are not able to remain competitive in relation to competitors in China or other steel-producing countries, we may be adversely affected.

Steel companies in Brazil face strong competition from imported products, mainly as a result of the global excess in steel production, reduction in demand for steel products in mature markets, exchange rate appreciation and tax incentives in some of the main exporting countries. Despite Brazilian import duties to protect domestic producers, a substantial volume of steel products is imported. If the Brazilian government does not implement measures against subsidized steel imports and there is an increase in imports, we may be materially and adversely affected. Apart from direct steel imports, the Brazilian industry also faces competition from imported finished goods, which adversely affects the whole steel supply and production chain.

# Protectionist and other measures adopted by foreign governments could adversely affect our export sales.

In response to increased production and steel exports from many countries, anti-dumping and countervailing duty and safeguard measures were imposed in the late 1990s and early 2000s by foreign governments representing the main markets for our exports.

This scenario returned in 2015, when U.S authorities initiated anti-dumping and countervailing duty investigations on hot-rolled and cold-rolled steel sheets and coils imported from Brazil and other countries. In 2016, the European Commission initiated an anti-dumping investigation of hot-rolled sheets and coils imported from Brazil and other countries.

In April 2017, the President of the United States, Donald Trump requested an investigation under Section 232 of the Trade Expansion Act to determine if steel imports are harming national security. As a result of this investigation, in March 2018, the U.S government established the entry in force of Section 232, which imposes an ad valorem tariff of 25% on imported steel. In the same month, prompted by the United State's adoption of Section 232 measures, the European Union initiated a safeguard investigation into imports of 26 categories of steel products, which must be completed within nine months of its initiation.

The imposition of these and other protectionist measures by foreign countries may materially and adversely affect our export sales.

# Our activities depend on authorizations, concessions, licenses and permits and changes in applicable laws, regulations or government measures could adversely affect us.

Our activities and the activities of our subsidiaries and joint ventures are subject to governmental authorizations, concessions, licenses and permits, which include environmental licenses for our infrastructure projects and concessions, including for the port terminals we operate and the railways in which we have an equity interest. Although we believe that such authorizations, concessions, licenses and permits will be granted and/or renewed as and when requested, we cannot guarantee that we will be able to maintain, renew or obtain any required authorization, concession, license or permit, or that no additional requirement will be imposed on us in connection with our requests.

Authorizations, concessions, licenses or permits required for the development of our activities may require that we meet certain performance thresholds or completion milestones. In case we are unable to meet these thresholds or milestones, we may lose or not be able to obtain or renew such authorizations, concessions, licenses or permits, or we may not be able to do so under the terms of new concession laws, claims for amicable contractual termination and subsequent re-bidding for concessions. We also cannot guarantee that we, our controlled entities and our joint ventures that hold concessions will timely comply with our or their obligations under any relevant concession agreement or in conduct adjustment agreement (Termos de Ajustamento de Conduta), or TACs, entered into with governmental agencies. In addition, we are exposed to supervision, penalties and fiscalization from the governmental entitis, including the Brazilian court of audit (Tribunal de Contas da União), or TCU, and regulatory agencies. A material breach of those obligations may result in the loss or early termination of concessions, authorizations, permits and/or licenses, the restriction of access to public financing for the concession or the amortization of the public financing before a project begins to operate, the acceleration or an event of default under our indebtedness. Additionally, we would be subject to penalties, including fines or the closure of facilities. In case of a takeover or concession agreement termination due to government default, if we are entitled to any indemnification from granting authorities for our investments, this indemnification may be insufficient to cover our costs, expenses or losses and may be paid long after the events affecting our concessions, permits or licenses occur, if at all.

In addition, changes in applicable laws or regulations could require modifications to our technologies and operations and unexpected capital expenditures. Capital expenditures that we have already made may not generate the returns we expected, if any. In our mining operations, new or more stringent environmental licensing requirements for our project operations, specifically for our dams, could be imposed. As a result, the amount and timing of future environmental and related expenditures may vary substantially from those currently anticipated and we may encounter delays in obtaining environmental or other operating licenses, or not be able to obtain and/or renew them, thereby risking exposure to civil responsibility, administrative penalties, criminal sanctions and closure orders for non-compliance with these regulations. These events and additional costs may have a negative impact on us and the return from our projects and may render certain projects economically or otherwise unfeasible.

Our activities are also subject to governmental regulation in the form of taxes, charges and royalties, which can have an important financial impact on our operations. In the countries where we operate, governments may impose new taxes, raise existing taxes and royalty rates, reduce tax exemptions and benefits or change the basis on which taxes are calculated in a manner that is unfavorable to us. For example, the Brazilian government charges us a royalty known as the Financial Compensation for Exploiting Mineral Resources (*Compensação Financeira pela Exploração de Recursos Minerais*), or CFEM. On December 19, 2017, Law No. 13,540, originated from Executive Order No. 789/2017, was enacted, increasing the CFEM rate for our mining activities and altering its calculation basis. Further

Our activities depend on authorizations, concessions, licenses and permits and changes in applicable laws regulat

changes to the CFEM regime or increases in applicable rates could adversely affect us. 14

Our activities depend on authorizations, concessions, licenses and permits and changes in applicable law regulat

# We have a high level of indebtedness that could make it more difficult or expensive to refinance our maturing debt and /or incur new debt.

As of December 31, 2017, our total debt outstanding was R\$29,511 million, comprising R\$6,527 million of short-term debt and R\$22,984 million of long-term debt. We had R\$3,412 million in cash and cash equivalents as of December 31, 2017. Our planned investments across our business segments will require a significant amount of cash over the course of 2018 and following years. See "Item 4D. Property, Plant and Equipment—Capital Expenditures—Planned Investments."

Our level of indebtedness could affect our credit rating and our ability to obtain any necessary financing in the future and may increase our cost of borrowing. In addition, our level of indebtedness could make it more difficult to refinance our existing indebtedness and could make us more vulnerable in the event of a downturn in our business. In these and other circumstances, servicing our indebtedness may use a substantial portion of our cash flow from operations, which could adversely affect us and make it more difficult for us to make payments of dividends and other distributions to our shareholders, including the holders of our ADSs, as well as to fund our operations, working capital and capital expenditures necessary for the maintenance and expansion of our business activities.

# The renegotiation of our indebtedness with Caixa Econômica Federal is subject to certain conditions precedent, including their final approval.

The aggregate principal amount of our and our subsidiaries' debt with Caixa Econômica Federal, one of our principal creditor's, represents approximately 25% of our aggregate consolidated indebtedness as of December 31, 2017. We are in negotiations with Caixa Econômica Federal regarding amortization schedules so as to soften the amortization profile and extend the maturity of this debt. Some terms have not yet been negotiated and the execution of documentation of the renegotiated debt instrument with Caixa Econômica Federal will be subject to certain conditions precedent, including, among others, final approvals by Caixa Econômica Federal's internal committees. If we do not reach an agreement with Caixa Econômica Federal, if Caixa Econômica Federal does not obtain the necessary internal approvals or if we are not able to comply with any of the conditions precedent, we will be required to make significant payments of principal amounts in 2018 under the current debt instrument with this lender, which might trigger a ratings downgrade and would adversely affect our financial and cash position.

# We may not be able to maintain adequate liquidity and our cash flows from operations and available capital may not be sufficient to meet our obligations.

While our cash flows from operations and available capital have been sufficient to meet our current operating expenses, contractual obligations and debt service requirements to date, our liquidity, cash flows from operations and available capital may be negatively impacted by the pricing environment for our steel and iron ore products, the exchange rate environment and the effects of weak economic conditions in Brazil. These factors have materially and adversely affected our liquidity and we expect this to continue. Recent cost cutting measures implemented by us may not be sufficient to offset these effects or to improve our liquidity position.

We have announced certain measures to improve our liquidity and debt profile, including the potential sale of certain assets. In addition, we are negotiating the extension of certain of our credit facilities. If we are unable to successfully sell certain assets and/or extend our debt amortization profile, we may not be able to maintain adequate liquidity and

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our cash flows from operations and available capital may not be sufficient to meet our obligations.

# We cannot assure you that our credit ratings will not be lowered, suspended or withdrawn by the rating agencies.

Our credit ratings are limited in scope, and do not address all material risks relating to an investment in our common shares or ADSs, but rather reflect only the views of the rating agencies at the time the ratings are issued. These ratings may affect the cost and other terms upon which we are able to obtain funding and are subject to change due to factors specific to us, trends in the industries we operate or in the credit and capital markets generally. On December 31, 2017, our Fitch, Moody's and S&P credit ratings were B-, Caa2 and CCC, respectively. Debt rollovers with Banco do Brasil S.A. and Caixa Econômica Federal and other factors have recently resulted in improvements in our credit ratings. In February 2018, Moody's and S&P improved our credit ratings from Caa2 and CCC to B3 and CCC+, respectively. Credit rating agencies regularly evaluate us and their ratings are based on a number of factors, including our financial strength. We cannot assure that credit rating agencies will not downgrade our credit ratings or that credit ratings will remain in effect for any given period of time or not be withdrawn entirely by the rating agencies, if in their judgment circumstances so warrant.

Any lowering, suspension or withdrawal of our credit ratings may have an adverse effect on us and our ability to refinance our existing indebtedness.

# Our indebtedness includes restrictive covenants, which may give rise to early maturity in the case of default.

Our loan agreements contain certain covenants and disclosure obligations regarding our financial statements. For example, in 2017, we were unable to publish our financial statements as of and for the year ended December 31, 2016 within the contractual period and requested a waiver from the holders of our 5th, 7th, 8th and 9th debentures issuances to grant an extension until October 31, 2017 for their publication. While we met the October 31, 2017 deadline and are not in default under any of our financings, we cannot assure you that we will be able to fully comply with all the covenants in our financial agreements.

# Our governance and compliance procedures may fail to prevent regulatory penalties and reputational harm.

We operate in a global environment and our activities straddle multiple jurisdictions and complex regulatory frameworks subject to enforcement worldwide. Our governance and compliance procedures may not prevent breaches of law, accounting and/or governance standards applicable to us. We may be subject to breaches of our Code of Ethics, business conduct protocols and to instances of fraudulent behavior, dishonesty and unlawful conduct by our employees, contractors or other agents, which could subject us to fines, loss of our operating licenses and reputational harm, as well as other penalties, which may materially and adversely affect us.

# We may fail to maintain an effective system of internal controls, which could prevent us from timely and accurately reporting our financial results.

Our internal controls over financial reporting may not prevent or detect misstatements in a timely manner due to inherent limitations, including human error, circumvention or overriding of controls, or fraud. Even effective internal controls can provide only reasonable assurance with respect to the preparation and fair presentation of financial statements. If we fail to maintain the adequacy of our internal controls, including implementing new or improved required controls, we could fail to meet our financial reporting obligations, which could trigger a default under some of our agreements. In this regard, and in connection with management's evaluation of the effectiveness of our internal control over financial reporting, we concluded that, as of December 31, 2017, CSN's internal control over financial reporting is effective. The material weakness previously reported on management's annual assessment of internal control over financial reporting as of December 31, 2016 was remediated and no longer is a material weakness.

# Some of our operations depend on joint ventures, jointly controlled entities, consortia and other forms of cooperation, and our business could be adversely affected if our partners fail to observe their commitments.

We currently operate parts of our business through joint ventures, strategic alliances and consortia with other companies. We have, among others: (i) established a strategic alliance with an Asian consortium at our controlled investee CSN Mineração to mine iron ore; (ii) a joint venture with other Brazilian steel and mining companies at MRS Logística S.A., or MRS, to explore railway transportation in the Southeastern region of Brazil; (iii) a joint venture with certain Brazilian governmental entities at Transnordestina Logística S.A., or TLSA, to explore railway

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transportation in the Northeastern region of Brazil; (iv) a joint venture with Engie Brasil Energia S.A. and Cia. de Cimento Itambé at Itá Energética S.A., or ITASA, to produce electricity; and (v) a consortium with Votorantim Metais Zinco S.A., Aliança Geração de Energia S.A. (union of Vale S..A and CEMIG Geração e Transmissão S.A.) and AngloGold Ashanti Córrego do Sítio Mineração S.A. at Igarapava hydroelectric facility to produce electricity.

Our forecasts and plans for these strategic alliances, joint ventures and consortia assume that our partners will observe their obligations to make capital contributions, purchase products and, in some cases, provide managerial personnel or financing. In addition, many of the projects contemplated by our joint ventures or consortia rely on financing commitments, which contain certain preconditions for each disbursement. If any of our partners fails to observe their commitments or we fail to comply with all preconditions required under our financing commitments or other partnership arrangements, the affected joint venture, consortium or other project may not be able to operate in accordance with its business plans, or we may have to increase the level of our investment to implement these plans, which could adversely affect us.

# Accidents or malfunctioning equipment on our premises, railways or ports may decrease or interrupt production, internal logistics or distribution of our products and adversely affect us.

The steel and iron ore production processes depend on certain critical equipment, such as blast furnaces, steel converters, continuous casting machines, rolling mills, drillers, reclaimers, conveyor belts, crushing and screening equipment and shiploaders, as well as on internal logistics and distribution channels, such as railways and seaports. This equipment and infrastructure may be affected in the case of malfunction or damage. Any significant interruptions in our production process, internal logistics or distribution channels (including our ports and railways) could materially and adversely affect us.

In addition, our operations involve the use, handling, storage, discharge and disposal of hazardous substances into the environment. Our mining, steel and cement businesses are generally subject to significant risks and hazards, including fire, explosions, toxic gas leaks, spilling of polluting substances or other hazardous materials, rockfall incidents in mining operations and incidents involving mobile equipment or machinery. Such events could occur by accident or by breach of operating and maintenance standards, and could result in a significant environmental impact, damage to or destruction of our mineral properties and/or production facilities, personal injury or death, delays or suspensions in production, monetary losses and exposure to civil responsibilities, administrative penalties, criminal sanctions and closure orders for non-compliance with these regulations. Our health, safety and environmental standards and risk management programs and procedures may prove insufficient in preventing incidents or accidents that could adversely affect us.

# Our insurance policies may not be sufficient to cover all our losses.

We maintain several types of insurance policies as part of our risk management for each of our businesses and seek to follow industry practice regarding best coverage, which encompasses domestic and international (import and export) cargo transportation (road, rail, sea or air), life insurance, personal accidents, health, automobile, directors and officers, general liability, CAR (construction and erection risks), boiler and machinery coverage, trade credit insurance, surety, named perils, ports and terminal liabilities.

We also have an insurance policy covering the operational risks, material damages and loss of profits of the following operations and subsidiaries: Presidente Vargas Steelworks, CSN Mineração and the container terminal Sepetiba Tecon S.A., or TECON. This policy was negotiated with domestic and foreign insurers and reinsurers and is valid until March 31, 2019, with a limited indemnity of US\$600 million (for an insured value of US\$9.1 billion) with a deductible of US\$385 million for material damages and 45 days to loss of profits. Under the terms of the policy, we remain responsible for the first tranche of US\$385 million in losses (material damages and loss of profits).

The coverage obtained in our insurance policies may not be sufficient to cover all risks or the extent of the risks we are exposed to, which could expose us to significant costs. Additionally, we may not be able to successfully contract

Accidents or malfunctioning equipment on our premises, railways or ports may decrease or interrupt prodection, into

or renew our insurance policies or to do so on terms satisfactory to us. The occurrence of one or more of these events may adversely affect us.

# Our projects are subject to risks that, if materialized, may result in increased costs and/or delays or that could prevent their timely or successful implementation.

We are investing to further increase our steel, mining and cement production capacity, as well as our logistics capabilities. The success of these projects is subject to a number of risks that, if materialized, may adversely affect our growth prospects and profitability, including, among others:

• delays, availability issues or higher than expected costs in obtaining the necessary equipment, services and materials to build and operate a project;

- lack of infrastructure, including waste disposal areas and reliable power and water supply;
- delays or higher than expected costs in obtaining or renewing required authorizations, concessions, licenses or permits and/or regulatory approvals to build or continue a project; and
- changes in market conditions, laws or regulations that render a project less profitable than expected or economically or otherwise unfeasible.

Any one or a combination of the factors described above may materially and adversely affect us.

We are subject to environmental, health and safety incidents. Additionally, current, new or more stringent environmental, health and safety regulations applicable to us may result in liability exposure and increased capital expenditures.

Our steel production, mining, cement, energy and logistics facilities are subject to a broad range of laws, regulations and permit requirements in the countries where we operate relating to the protection of the environment, health and safety.

Brazilian pollution standards are subject to change, including new effluent and air emission standards, water management and solid waste-handling regulations, wildlife maintenance regulations, restrictions on business expansions, native forest preservation requirements and the obligation to create privately owned conservation areas (*Reserva Particular do Patrimônio Natural*), or RPPNs, or areas of relevant ecological interest (ARIE), including the Cicuta Forest, as environmental compensation for industrial and mining expansion projects. The Brazilian government has adopted a decree under the national policy for climate change (*Política Nacional de Mudanças Climáticas*) that contemplates a 5% reduction in carbon emissions projected by 2020 for the industry (including steel making and cement sectors) and an action plan is being developed by a technical committee composed of representatives from the government, industry associations and academia. The target reduction for the mining sector is yet to be established.

In addition, the state of Rio de Janeiro, through its state environmental agency (*Instituto Estadual do Ambiente*), or INEA, issued a law that requires steel making and cement facilities to present action plans to reduce greenhouse gas emissions when renewing or applying for operational licenses. For air emission standards, the environmental national council, (*Conselho Nacional do Meio Ambiente*), or CONAMA, issued a resolution that obliges steel companies to comply with certain restrictions until 2018. The Brazilian government has also established a national policy for solid waste (*Política Nacional de Resíduos Sólidos*), which provides for strict guidelines for solid waste management and industry targets for reverse logistics as part of the environmental licensing process. Finally, a new regulatory framework for mining operations is under development by the department of geology, mining and mineral processing of the Ministry of Mines and Energy, which may impose stricter regulations on our mining operations, including requests for environmental recovery of areas and investments for the granting of mining concessions.

Our operations involve the use, handling, storage, discharge and disposal of hazardous substances into the environment and the use of natural resources, and are subject to significant risks and hazards, including fire, explosion, toxic gas leaks, spilling of polluting substances or other hazardous materials, rockfalls, incidents involving dams, failure of operational structures and incidents involving mobile equipment, vehicles or machinery. This could occur by accident or by breach of operating and maintenance standards, and could result in significant environmental and social impacts, damage to or destruction of mineral properties or production facilities, personal injury, illness or death of employees, contractors or community members close to operations, environmental damage, delays in production, monetary losses and possible legal liability. Additionally, in remote localities, our employees may be exposed to tropical and contagious diseases that may affect their health and safety. Notwithstanding our standards,

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policies and controls, our operations remain subject to incidents or accidents that could adversely affect us and our stakeholders.

New or more stringent environmental, safety and health standards imposed on us could require increased capital expenditures, additional legal preservation areas within our properties or modifications to our operating practices or projects. Especially with regard to our mining activities, more stringent environmental, health and safety standards, including with respect to the licensing process of our projects operations, specifically for our dams, could be imposed. As a result, the amount and timing of environmental and related expenditures may vary substantially from those currently anticipated. These additional costs may also have a negative impact on the profitability of the projects we intend to implement or may make such projects economically unfeasible. We could also be exposed to civil responsibility, administrative penalties, criminal sanctions and closure orders for non-compliance with these regulations, as well as encounter delays in obtaining environmental or other operating licenses. Waste disposal and emission practices may result in the need for us to clean up or retrofit our facilities at substantial costs and/or could result in substantial liabilities. Environmental legislation in foreign markets to which we export our products may also materially and adversely affect our export sales and us.

In addition, we may enter into TACs with Brazilian regulatory agencies that require us to minimize or eliminate the risk of environmental impacts in the areas where we operate. If we are unable to comply with a TAC or to remediate non-compliance in a timely manner, we may be exposed to penalties, such as fines, revocation of permits or closure of facilities.

# Risks associated with drilling and production could render mining projects economically unfeasible.

Once mineral deposits are discovered, it can take a number of years from the initial phases of drilling until production is possible, during which time the economic feasibility of production may change. Substantial time and expenditures are required to:

- establish mineral reserves through drilling;
- determine appropriate mining and metallurgical processes for optimizing the recovery of metal contained in ore;
- obtain environmental and other licenses;
- construct mining, processing facilities and infrastructure required for greenfield properties; and
- obtain the ore or extract the minerals from the ore.

If a mining project proves not to be economically feasible by the time we are able to profit from it, we may incur substantial losses and be obliged to record write-offs. In addition, changes or complications involving metallurgical and other technological processes arising during the life of a project may result in delays and cost overruns that may render the project economically unfeasible.

# Our mineral reserve and mine life may prove inaccurate, market price fluctuations and cost changes may render certain ore reserves uneconomical to mine and we may face rising extraction costs or investment requirements over time as our reserves deplete.

Our reported ore reserves are estimated quantities of ore and minerals that we have determined can be economically mined and processed under present and anticipated conditions to extract their mineral content. There are numerous uncertainties inherent in estimating quantities of reserves and in projecting potential future rates of mineral production, including many factors beyond our control. Reserve engineering involves estimating deposits of minerals that cannot be measured in an exact manner, and the accuracy of any reserve estimate is a function of the quality of available data and engineering and geological interpretation and judgment. As a result, no assurance can be given that the indicated amount of ore will be recovered or that it will be recovered at the rates we anticipate. Estimates of different engineers may vary, and results of our mining production subsequent to the date of an estimate may lead to revision of estimates. Reserve estimates and estimates of mine life may require revision based on, among other factors, fluctuations in the market prices of minerals and metals, reduced recovery rates or increased operating and capital costs due to inflation, exchange rates or other factors may render proven and probable reserves uneconomic to exploit and may ultimately result in a restatement of reserves.

In addition, reserves are gradually depleted in the ordinary course of our exploration activities. As mining progresses, distances to the primary crusher and to waste deposits becomes longer and pits become steeper. Also, for some types of reserves, mineralization grade decreases and hardness increases at increased depths. As a result, over time we may

experience rising unit extraction costs with respect to each mine, or we may need to make additional investments, including adaptation or construction of processing plants and expansion or construction of tailing dams. Our exploration programs may also fail to result in the expansion or replacement of reserves depleted by current production. If we do not enhance existing reserves or develop new operations, we may not be able to sustain our current or anticipated level of production beyond the remaining lives of our existing mines.

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### Natural and other disasters, or extreme weather conditions, could disrupt our operations.

Because of our exposure to raw materials costs, extreme weather conditions, such as heavy rainfall or flooding, could reduce the available supply of our raw materials and increase our raw materials costs, which would have a material adverse impact on us. Additionally, we are subject to technical or physical risks including fire, power loss, water supply loss, reduction or rationing, leakages, accidents and failures in telecommunications and information technology systems, any of which could disrupt our operations.

# We may not be able to consummate proposed acquisitions or integrate acquired businesses successfully.

From time to time, we may evaluate acquisition opportunities that would strategically fit our business objectives. If we are unable to complete acquisitions, or integrate acquisitions successfully and develop these businesses to realize revenue growth and cost savings, we could be adversely affected. Acquisitions also pose the risk that we may be exposed to successor liability involving an acquired company. Due diligence conducted in connection with an acquisition, and any contractual guarantees or indemnities that we receive, may not be sufficient to protect us from, or compensate us for, actual liabilities. A material liability associated with an acquisition, such as labor or environmental liabilities, could adversely affect us and reduce the expected and bargained-for benefits of the acquisition.

In addition, we may incur asset impairment charges related to acquisitions, which may reduce our profitability. Our acquisition activities may also present financial, managerial and operational risks, including diversion of management attention from existing core businesses, difficulties integrating or separating personnel, financial and other systems, failure to achieve the operational benefits that were anticipated at the time of the transaction, adverse effects on existing business relationships with suppliers and customers, inaccurate estimates of fair value made in the accounting for acquisitions and/or amortization of acquired intangible assets which would reduce future reported earnings, potential loss of customers or key employees of acquired businesses and indemnities and potential disputes with buyers or sellers. Finally, proposed acquisitions may also be subject to review from the competition authorities of the countries involved in the transaction, which may approve the transaction, do so subject to restrictions, including the divestment of assets, or reject it. Any of these developments or adverse regulatory decisions could negatively affect

# We have experienced labor disputes in the past that have disrupted our operations, and such disputes may recur.

A substantial number of our employees and some of the employees of our subcontractors are represented by labor unions and are covered by collective bargaining or other labor agreements, which are subject to periodic renegotiation. Strikes and other labor disruptions at any of our facilities or labor disruptions involving third parties who may provide us with goods or services have in the past and may in the future materially and adversely affect the operations of our facilities and/or the timing of completion and the cost of our projects.

# We are exposed to the risk of litigation.

We are currently and may in the future be a party to legal proceedings and judicial, administrative or arbitration claims. For some of these legal proceedings and claims, we have not established a provision on our balance sheet or have only established provisions for part of the amounts in question, based on our external or internal counsel's judgment as to the likelihood of an outcome unfavorable to us.

Although we are contesting such proceedings and claims, the outcome of each specific proceeding and claim is uncertain and may result in obligations that could materially and adversely affect us.

# **Risks Relating to our Common Shares and ADSs**

Our controlling shareholder has the ability to direct our business and affairs and its interests could conflict with yours.

Our controlling shareholder has the power to, among other things, elect a majority of our directors and determine the outcome of any action requiring shareholder approval, including transactions with related parties, corporate reorganizations, acquisitions, dispositions, the destination and diversification of our investments and the timing and payment of any future dividends, subject to minimum dividend payment requirements imposed by Brazilian Corporate Law. Our controlling shareholder may have an interest in pursuing acquisitions, dispositions, financings or other transactions that could conflict with your interests as a holder of our common shares and ADSs.

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# If you surrender your ADSs and withdraw common shares, you risk losing the ability to remit foreign currency abroad and certain Brazilian tax advantages.

As an ADS holder, you benefit from the electronic certificate of foreign capital registration obtained by the custodian for our common shares underlying the ADSs in Brazil, which allows the custodian to convert dividends and other distributions with respect to the common shares into non-Brazilian currency and remit the proceeds abroad. If you surrender your ADSs and withdraw common shares, you will be entitled to continue to rely on the custodian's electronic certificate of foreign capital registration for only five business days from the date of withdrawal. Thereafter, upon the disposition of, or distributions relating to, the common shares, you will not be able to remit abroad non-Brazilian currency unless you obtain your own electronic certificate of foreign capital registration or you qualify under Brazilian foreign investment regulations that entitle some foreign investors to buy and sell shares on Brazilian stock exchanges without obtaining separate electronic certificates of foreign capital registration. If you do not qualify under the foreign investment regulations you will generally be subject to less favorable tax treatment of dividends and distributions on, and the proceeds from any sale of, our common shares. If you seek to obtain your own electronic certificate of foreign capital registration, you may incur expenses or suffer delays in the application process, which could delay your ability to receive dividends or distributions relating to our common shares or the return of your capital in a timely manner. The depositary's electronic certificate of foreign capital registration may also be adversely affected by future legislative changes.

## Holders of ADSs may not be able to exercise their voting rights.

Holders of ADSs may only exercise their voting rights with respect to the underlying common shares in accordance with the provisions of the deposit agreement. Under the deposit agreement, ADS holders must vote by giving voting instructions to the depositary. Upon receipt of the voting instructions of the ADS holder, the depositary will vote the underlying common shares in accordance with these instructions. If we ask for voting instructions, the depositary will notify ADS holders of the upcoming vote and will arrange to deliver the proxy card. We cannot assure that ADS holders will receive the proxy card in time to ensure that they can instruct the depositary to vote. In addition, the depositary and its agents are not liable for failing to carry out voting instructions or for the manner in which they do so. Alternatively, ADS holders can exercise their right to vote by surrendering their ADSs for cancellation in exchange for our common shares. Pursuant to applicable Brazilian law, companies that issue ADSs must publish the first call for a shareholders' meeting at least 30 days in advance of the meeting, and the second call must be published at least eight days in advance of the meeting. When a shareholders' meeting is convened, holders of ADSs may not receive sufficient advance notice to surrender their ADSs in exchange for the underlying common shares in time to allow them to vote with respect to any specific matter. As a result, holders of ADSs may not be able to exercise their voting rights.

# The relative volatility and illiquidity of the Brazilian securities markets may substantially limit your ability to sell the common shares underlying the ADSs at the price and time you desire.

Investing in securities that trade in emerging markets, such as Brazil, often involves greater risk than investing in securities of issuers in the United States, and such investments are generally considered to be more speculative in nature. The Brazilian securities market is substantially smaller, less liquid, more concentrated and can be more volatile than major securities markets in the United States. There is also significantly greater concentration in the Brazilian securities market than in major securities markets in the United States. The ten largest companies in terms of market capitalization represented 51.3% of the aggregate market capitalization of the B3 S.A. – *Bolsa, Brasil, Balcão*, or the B3, as of December 31, 2017.

Our controlling shareholder has the ability to direct our business and affairs and itsinterests could conflict with yours

Accordingly, although you are entitled to withdraw the common shares underlying the ADSs from the depositary at any time, your ability to sell the common shares underlying the ADSs at the price and time you wish may be substantially limited.

# Holders of ADSs may be unable to exercise preemptive rights with respect to our common shares.

We may not be able to offer our common shares to U.S. holders of ADSs pursuant to preemptive rights granted to holders of our common shares in connection with any future issuance of our common shares unless a registration statement under the Securities Act is effective with respect to such common shares and preemptive rights, or an exemption from the registration requirements of the Securities Act is available. We are not obligated to file a registration statement relating to preemptive rights with respect to our common shares or to undertake steps that may be needed to find available exemptions from registration, and we cannot assure you that we will file any such registration statement or take any such steps. If such a registration statement is not filed and an exemption from registration is not available, JP Morgan Chase Bank, N.A., as depositary, may attempt to sell the preemptive rights, and you will be entitled to receive the proceeds of such sale. However, these preemptive rights will expire if the depositary does not sell them, and U.S. holders of ADSs will not realize any value from the granting of such preemptive rights. For a more complete description of preemptive rights with respect to the underlying shares, see "Item 10B. Memorandum and Articles of Association—Preemptive Rights."

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#### A decrease in our market capitalization may increase volatility.

In recent years, our market capitalization has been volatile, resulting in increased volatility in the trading price of our common shares and ADSs. Any decreases in our market capitalization may further increase volatility. The trading price of our ADSs decreased throughout 2017 and presented a variation of (25)% as compared to their 2016 year-end trading price. If the trading price of our ADSs drops below the levels required by the listing standards of the New York Stock Exchange, or NYSE, we may be required to do a reverse stock split or a ratio change of the number of common shares per ADS in order to regain compliance with NYSE's listing standards.

#### **Item 4. Information on the Company**

#### 4A. History and Development of the Company

Companhia Siderúrgica Nacional is a Brazilian corporation (*sociedade por ações*) incorporated in 1941 pursuant to a decree of Brazilian president Getúlio Vargas. The Presidente Vargas Steelworks, located in the city of Volta Redonda, in the state of Rio de Janeiro, began its production of coke, pig iron and steel products in 1946, when we also incorporated the Casa de Pedra Mine, located in the city of Congonhas, state of Minas Gerais, and the Arcos Mine, located in the city of Arcos, state of Minas Gerais. The Casa de Pedra Mine assures us self-sufficiency in iron ore and the Arcos Mine provides our flux, limestone and dolomite.

We were privatized through a series of auctions held in 1993 and early 1994, through which the Brazilian government sold its 91% ownership interest.

Between 1993 and 2002, we implemented a capital improvement program aimed at increasing our annual production of crude steel, improving the quality of our products and enhancing our environmental protection and cleanup programs. As part of these investments, since February 1996, all our production involves continuous casting, which requires lower energy use and results in decreased metal loss as compared to ingot casting. From 1996 until 2002, we invested the equivalent of US\$2.4 billion in our capital improvement program and on maintaining our operational capacity, culminating with the renovation of Blast Furnace No. 3 and Hot Strip Mill No. 2 in 2001. These measures resulted in an increase of our annual production capacity to 5.6 million tons of crude steel and 5.1 million tons of rolled products.

In 2007, CSN started to sell iron ore in the seaborne market. Today, CSN, through its controlled company CSN Mineração, is an important exporter of iron ore, drawing from the high quality iron ore reserves in the Casa de Pedra and Engenho mines, located in the state of Minas Gerais. CSN Mineração currently holds the concession to operate the Terminal de Carvão, or TECAR, a solid bulks terminal located in Itaguaí Port in the state of Rio de Janeiro, through which CSN Mineração exports iron ore and imports coal and coke.

In 2009, we entered the cement market with our first grinding mill, next to the Presidente Vargas Steel Mill in Volta Redonda, Rio de Janeiro, taking advantage of the synergies of the cement business with our steel business.

In order to diversify our product portfolio, we entered the long steel market in 2012, with the acquisition of Stahlwerk Thüringen Gmbh, or SWT, a long steel manufacturer located in Unterwellenborn, Germany.

In addition, we installed a new plant for production of long steel products at Volta Redonda, which began operations in December 2013. The plant consists of an electric arc steelmaking furnace, continuous casting for billets and a hot rolling mill for round section long products. This plant provides the domestic Brazilian market with rebar for civil construction and wire rod for industrial and civil construction.

In 2015, we inaugurated two new grinding mills, and in 2016, we concluded a new 6,500 tons per day kiln line, reaching an aggregate annual capacity of 4.7 million tons in our cement plants.

### General

We are one of the largest fully integrated steel producers in Brazil and Latin America in terms of crude steel production. We operate throughout the entire steel production chain, from the mining of iron ore to the production and sale of a diversified range of high value-added steel products. We divide our business into five segments: steel, mining, cement, logistics and energy

#### Steel

Our steel segment comprises a portfolio of diverse products and provides us an international footprint by means of our international subsidiaries and our exports from Brazil. In our flat steel segment, we are an almost fully integrated steelmaker. Our main industrial facility, Presidente Vargas Steelworks produces a broad line of steel products, including slabs, hot and cold-rolled, galvanized and tin mill products for the distribution, packaging, automotive, home appliance and construction industries.

Our current annual crude steel capacity and rolled product capacity at Presidente Vargas Steelworks is 5.6 million and 5.1 million tons, respectively. At the end of 2015, due to weak internal demand for steel, we decided to interrupt the operation of Blast Furnace No. 02 for maintenance, which impacted our annual production capacity of crude steel at the Presidente Vargas Steelworks by 28%, while the production of rolled steel decreased 20%. During 2016, our inventory levels significantly dropped and we resumed operations of Blast Furnace No. 2 in October 2016.

Our production process is based on the integrated steelworks concept.

We currently obtain all of our iron ore (except for pellets), limestone and dolomite requirements and a portion of our tin requirements, from our own mines. Using imported coal, we produce approximately 48% of our coke requirements at current production levels in our own coke batteries at Volta Redonda. Imported coal is also pulverized and used directly in the pig iron production process. Zinc, manganese ore, aluminum and a portion of our tin requirements are purchased in local markets. Our steel production and distribution processes also require water, industrial gases, electricity, rail and road transportation and port facilities.

In addition to the production of flat steel, we entered into the long steel segment, with the acquisition of SWT in 2012 for €483.4 million. SWT is a long steel producer in Germany with annual production capacity of approximately 1.1 million tons of steel sections.

We also completed a new plant for production of long steel products in Volta Redonda, in December 2013. The plant consists of an electric arc steelmaking furnace, continuous casting for billets and a hot rolling mill for round section long products – wire rod and rebar. We expect this plant to reach an output of 500,000 tons per year once fully operational, providing the domestic market with products for civil construction.

# Mining Activities

We own a number of high quality iron ore mines, strategically located within Brazil's "Iron Ore Quadrangle" (Quadrilátero Ferrífero) in the state of Minas Gerais, including the Casa de Pedra and Engenho mines, located in the city of Congonhas, pertaining to our controlled investee CSN Mineração, and the Fernandinho mines, located in the city of Itabirito and the Cayman and Pedras Pretas mining rights, located in the city of Rio Acima and Congonhas,

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respectively, pertaining to our wholly owned subsidiary Minérios Nacional S.A. (formerly Mineração Nacional S.A.).

Our mining assets also include (i) the solid bulks cargo terminal Itaguaí Port, or TECAR, in the state of Rio de Janeiro, which pertains to CSN Mineração; (ii) the Bocaina mines, located in the city of Arcos, in the state of Minas Gerais, which produce dolomite and limestone; and (iii) Estanho de Rondônia S.A., or ERSA, located in the city of Ariquemes, in the state of Rondônia, which mines and casts tin.

We sold 25.7 million tons, 32.9 million tons and 27.4 million tons of iron ore to third parties in 2015, 2016 and 2017, respectively.

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# **Logistics**

Our vertical integration strategy and the synergies among our business units are strongly dependent on the logistics needed to guarantee the transportation of inputs at low cost. A number of railways and port terminals comprise the logistics system that integrates our mining, steelmaking and cement units.

We operate a port terminal for containers, TECON at Itaguaí Port, in the state of Rio de Janeiro, and CSN Mineração operates TECAR.

We also have the following participation in three railways: (i) we share control in MRS, which operates in the Southeast region of the federal railway system, along the Rio de Janeiro - São Paulo - Belo Horizonte axis; (ii) we have an interest in joint venture Transnordestina Logística S.A., or TLSA, which has a concession to construct and operate the Northeastern Railway System II; and (iii) we control Ferrovia Transnordestina Logística S.A., or FTL, which operates the Northeastern Railway System I.

#### Cement

We entered the cement market in May 2009 in order to take advantage of the synergy potential with our steelmaking business. Our cement operations use as inputs slag generated by our blast furnaces at Volta Redonda and limestone from our limestone reserves in our Bocaina mines, which is used to produce clinker. Slag and clinker are the main inputs in cement production.

In 2015, we inaugurated two grinding mills and in 2016, we concluded a new kiln line with a capacity of 6,500 tons per day, reaching an aggregate capacity of 4.7 million tons per year of cement production considering our Volta Redonda and Arcos plants. We plan to increase our market share in the cement segment in Brazil in order to diversify our product mix and markets, which will allow us to reduce our risk exposure.

### Energy

We are self-sufficient in our energy needs. Steelmaking requires significant amounts of electricity to power rolling mills, production lines, hot metal processing, coking plants and auxiliary units.

The main source of the electricity we use is our thermoelectric cogeneration power plant located at Presidente Vargas Steelworks, which is fueled by gases from the steel production process, and has an installed capacity of 235.2 MW. In addition, we have a 29.5% interest in the Itá Hydroelectric Power Plant in the state of Santa Catarina, through a 48.75% equity interest in ITASA, and a 17.9% interest in the Igarapava hydroelectric facility in the state of Minas Gerais, from which we have assured 136 MW from each. In 2014, we installed a new turbine generator at Presidente Vargas Steelworks, which added 21 MW to our installed capacity. This turbine uses gases from the iron-making process to generate energy.

# **Other Information**

CSN's legal and commercial name is Companhia Siderúrgica Nacional. CSN is organized for an unlimited period of time under the laws of the Federative Republic of Brazil. Our head offices are located at Av. Brigadeiro Faria Lima, 3400, 19<sup>th</sup> and 20<sup>th</sup> floors, Itaim Bibi, São Paulo, Brazil, CEP 04538-132, and our telephone number is +55-11-3049-7100. CSN's agent for service of process in the United States is CT Corporation, with offices at 111 Eighth Avenue, New York, New York 10011.

#### 4B. Business Overview

# **Competitive Strengths**

We believe that we have the following competitive strengths:

Integrated business model. We are a highly integrated steelmaker and we believe this integration supports resilient and profitable operations. Our integrated business model comprises our captive sources of raw materials, principally iron ore, and our infrastructure, including railways and deep-water port facilities. In terms of raw materials, we own a number of high-quality iron ore mines, strategically located within Brazil's "Iron Ore Quadrangle," which distinguishes us from our main competitors in Brazil who are required to purchase all or a portion of their iron ore from mining companies.

**Profitable mining business.** We have in recent years invested significantly in our mining business, placing CSN in a prominent position among the world's leading iron ore players. Further mining expansions will enable us to expand our product portfolio and total output, increasing our presence in seaborne markets.

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We have high-quality iron ore reserves in Casa de Pedra, Engenho, Fernandinho and other mines, all located in the state of Minas Gerais. Our mining activities are an important contributor to our EBITDA. We sold 25.7 million tons of iron ore to thirs parties in 2015, 32.9 million tons in 2016 (including 100% of Namisa due to its full consolidation of CSN Mineração) and 32.6 million tons in 2017. Our mining business also includes TECAR, a solid bulks terminal at Itaguai Port in the state of Rio de Janeiro, with a capacity to handle 45 million tons per year, and Mineração Bocaina, located in the city of Arcos in the state of Minas Gerais, which produces dolomite and limestone, as well as ERSA, which mines and casts tin.

In 2015 and 2016, we implemented cost reduction measures, which, along with the depreciation of the *real*, reduced our production costs at the Casa de Pedra mine from US\$24.66/ton in 2014 to US\$15.56/ton in 2015, to US\$12.92/ton in 2016 and to US\$15.75 in 2017.

Thoroughly developed transport infrastructure. We have a thoroughly developed transport infrastructure, connecting our iron ore mines to our steel mills and to the port terminals we operate. Our Presidente Vargas Steelworks facility is located next to railway and port systems, which facilitates its supply of raw materials, product shipments and access to our main clients. Our steelworks are close to the main steel consumer centers in Brazil, with easy access to port facilities and railways. The concession for the main railway we use and operate is owned by MRS, in which we hold a 34.9% direct and indirect ownership interest. The railway connects our Casa de Pedra mine to Presidente Vargas Steelworks and to our terminals at Itaguaí Port, which handle our iron ore exports and most of our steel exports, as well as our imports of coal and metallurgical coke. Since the constitution of MRS's railway in 1996, it has significantly improved its productivity and developed its business, with increased cash generation.

Self-sufficiency in energy generation. We are self-sufficient in our energy needs through our interests in the hydroelectric plants of Itá and Igarapava, as well as our own thermoelectric plant located inside Presidente Vargas Steelworks. We sell excess energy we generate in the energy market on a spot basis. Our 256 MW thermoelectric cogeneration plant provides Presidente Vargas Steelworks with approximately 60% of its energy needs for its steel mills, and uses as its primary fuel the waste gases generated by our coke ovens, blast furnaces and steel processing facilities. We hold a 29.5% stake in the Itá Hydroelectric Power Plant in the state of Santa Catarina. This ownership stake grants us assured energy of 167 MW, proportional to our ownership interest, pursuant to a 30-year power purchase agreement at a fixed price per megawatt hour, adjusted annually for inflation. In addition, we own 17.9% of the Igarapava hydroelectric plant, which has a fully installed capacity of 210 MW and a direct take of 136 MW of assured energy to us.

*Low cost structure*. As a result of our fully integrated business model, our thoroughly developed transportation infrastructure and our self-sufficiency in energy generation, we have been consistently generating high margins compared to peer companies in both the steel and mining segments. Other factors that lead to our low cost structure include the strategic location of our steelworks facility along with our low-cost, skilled workforce.

Diverse product portfolio and product mix. We have a diversified flat steel product mix that includes hot-rolled, cold-rolled, galvanized and steel tin mill products, in order to meet a wide range of customer needs across all steel-consuming industries. We focus on selling high-margin products, including tin-coated, pre-painted, galvalume and galvanized products. Our galvanized products provide material for exposed auto parts, using hot-dip galvanized steel and laser-welded blanks. Our CSN Paraná branch provides us with additional capacity to produce high-quality galvanized, galvalume and pre-painted steel products for the construction and home appliance industries. In addition, our distribution subsidiary, Prada, provides a strong sales channel in the domestic market, enabling us to meet demand from smaller customers and to establish an important presence in this market.

Strong presence in domestic market and strategic international exposure for steel products. We have a strong presence in the Brazilian market for steel products, with a market share of approximately 30% of the domestic flat steel market. In addition, through our international subsidiaries we sell our flat steel products in the United States and in Europe, which sales accounted for approximately 25% of our total sales in 2017. Direct exports accounted for 6% of our total sales in 2017. In 2012, we acquired SWT, a long steel producer in Germany with annual production capacity of approximately 1.1 million tons of steel profiles, strengthening our steel products mix and geographical diversification. In 2017, SWT accounted for 16% of our total sales.

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# **Our Strategies**

Our goal is to make the most of our high-quality product portfolio, low cost production and diverse consumer market to preserve our position as one of the world's lowest-cost steel producers and as a global player in the mining of iron ore, increase our cement segment's market share and optimize our infrastructure assets, including ports, railways and power generating plants, which support our high integration and low cost structure. To achieve these goals, we have developed specific strategies for each of our business segments, as described below.

#### Steel

The strategy for our steel business comprises:

- Focus on the domestic market, by increasing market share in the flat steel segment and long steel market;
- Emphasis on high-margin coated steel products, such as galvanized, galvalume, pre-painted and tin plate;
- Geographical diversification through our flat and long steel facilities abroad and our focus on diversifying our exports through, among others, coated steels;
- Constant pursuit of operational excellence by developing and implementing cost reduction projects, including energy efficiency, and process review programs, including internal logistic optimization, project development and implementation discipline;
- Exploring marketing and commercial synergies through our flat steel distribution network and product portfolio to accelerate our entrance into the domestic long steel market; and
- Increased customized services and distribution abilities through our expanding distribution network.

For information on planned investments relating to our steel activities, see "Item 4D. Property, Plant and Equipment—Capital Expenditures—Planned Investments."

### **Mining**

In order to strengthen our position in the iron ore market, we plan to invest in our mining assets, including CSN Mineração, to generate low operational costs and long-term growth opportunities.

In the coming years, we expect to reach an annual shipment level of over 60 million tons per year of iron ore products, including third party products, by increasing mine capacities, including Casa de Pedra, and developing export services for third party producers. In the short term, considering downward pricing pressure expected by global iron ore market participants and likely volatility in global iron ore prices, our focus is on exporting quality iron ore at low cost in order to guarantee our participation in the seaborne market.

To sustain this growth, we plan to increase TECAR's capacity from 42 million tons per year to 60 million tons per year.

To maximize the profitability of our product portfolio, we are focused on increasing our output of high quality pellet feed with Itabirito's deposits and investing with strategic partners and clients in providing pellet feed to pellet producers.

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For information on planned investments relating to our mining activities, see "Item 4D. Property, Plant and Equipment—Capital Expenditures—Planned Investments."

# **Logistics**

We expect to expand our logistics capabilities, which comprise our integrated infrastructure operations of railways and ports, in order to increase the transportation efficiency of both our incoming raw materials and distributed products.

We will continue to improve our product delivery in the Brazilian market (mainly steel and cement) by implementing low-cost measures, increasing our use of rail transportation and providing more distribution centers to reach end-clients.

In addition to investments in the bulk terminal TECAR, we expanded the TECON container terminal in 2014 in order to operate large vessels simultaneously, which increased TECON's capacity to 440,000 containers.

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In terms of railways, we are developing the Transnordestina Logística project, which focuses on iron ore, agricultural commodities, gypsum and fuel. We also plan to invest in increased efficiency and capacity in the South of Brazil through our participation in MRS.

#### Cement

Our cement business strategy involves the utilization of the limestone reserves in our Bocaina mines and the slag generated by our blast furnaces at Volta Redonda. Our first cement grinding mill was inaugurated in 2009, with a capacity to produce 2.4 million tons per year. In 2011, we began producing clinker in the Arcos plant, which provided lower production costs. In 2015, we inaugurated two grinding mills and, in 2016, we concluded a new kiln line with a capacity of 6,500 tons per day, reaching an aggregate capacity of 4.7 million tons per year. We intend to expand our cement production capacity to 5.7 million tons per year over the next years. For information on planned investments relating to our cement activities, see "Item 4D. Property, Plant and Equipment—Capital Expenditures—Planned Investments."

### **Investments and Divestitures**

In addition to our planned investments and capital expenditures, we continue to evaluate acquisition opportunities, as well as joint ventures and brownfield or greenfield projects, to improve our steel, cement and mining cost competitiveness and production, along with our logistics capabilities, logistics infrastructure and energy generation.

We also have a significant portfolio of non-core assets in each of our operating segments that are available for sale, including assets outside Brazil, and are currently considering several opportunities to divest certain of these non-core assets to improve our liquidity position in the short- to medium-term. These opportunities are in various stages, including, in some cases, exclusive negotiations.

# **Our Steel Segment**

We produce carbon steel, which is the world's most widely produced type of steel, representing the vast bulk of global consumption. From carbon steel, we sell a variety of products, both domestically and abroad, to manufacturers in several industries.

#### Flat Steel

Our Presidente Vargas Steelworks produces flat steel products, which comprise slabs, hot-rolled, cold-rolled, galvanized and tin mill products. For more information on our flat steel production process, see "—Production Process."

#### Slabs

Slabs are semi-finished products used for processing hot-rolled, cold-rolled or coated coils and sheet products. We are able to produce continuously cast slabs with a standard thickness of 250 millimeters, widths ranging from 830 to 1,600 millimeters and lengths ranging from 5,250 to 10,500 millimeters. We produce high, medium and low carbon slabs, as well as micro-alloyed, ultra-low-carbon and interstitial free slabs. The slabs are then slitted and finished, generating blooms which are delivered to the long products plant.

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#### **Hot-Rolled Products**

Hot-rolled products include heavy and light-gauge hot-rolled coils and sheets. A heavy gauge hot-rolled product, as defined by Brazilian standards, is a flat-rolled steel coil or sheet with a minimum thickness of 5.01 millimeters. We are able to provide coils of heavy gauge hot-rolled sheet with a maximum thickness of 12.70 millimeters used to manufacture automobile parts, pipes, structural beams and other construction products. We produce light gauge hot-rolled coils and sheets with a minimum thickness of 1.20 millimeters, which are used for welded pipe and tubing, automobile parts, gas containers, compressor bodies and light cold-formed shapes, channels and profiles for the construction industry.

#### Cold-Rolled Products

Cold-rolled products include cold-rolled coils and sheets. A cold-rolled product, as defined by Brazilian standards, is a flat cold-rolled steel coil or sheet with thickness ranging from 0.30 millimeters to 3.00 millimeters. Cold-rolled products have more uniform thickness and better surface quality when compared to hot-rolled products and their main applications are automotive parts, home appliances and construction. We supply cold-rolled coils with thickness ranging from 0.30 millimeters to 2.99 millimeters.

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#### **Galvanized Products**

Galvanized products are comprised of flat-rolled steel coated on one or both sides with zinc or a zinc-based alloy applied by either a hot-dip or an electrolytic process. We use the hot-dip process, which is approximately 20% less expensive than the electrolytic process. Galvanizing is one of the most effective and low-cost processes used to protect steel against corrosion caused by exposure to water and the atmosphere. Galvanized products are highly versatile and can be used to manufacture a broad range of products, such as:

- automobiles, trucks and bus bodies;
- manufactured products for the construction industry, such as panels for roofing and siding, dry wall and roofing support frames, doors, windows, fences and light structural components;
- air ducts and parts for hot air, ventilation and cooling systems;
- culverts, garbage containers and other receptacles;
- storage tanks, grain bins and agricultural equipment;
- panels and sign panels; and
- pre-painted parts.

Galvanized sheets, both painted and bare, are also frequently used for gutters and downspouts, outdoor and indoor cabinets and home appliances, among others. We produce galvanized sheets and coils in continuous hot-dip processing lines, with thickness ranging from 0.30 millimeters to 3.00 millimeters. The continuous process allows for products with highly adherent and uniform zinc coatings capable of being processed in nearly all kinds of bending and forming machinery.

We produce *Galvanew*® in addition to standard galvanized products. *Galvanew*® is produced by an additional annealing cycle just after the zinc hot-dip coating process. This annealing process causes iron to diffuse from the base steel into the zinc coating. The resulting iron-zinc alloy coating allows better welding and paint performance. The combination of these qualities makes our *Galvanew*® product particularly well suited for manufacturing automobile and home appliance parts, including high gloss exposed parts.

At CSN Paraná, one of our branches, we produce *Galvalume*®, a continuous Al-Zn coated material. Although the production process is similar to hot-dip galvanized coating, *Galvalume*® has at least twice the corrosion resistance of standard galvanized steel. *Galvalume*® is primarily used in outdoor construction applications that may be exposed to severe acid corrosion, like marine uses.

The value added from the galvanizing process permits us to price our galvanized products with a higher margin. Our management believes that our expertise in value-added galvanized products presents one of our best opportunities for profitable growth because of the increase in Brazilian demand for these products.

Through CSN Paraná, we also produce pre-painted flat steel, which is manufactured in a continuous painting line. In this production line, a layer of resin-based paint in a choice of colors is deposited over either cold rolled or galvanized base materials. Pre-painted material is a higher value-added product used primarily in the construction and home appliance markets.

Cold-Rolled Products 55

#### Tin Mill Products

Tin mill products consist of flat-rolled low-carbon steel coils or sheets with, as defined by Brazilian standards, a maximum thickness of 0.45 millimeters, coated or uncoated. We apply coatings of tin or chromium by electrolytic process. Coating costs place tin mill products among our highest priced products. The added value from the coating process permits us to price our tin mill products at a higher margin. There are four types of tin mill products, all produced by us in coil and sheet forms:

- *Tin plate* coated on one or both sides with a thin metallic tin layer plus a chromium oxide layer, covered with a protective oil film;
- *Tin free steel* coated on both sides with a very thin metallic chromium layer plus a chromium oxide layer, covered with a protective oil film;

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Tin Mill Products 56

- Low tin coated steel coated on both sides with a thin metallic tin layer plus a thicker chromium oxide layer, covered with a protective oil film; and
- Black plate uncoated product used as the starting material for the coated tin mill products.

Tin mill products are primarily used to make cans and other containers. With six electrolytic coating lines, we are one of the largest producers of tin mill products in the world and the sole producer of coated tin mill products in Brazil.

#### Quality Management System

We maintain a Quality Management System certified to comply with the International Standardization Organization ISO 9001 standard and the automotive industry's Technical Specification ISO/TS 16949. The ISO 9001 standard is for the design and manufacture of slabs, blooms, billets, hot rolled flat, pickled and oiled, cold-rolled and galvanized steel, tin mill products and long steel products and ISO/TS 16949, third edition, is for the manufacture of hot-rolled flat, pickled and oiled steel products, cold-rolled and galvanized steel products. In 2018, we plan to upgrade our Quality Management System certifications to comply with the International Standardization Organization ISO 9001:2015 standard and with the International Automotive Task Force IATF 16949:2016 standard.

## **Production Output**

The following table sets forth, for the periods indicated, the annual production of crude steel in Brazil and by us and the percentage of Brazilian production attributable to us:

Crude Steel Production	Brazil	CSN	CSN % of Brazil		
(In millions of tons)					
2017	34.3	4.2	12.2%		
2016	30.2	3.0	9.9%		
2015	33.3	4.2	12.7%		
2014	33.9	4.5	13.3%		
2013	34.2	4.5	13.2%		

Source: Brazilian Steel Institute (Instituto Aço Brasil), or IABr.

The following table presents selected operating statistics for the periods indicated:

#### Certain Operating Statistics

Certain Operating Statistics				
	2017	2016	2015	
	(In millions of tons)	(In millions of tons)	(In millions of tons)	
Production of:				
Molten Steel	4.3	3.1	4.4	
Crude Steel	4.2	3.0	4.2	
<b>Hot-Rolled Coils and Sheets</b>	3.9	3.3	4.3	
<b>Cold-Rolled Coils and Sheets</b>	2.5	2.3	2.5	

Galvanized Products	1.8	1.8	1.4
Tin Mill Products	0.5	0.5	0.6

# Raw Materials and Suppliers

The main raw materials we use in our integrated steel mill include iron ore, coke, coal (from which we make coke), limestone, dolomite, aluminum, tin and zinc. In addition, our production operations consume water, gases, electricity and ancillary materials.

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Production Output 58

#### Iron Ore

We are able to obtain the majority of our iron ore requirements from our Casa de Pedra and Engenho mines located in the state of Minas Gerais. The only iron ore product which we buy from third parties is pellet. For a description of our iron ore segment see "—Our Mining Segment."

To secure pellets supply, in 2015, we signed a one-year agreement without a "take-or-pay" clause but with a quarterly negotiation of pellet prices. In 2016, we amended this agreement to ensure the continuity of our supply. In 2017, we negotiated a new one-year agreement without a "take-or-pay" clause. We are currently negotiating a long term agreement.

#### Coal

In 2017, our metallurgical coal consumption totaled 2.17 million tons. Metallurgical coal includes coking coal and PCI coal, which is a lower grade coal injected into blast furnaces in pulverized form to reduce coke consumption. The PCI system reduces our need for imported coke, thereby reducing our production costs. Total PCI coal consumption in 2017 was 0.562 million tons, all of which was imported. The sources of the hard coking coal consumed in our plants in 2017 were: United States (64.7%), Australia (25.0%), Mozambique (6.1%), Canada (3.2%) and Colombia (1.0%), and our PCI coal was sourced entirely from Russia.

The coking coal benchmark price began 2017 falling from a multi-year high in the fourth quarter of 2016, as constraints on Australia's logistics eased towards the end of 2016, The coking coal benchmark price closed at U\$155/ton as of March 31, 2017 representing 33% reduction from the closing price as of December 31, 2016. Logistics difficulties caused by a cyclone in April forced major Australian producers to halt their operations, which drove prices to increase again, which effect lasted until June 2017 when supply and demand reached a balance and the coking coal benchmark prices was U\$150/ton as of June 30, 2017. Tightened supply of domestic Chinese coal due to environmental and safety policy restrictions as well as reduced supply of Mongolian coal into China lead to a U\$38/ton increase reaching \$188/ton as of September 30, 2017. Additionally, the Chinese government's decision to reduce coke production by 30% and cut steel capacity by 50% from November 2017 until March 2018, as well as problems at an Australian coal terminal port in the end of 2017 kept prices high and the coking coal benchmark price was U\$263/ton as of December 31, 2017.

#### Coke

In 2017, in addition to the approximately 1.073 million tons of coke we produced, we also consumed 0.856 million tons of coke bought from third parties in China and Colombia, which represented a 36.76% increase as compared to our consumption in 2016.

#### Limestone and Dolomite

Our Bocaina Mine is located in Arcos, in the state of Minas Gerais, and has been supplying, since the early 1970s, limestone (calcium carbonate) and dolomite (dolomitic limestone) to our Presidente Vargas Steelworks in Volta Redonda. These products are used in the process of sintering and calcination. Arcos has one of the largest and highest quality reserves of limestone in the world, which is used in the production of various products, including clinker and cement.

The annual production of limestone and dolomite for our steelworks is approximately 3 million tons.

The main products obtained from limestone and dolomite that are transferred to our steelworks in Volta Redonda are:

- Limestone and dolomite calcination: with a granulometry between 32 and 76 mm, they are used in the lime plant in Volta Redonda to produce calcitic and dolomitic lime, for further use in the steelmaking process and sintering. At the steelworks, lime is used for chemical controlling of liquid slag, in order to preserve the refractory of the converters and assist in the stabilization of the chemical reactions that occur during the steel manufacturing process. During sintering, the purpose of lime is to increase the performance of this process and the final quality of the sinter that is produced.
- Limestone and dolomite fines for sintering: used in the production of "sinter" in our steelworks. The sintering process mixes and heats together with fine ores, solid fuel and flux, producing a highly reactive granulated burden. The sinter is used in blast furnaces as the main source of iron for the production of pig iron.

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Limestone and Dolomite 60

• The Bocaina Mine is also responsible for supplying limestone for cement manufacturing in Volta Redonda and Arcos.

#### Aluminum, Zinc and Tin

Aluminum is mostly used for steelmaking. Zinc and tin are important raw materials used in the production of certain higher-value steel products, such as galvanized and tin plate, respectively. We typically purchase aluminum, zinc and tin from third-party domestic suppliers under one year contracts. We purchase part of our demand from our subsidiary ERSA. We maintain approximately 15, eight and 22 days worth of inventory of tin, aluminum and zinc, respectively, at the Presidente Vargas Steelworks.

#### Other Raw Materials

In our production of steel, we consume, on an annual basis, significant amounts of spare parts, refractory bricks and lubricants, which we generally purchase from domestic suppliers.

We also consume significant amounts of oxygen, nitrogen, hydrogen, argon and other gases at the Presidente Vargas Steelworks. These gases are supplied by a third-party under a long-term contract from gas production facilities located on the Presidente Vargas Steelworks site. In 2017, we used 726,192 tons of oxygen to produce 4.2 million tons of crude steel.

#### Water

We require large quantities of water in the production of steel. Water serves as a solvent, a catalyst and a cleaning agent. It is also used to cool, carry waste, to help produce and distribute heat and power and dilute liquids. Our source of water is the Paraíba do Sul River, which runs through the city of Volta Redonda. Over 93.4% of the water used in the steelmaking process is recirculated and the balance, after careful processing, is returned to the Paraíba do Sul River. Since March 2003, the Brazilian government has imposed a monthly tax for our use of water from the Paraíba do Sul River, based on an annual fee of approximately R\$1.576 million.

#### **Electricity**

Steelmaking requires significant amounts of electricity to power rolling mills, production lines, hot metal processing, coking plants and auxiliary units. In 2017, our Presidente Vargas Steelworks consumed approximately 3.2 million MWh of electric energy.

Our main source of electricity is our thermoelectric co-generation power plant at the Presidente Vargas Steelworks, which is fueled by gases from the steel production process, with 235.2 MW of installed capacity. In addition, we have a 29.5% interest in the Itá Hydroelectric Power Plant in Santa Catarina, through a 48.75% equity interest in ITASA, and a 17.9% interest in the Igarapava hydroelectric facility in Minas Gerais, from which we have average ensured energy of 167 MW and 23 MW, respectively. In 2014, we installed a new turbine generator at the Presidente Vargas Steelworks, which added 21 MW to our existing installed capacity. This turbine uses outlet gases from our iron production to generate energy.

#### Natural Gas

In addition to electricity, we consume natural gas, mainly in our hot strip mill. Companhia Estadual de Gás do Rio de Janeiro S.A., or CEG Rio, which was privatized in 1997, is our major source of natural gas. Variations in the supply of gas can affect the level of steel production. We have not experienced any significant stoppages of production due to a

shortage of natural gas. We also purchase fuel oil from Petrobras and Raízen.

The market for natural gas is strongly correlated with the electricity market. Brazilian electricity generation is based principally on hydroelectric power, itself dependent on the level of Brazil's reservoirs.

As a contingency against low levels of rainfall, there are several thermoelectric power plants in Brazil which use natural gas. Due to low levels of rainfall in 2013 and 2014, which resulted in reservoirs reaching their lowest levels in a decade the Brazilian Electricity System Operator (*Operador Nacional do Sistema Elétrico*), or the ONS, increased the utilization of thermoelectric generation. In 2017, the Presidente Vargas Steelworks consumed 449 million m<sup>3</sup> of natural gas.

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Natural Gas 62

#### Diesel Oil

In mid-October 2006 and July 2008, we entered into agreements with Companhia Brasileira de Petróleo Ipiranga, to receive diesel oil in order to supply our equipment in our mining plants in the state of Minas Gerais, which provide the iron ore, dolomite and limestone to our steel plant in Volta Redonda. In 2017, our diesel oil consumption totaled 77,974 kiloliters, used to produce 29,921 million tons of iron ore, for which we paid R\$124.9 million.

#### **Suppliers**

We acquire our inputs in Brazil and abroad. Aluminum, zinc, tin, spare parts, refractory bricks, lubricants, oxygen, nitrogen, hydrogen and argon are the main inputs we acquire in Brazil. Coal and coke are the only inputs we acquire abroad.

Our main raw materials suppliers are set forth below:

Main Suppliers	<u>Raw Material</u>
Vanomet and CSA	Slabs
Rio Tinto Coal, BHP, Drummond, Contura, Carbo One	Coal
Limited, Vale and Warrior	
CI Milpa, Sinochen, Noble, Trafigura and Coeclerici	Coke
Ibrame, Latasa, and Nova Metais and Metalur	Aluminum
Votorantim Metais <sup>(1)</sup>	Zinc
White Solder, ERSA and Melt Metais	Tin
Sotreq, Metso, Conveybelts, Komatsu, Simplex, Mason,	Spare parts
Minas Maquinas and Michelan	
Magnesita, RHI, Vesuvius and Saint Gobain	Refractory bricks
Ipiranga and Cosan	Lubricants

<sup>(1)</sup> Votorantim Metais is the only supplier of zinc in Brazil.

#### Flat Steel Mill

The Presidente Vargas Steelworks, located in the city of Volta Redonda, in the state of Rio de Janeiro, began operating in 1946. It is an integrated facility covering approximately four square km and containing five coke batteries, three of which are in operation, three sinter plants, two blast furnaces, a basic oxygen furnace steel shop, with three converters, three continuous casting units, one hot strip mill, three cold strip mills, two continuous pickling lines, one continuous annealing line, 28 batch annealing furnaces, three continuous galvanizing lines, four continuous annealing lines exclusively for tin mill products and six electrolytic tinning lines.

The annual production capacity of steel at the Presidente Vargas Steelworks is 5.6 million tons.

#### Downstream Facilities

#### CSN Paraná

Our CSN Paraná branch produces and supplies plain regular galvanized products, Galvalume® products and pre-painted steel products for the automotive, construction and home appliance industries. The plant has an annual capacity of 330,000 tons of galvanized products and Galvalume® products, 130,000 tons of pre-painted products, which can use cold-rolled or galvanized steel as substrate, service capacity of 150,000 tons of sheets and narrow strips, and 220,000 tons of pickled hot-rolled coils in excess of the coils required for the coating process.

#### CSN Porto Real

Our CSN Porto Real branch produces and supplies plain regular galvanized, Galvanew® and tailored blanks mainly for the automotive industry. The plant has an annual capacity of 350,000 tons of galvanized products, including Galvanew® products, and 150,000 tons of tailored blanks, sheets and narrow strips, which can use cold-rolled or galvanized steel as a substrate.

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Downstream Facilities 64

#### Prada

We have a 99.99% ownership interest in Cia. Metalúrgica Prada. Established in 1936, Cia. Metalúrgica Prada is the largest Brazilian steel can manufacturer and has an annual production capacity of over one billion cans in its three industrial facilities: two located in the state of São Paulo and one in the state of Minas Gerais. Currently, we are the only Brazilian producer of tin plate, which is Cia. Metalúrgica Prada's main raw material, making it one of our most important customers. Cia. Metalúrgica Prada has important clients in the food and chemical industries, including packages of vegetables, fish, dairy products, meat, aerosols, paints and varnishes and other business activities.

Prada Distribuição is one of the leaders in the Brazilian distribution market for steel products with 460,000 tons per year of installed processing capacity. Prada Distribuição has one steel service center and six distribution centers strategically located in the Southeast region of Brazil. The service center is located in the city of Mogi das Cruzes between the cities of São Paulo and Rio de Janeiro. Its product mix also includes sheets, slit coils, sections, tubes and roofing in standard or customized format, according to clients' specifications. Prada Distribuição processes the entire range of products produced by us and services 4,000 customers annually from the civil construction, automotive and home appliances sectors, among others.

#### Companhia Siderurgica Nacional, LLC

CSN LLC holds the assets of former Heartland Steel, a flat steel processing facility in Terre Haute, Indiana. This facility has an annual cold rolling production capacity of 800,000 tons of full hard cold rolled coils. Delivery capacity of cold-rolled and galvanized products is 280,000 and 315,000 tons per year, respectively. Currently, CSN LLC obtains its raw material, hot rolled coils directly from mills in the United States or mills abroad. See "Item 4B. Government Regulation and Other Legal Matters—Proceedings Related to Protectionist Measures—United States" for a discussion on anti-dumping matters regarding Brazilian hot coils exports to the United States.

#### Lusosider, Aços Planos, S.A.

We own 99.94% of Lusosider, a flat steel processing facility located in Seixal, near Lisbon, Portugal. Lusosider has the capacity to produce approximately 50,000 tons of hot-rolled pickled coils, 50,000 tons of cold-rolled and 240,000 tons of galvanized products per year. Its main customers include service centers and tube making industries.

#### CSN Distribuição

We have two service centers, one located in the city of Camaçari, in the state of Bahia and one in the city of Jaboatão dos Guararapes, in the state of Pernambuco, to support sales in the Northeastern and Northern regions of Brazil. We also have a distribution center in the city of Canoas, in the state of Rio Grande do Sul, to support sales in the Southern region of Brazil.

# Long Steel Mills

#### SWT

In February 2012, we acquired SWT in Germany, which marked our entrance into the long steel market. SWT specializes in the production of profiles, including IPE (European I Beams) and HE (European Wide Flange Beams) sections, channels and UPE (Channels with Parallel Flanges) sections and steel sleepers. In total, SWT produces more

CSN Porto Real 65

than 200 types of sections according to different German and international standards.

# SWT's Production Output

	2017	2016	2015	_	2014	2013
Production of:				(in inous	sands of tons	)
Beam Blank (Crude Steel)	862		823	794	844	813
<b>Long Steel (Finished Products)</b>	801		782	743	758	765
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33						

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#### Raw Materials and Suppliers

#### Raw Materials and Energy Requirements

The main raw material we use in our long steel production is scrap. In addition, we require electricity, natural and technical gases and ancillary materials like ferroalloys, lime, dolomite and foaming coal. *Scrap* 

In 2017, the price of scrap increased by 33% as compared to 2016 prices. We consumed approximately 0.97 million tons of scrap in 2017, as compared to approximately 0.93 million tons in 2016, and scrap accounted for approximately 65% and 56% of our production costs in 2017 and 2016, respectively. We are able to obtain approximately 70% of our scrap needs from within a 250 km vicinity of our production facilities.

#### Ferroalloys, Lime and Foaming Coal

Because we do not own any sources of ferroalloys, lime or foaming coal, we must buy these raw materials from third party traders, most of which are located in Europe and source these raw materials from producers around the world.

#### Rolls

We consume different types of rolls in our rolling mill, usually cast rolls which come from Germany, Italy, Slovenia and China.

#### **Graphite Electrodes**

In the smelting shop, which is an electric arc furnace, we use graphite electrodes with a diameter of 750mm. In the ladle furnace, we use electrodes with a diameter of 400mm. We source these electrodes from Europe, Japan and China.

#### Other Raw Materials

In our production of steel we consume, on an annual basis, amounts of electrodes, rolls, refractory materials and materials for packaging and spare parts, which are mostly purchased from domestic suppliers.

#### Water

Large amounts of water are required in the production process. Our source of water is the Saale river, located 5 km from the plant. We use our own water station to pump water via pipelines to the plant.

#### Electricity and Natural Gas

Steelmaking also requires significant amounts of electricity and natural gas, for which we have supply contracts. Under normal conditions, we consume approximately 450 GWh of electric energy and an equal amount of natural gas.

# Suppliers

We acquire the inputs necessary for the production of our products in Germany and other countries.

Our main raw materials suppliers are set forth below:

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Suppliers 68

#### Main Suppliers Raw Material

Scholz, TSR Scrap

RWE Supply & Trading GmbH

Shell Erdgas Marketing GmbH & Co KG

Natural gas

Refractories Site Service GmbH

Refractory

Graftec, W.A.S., SHOWA DENKO

Siemens, Schneider, Voith

Spare parts

Irle, Walzengießerei Coswig

Rolls

Facilities - SWT

SWT possesses a 28 km internal railway system, as well as the logistics infrastructure to ensure supply of scrap and delivery of finished products. The main markets served by SWT include non-residential construction, equipment industries and engineering and transport, in Germany and in neighboring countries, including Poland and the Czech Republic.

#### **Effective Capacity - SWT**

- ,	Tons per year	Equipment in operation	
Process:		•	
EAF – Electric Arc Furnace	1,100,000	1 furnace	
Ladle Furnace	1,100,000	1 furnace	
<b>Finished Products:</b>			
Section Mill	1,000,000	1 mill	

# Volta Redonda EAF Mill

#### Plant Characteristics

We completed a new plant mill for the production of long steel products in Volta Redonda and began assisted operations in December 2013. The Volta Redonda plant comprises a 50 ton electric arc steelmaking furnace, 50 ton ladle metallurgy, continuous casting machine for billets and a hot rolling mill for wire rod and reinforcing bar. We expect this plant to reach and output of up to 500,000 tons per year once fully operational, providing the Brazilian market with products for civil construction and high quality drawing and cold heading applications.

# Steelmaking Shop

Designed for an output of 400,000 tons per year, this unit mainly consists of one 50 ton UHP, AC electric arc furnace, one 50 ton ladle furnace, one continuous casting machine for billets with three strands, mobile equipment and cranes, power supply, distribution facilities and auxiliary equipment.

# **Rolling Mill**

Designed for an output of 500,000 tons per year, this unit has one walking-beam reheating furnace, or RHF, a four-stand blooming mill, a 250 ton hot shear, a six-stand roughing mill, a six-stand intermediate mill, a six-stand

Facilities - SWT 69

pre-finishing mill, internal water cooling, a double length flying shear, a stepping cooling bed, a 500 ton cold shear, transfer inspection stand, bundling machine, a water-cooling section before wire finishing mill, a 10-stand high-speed wire finishing mill, a water-cooling section after wire finishing mill, a laying head, a loose coil cooling line, reforming device, bundling machine, stripper and coil handling devices.

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Rolling Mill 70

# **Production Output**

#### **Certain Operating Statistics**

(in thousands of tons)	2017	2016	2015
<b>Production of:</b>			
Billets (Crude Steel)	211	197	151
<b>Long Steel (Finished Products)</b>	202	186	131

#### Raw Materials and Energy Suppliers

The main raw material we use in our long steel production in Volta Redonda is scrap, in addition to pig iron. We also use blooms, which we produce at our BOF shop. In addition, our production operations consume electricity, natural and technical gases and ancillary materials like ferroalloys, lime, dolomite and foaming coal. The supply sources for these materials are the same used for our flat steel operations. See "Item 4B. Business Overview—Raw Materials and Suppliers."

# **Our Mining Segment**

Our mining activities are among the largest in Brazil and are mainly driven by the exploration of one of our iron ore reserves, Casa de Pedra, in the state of Minas Gerais. We sell our iron ore products mainly in Asia, Europe and Brazil with sales and marketing from our principal hubs in Minas Gerais, Brazil and Austria.

#### **Our Mines**

#### Casa de Pedra Mine

Casa de Pedra is an open pit mine located in the city of Congonhas, in the state of Minas Gerais, approximately 80 km south of the city of Belo Horizonte and 360 km north of the city of Rio de Janeiro. The site is approximately 1,000 meters above sea level and accessible from the cities of Belo Horizonte or Congonhas through mostly paved roads.

Casa de Pedra mine is a hematite-rich iron deposit of an early proterozoic banded iron formation in Brazil's Iron Ore Quadrangle (*Quadrilátero Ferrífero*), which is located in the central part of the state of Minas Gerais in the Southeastern region of Brazil and has been one of the most important iron producing regions in Brazil for the last 50 years. We incorporated the mine in 1941, but it has been operating since 1913.

Our iron ore at Casa de Pedra is currently excavated by a fleet of hydraulic shovels and wheel loaders and then hauled by a fleet of trucks with an installed annual ROM capacity of approximately 103 million tons. The iron ore is then processed in our treatment facilities, which have an installed capacity of 33 million tons of products per year (a sum of the central plant, mobile plants and Pires treatment facilities). At Casa de Pedra mine and the Pires complex, we use electrical power provided by hydroelectric plants.

Casa de Pedra mine supplies all of our iron ore needs, except pellets, and produces lump ore, sinter feed and pellet feed fines with high iron content. The following map illustrates the location of our Casa de Pedra mine:

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Production Output 71

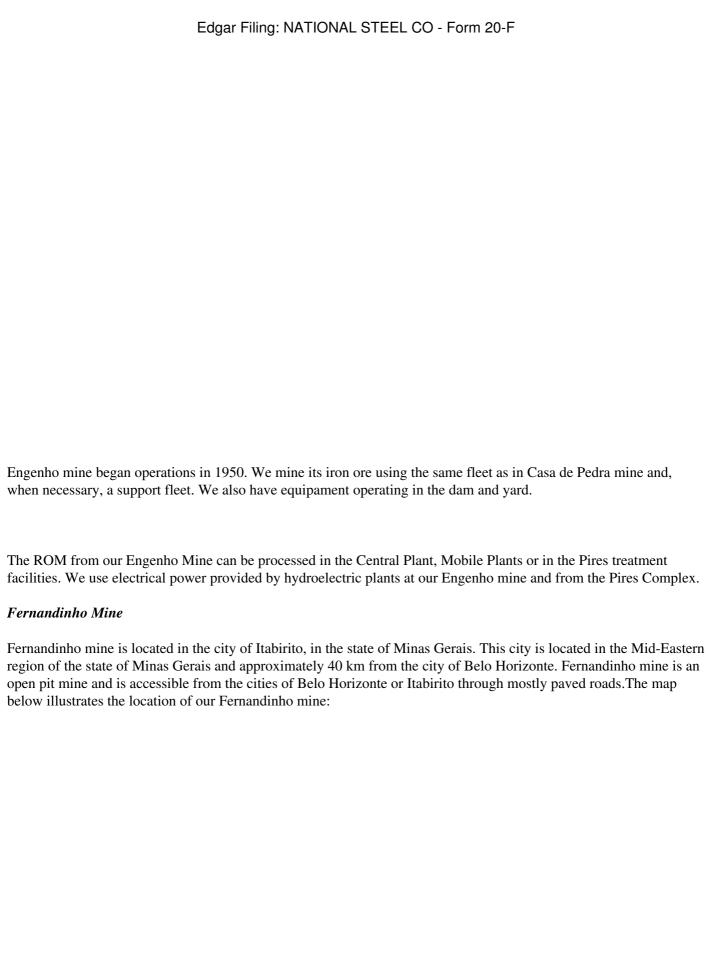


#### Engenho Mine

The Engenho mine is also an open pit mine located at the Southwestern region of the Iron Ore Quadrangle, 60 km south of the city of Belo Horizonte and is accessible from the cities of Belo Horizonte or Congonhas through mostly paved roads. The map below illustrates the location of our Engenho mine:

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Casa de Pedra Mine 72



Engenho Mine 73

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Fernandinho Mine 74

Fernandinho mine began operations in 1950. As of the date of this annual report, Fernandinho mine is inactive.

The following map shows the location of Casa de Pedra, Engenho and Fernandinho mines:

# Limestone and Dolomite Mine

Our extraction and preparation of limestone and dolomite is done at our Bocaina mining facility located in the city of Arcos, in the state of Minas Gerais. Bocaina is an open pit mine and it can be accessed from the cities of Belo Horizonte, located approximately 230 km away, and Volta Redonda (where the Presidente Vargas Steelworks is situated), located approximately 462 km away, through mostly paved roads.

In 2016, a new crushing plant started, increasing the installed capacity to approximately 15 million tons per year.

This mine has sufficient limestone reserves to adequately supply our steel and cement productions at current levels by an average of 38 years.

# Tin Facility

We own a tin facility in Itapuã do Oeste, in the state of Rondônia, through our subsidiary ERSA. This facility has an installed annual production capacity of approximately 3,600 tons of tin, which we use substantially as a raw material to produce tin plate, a coated steel product. A small part of our tin production that is not used as raw material is sold to third parties; however, the results from these sales are insignificant to our consolidated results.

# Mineral Rights and Ownership

The Mining Code and the Brazilian Federal Constitution impose requirements on mining companies relating to, among other things, the manner in which mineral deposits are exploited, the health and safety of workers, the protection and restoration of the environment, the prevention of pollution and the promotion of the health and safety of local communities where the mines are located. The Mining Code also imposes certain notifications and reporting requirements.

We hold concessions to mine iron ore, limestone and dolomite. We purchase manganese in the local market. We own 87.52% of CSN Mineração mines and 100% of Bocaina and Santa Bárbara mines. In addition, each mine is an "open pit" mine. Iron ore extraction, crushing, screening and concentration are done in three different sites: Casa de Pedra mine and Pires beneficiation plant (all CSN Mineração's property) and Fernandinho mine, a Minérios Nacional's property.

## Casa de Pedra

Our mining rights for Casa de Pedra include the mine, a beneficiation plant, roads, a loading yard and a railway branch and are duly registered with the National Mining Agency (*Agência Nacional de Mineração*), or ANM. ANM has also granted us easements in 19 mine areas located in the surrounding region, which are not currently part of Casa de Pedra mine.

We believe we have obtained and are in compliance with all licenses and authorizations for our operations and projects at Casa de Pedra mine.

Exploration undertaken at the Casa de Pedra mine is subject to mining lease restrictions, which were reflected in our iron ore reserve calculations. Quality requirements (chemical and physical) are the key "modifying factors" in the definition of ore reserves at Casa de Pedra and were properly accounted for by us.

#### Mineral Reserves

The following table sets forth information on the type of mine, period of operation, projected exhaustion dates and percentage of our interest for each of our mines:

Mine	Type	Operating since	Projected exhaustion date	CSN % interest
Iron:				
Casa de Pedra	Open pit	1913	2040	87.52
(Congonhas,				
Minas Gerais)				
Engenho (Congonhas,	Open pit	2007 (Start of operation	2040	87.52
Minas Gerais)		by Namisa)		
Fernandinho (Itabirito,	Open pit	2007 (Start of operation	2039	100
Minas Gerais)		by Namisa)		
Limestone and				
<b>Dolomite:</b>				
Bocaina (Arcos, Minas	Open pit	1946	2060	100
Gerais)				
<u>Tin:</u>				
Santa Barbara (Itapuã	Open pit	1950	2054	100
do Oeste, Rondonia)				

We calculate our estimates of proven and probable reserves and other mineral deposits at our mines in accordance with the technical definitions contained in the SEC's Industry Guide 7, and estimates of mine life described herein are

Casa de Pedra 77

derived from these reserve estimates. The mineralized material disclosed refers to the entire mines, and not just to our proportional interest in the mines.

In the most recent reserve audit conducted in 2014, the losses for mine dilution and mining recovery considered were 5% each for both Casa de Pedra and Engenho mines.

In 2014, we audited resources and reserves for Casa de Pedra and Engenho mines and only resources for Fernandinho mine. We do not have audited resources or reserves studies for our Bocaina mine, thus the resources and reserves presented in the table below were not audited by any third parties for that mine. As for our Santa Barbara mine, we do not have reserve estimates and do not currently plan to begin campaigns to complete a study in connection with this property in light of its low materiality to our business.

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Mineral Reserves 78

The following table sets forth our estimates of proven and probable reserves and other mineral deposits at our mines reflecting the results of reserve studies:

	Prov	ven and P	Probable F	Reserves <sup>1</sup>			
	Audited R	eserves	Ore Ton	nage <sup>2</sup>			Recoverable Product <sup>4</sup>
Mine Name and Location	(in millions	of tons)(	in millions	of tons)	Grade <sup>3</sup>	Rock Type	(in millions of tons)
	Proven <sup>5</sup> Pr	obable <sup>6</sup> I	Proven <sup>5</sup> Pr	obable <sup>6</sup>			20113)
Iron:							
Casa de Pedra (Congonhas, Minas Gerais)	1 ,043	1 ,662	928	1 ,662	41.36% l	Hematite (7%) Itabirit (93%)	e 1,429
Engenho (Congonhas, Minas Gerais)	108	209	103	209	39.48% <sup>1</sup>	Hematite (3%) Itabirit (97%)	e 161
Fernandinho (Itabirito, Minas Gerais)					40.21%	Itabirite (100%)	
<b>Limestone and Dolomite:</b>							
D : (A Nr. C :)	200	0.2	200	0.2	50.25% CaO	Limestone (94.46%)	200
Bocaina (Arcos, Minas Gerais)	280	0.2	280	0.2	16.0% MgO	Dolomite (5.54%)	280

- (1) Reserves means the part of a mineral deposit which could be economically and legally extracted or produced at the time of the reserve determination. We do not have reserve audits for the Fernandinho mine. The reserves for the Casa de Pedra and Fernandinho mines were audited in December, 2014 and we have reduced the amount of proven reserves by our annual production since then.
- (2) Represents ROM material.
- (3) Grade is the proportion of metal or mineral present in ore or any other host material.
- (4) Represents total product tonnage after mining and processing losses.
- (5) Means reserves for which: (i) quantity is computed from dimensions revealed in outcrops, trenches, workings or drill holes; grade and/or quality are computed from the results of detailed sampling; and (ii) the sites for inspection, sampling and measurement are spaced so closely and the geologic character is so well defined that size, shape, depth and mineral content of reserves are well- established.
- (6) Means reserves for which quantity and grade and /or quality are computed from information similar to that used for proven (measure) reserves, but the sites for inspection, sampling and measurement are farther apart or are otherwise less adequately spaced. The degree of assurance, although lower than that for proven (measure) reserves, is high enough to assume continuity between points of observation.

The metallurgical recovery factor is the percentage of iron in the ore delivered to the processing plant that is recovered by the metallurgical process. In 2017, the metallurgical recovery factor obtained by Casa de Pedra's concentration plant was 77.9%. Since 2017, the Pires plant has operated through a dry process and its metallurgical

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recovery factor is 100%.

The cutoff grade is the minimum ore percentage that determines which material will be fed in the processing plant. The cutoff grade value for Casa de Pedra and Engenho mines considered in the most recent audit is 23.37%.

The prices used in the 2014 audit for the estimation of Casa de Pedra reserves are shown in the following table. As shown, the product price we assumed to estimate our reserves is based on expectations of an average long term price of US\$90 per ton, considering that as a reasonable price for a sustainable development of the iron ore market.

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	Price for the	three years pri-	Long term average		
		(US\$/t)	(US\$/t)		
	2011	2012	2013	Assumption	
Platts 62Fe CFR N.China (\$/dmt)	169	130	135	90	

#### Casa de Pedra Mine

In 2012, we started a multi-year study of our iron ore resources and reserves at Casa de Pedra in accordance with best practices in the iron ore market. We conducted extensive work throughout 2014 to document and classify all information related to both the current and future operations of the Casa de Pedra mine. In 2014, we hired Snowden Group, to undertake an independent analysis of the Casa de Pedra iron ore resources and reserves. Snowden carried out a full analysis of all available information and has independently validated our reported resources and reserves.

Snowden accepts as appropriate the estimates regarding proven and probable reserves made by us, totaling 2,704 million tons of iron ore (as of December 31, 2014) at a grade of 41.36% Fe and 36.46% SiO2. This new estimate of our iron ore reserves at Casa de Pedra is significantly larger than our estimate of 1,631 million tons, contained in an appraisal report prepared in 2006 by Golder Associates. Over the course of the Casa de Pedra mine's life, we have executed several drilling campaigns. The last drilling campaign was in 2014, and we had drilled more than 92,000 meters by November 2014.

#### Engenho and Fernandinho Mines

In 2012, we started the same process used at Casa de Pedra to identify iron ore resources and reserves at the Engenho in two stages.

We conducted extensive work throughout 2014 to document and classify all information related to both the current and future operations of the Engenho and Fernandinho mines. In 2014, we hired Snowden Group to conduct an independent analysis of the Engenho iron ore resources and reserves and Fernandinho resources. Snowden carried out a full analysis of all available information and has independently validated our reported resources and reserves.

Snowden accepts as appropriate the estimates regarding proven and probable reserves made by us, totaling 317 million tons of iron ore for Engenho (as of December 31, 2014) at a grade of 39.48% Fe and 40.01% SiO2.

After our last drilling campaign, we had drilled more than 9,000 meters by November 2014 in our Engenho mine.

#### **Production**

#### Casa de Pedra Mine

The Casa de Pedra facilities are located in the city of Congonhas, in the state of Minas Gerais. The Casa de Pedra mine is located 350 km from the Presidente Vargas Steelworks and supplies iron ore products to our steel mill, as well as for export through the Itaguaí Port. Casa de Pedra's equipment fleet and treatment facilities have an installed annual ROM capacity of approximately 103 million tons and 40 million tons, respectively.

Casa de Pedra Mine 81

#### Pires and Fernandinho Beneficiation Plants

Pires plant is the beneficiation plant of Congonhas Minérios. The plant receives material from Engenho and Casa de Pedra Mines and generates final products such as: lump ore, sinter feed and concentrates.

Fernandinho plant receives material from Fernandinho mine (located in the city of Itabirito), generates sinter feed and fines as final products. As of the date of this annual report, Fernandinho plant and Fernandino mine are idle.

The following table sets forth the production volume of iron ore in each of our mines in the last three years:

Casa de Pedra <sup>(2)</sup> (Mt)	26.24	29.46	26.05
Grade (%)	63.8%	63.1%	62.1%
Pires <sup>(2)</sup> (Mt)	1.6	2.71	3.87
Grade (%)	63.9%	61.0%	60.4%
Fernandinho <sup>(2)</sup> (Mt)	0.0	0.0	0.03
Grade (%)	-	-	61.6%

<sup>(1)</sup> In addition to its own production, Namisa also purchased iron ore from third parties. Third party purchase volumes totaled 3.1 million tons, 3.4 million tons and 3.6 million tons in 2015, 2016 and 2017, respectively.

(2) Production information considers 100% of the mines.

Consolidated Sales (Mt) 25.67 36.98 27.36

(2) Since December 2015, we have been considering 100% stake of Congonhas Minérios.

#### Distribution

Transportation costs are a significant component of our steel and iron ore production costs and are a factor in our price competitiveness in the export market. Railway is the main means of transport by which we convey raw materials from our mines to the Presidente Vargas Steelworks and steel and iron ore products to ports for shipment overseas. Iron ore, limestone and dolomite from our two mines located in the state of Minas Gerais are transported by railroad to the Presidente Vargas Steelworks for processing into steel. The distances from our mines to the Presidente Vargas Steelworks are 328 km and 455 km. The distances from our mines to the ports are 440 km and 160 km. Imported coal and coke bought from foreign suppliers are unloaded at the port of Itaguaí, 90 km west of the city of Rio de Janeiro, and shipped 109 km by train to the Presidente Vargas Steelworks. Our finished steel products are transported by train, truck and ships to our customers throughout Brazil and abroad. Our most important local markets are the cities of São Paulo (335 km from the Presidente Vargas Steelworks), Rio de Janeiro (120 km) and Belo Horizonte (429 km).

Until recently, Brazil's railway system (including railcars and tracks) was principally government-owned and in need

<sup>(1)</sup> Consolidated sales consider 100% of Namisa's Sales Volume until November 2015.

of repair, but it has now been largely privatized. In an attempt to increase the reliability of our rail transportation, we hold interests in companies that hold concessions for the main railway systems we use. For further information on our railway concessions, see "—Facilities—Railways."

We export iron ore and import coal and coke through the Itaguaí Port, in the state of Rio de Janeiro. We have operated the coal and container terminals since August 1997 and 1998, respectively.

## **Our Logistics Segment**

Our logistics segment is comprises railway and port facilities.

# Railways

## Southeastern Railway System

MRS has a 30-year concession to operate, through the year 2026 and renewable for an equal period of 30 years, Brazil's Southeastern railway system. As of December 31, 2017, we held 34,94% of MRS's total capital. For more information, see "Item 5E. Off-Balance Sheet Arrangements." The Brazilian Southeastern railway system, with 1,643 km of track, serves the São Paulo - Rio de Janeiro - Belo Horizonte industrial triangle in Southeast Brazil, and links our mines located in the state of Minas Gerais to the ports located in the states of São Paulo and Rio de Janeiro and to the steel mills of CSN, Companhia Siderúrgica Paulista or Cosipa, and Gerdau Açominas. In addition to serving other customers, the railway transports iron ore from our mines at Casa de Pedra in the state of Minas Gerais and coke and coal from Itaguaí Port in the state of Rio de Janeiro to the Presidente Vargas Steelworks and transports our exports to the ports of Itaguaí and Rio de Janeiro. The railway system connects the Presidente Vargas Steelworks to the container terminal at Itaguaí Port, which handles most of our steel exports. Our transport volumes represent approximately 28% of the Brazilian Southeastern railway system's total volume. We are jointly and severally liable, along with the other main MRS shareholders, for the full payment of the outstanding amount of its indebtedness (See "Item 5E. Off-Balance Sheet Arrangements"). However, we expect that MRS will make the lease payments through internally generated funds and proceeds from financing.

## Northeastern Railway System

We hold interest in companies that have concessions to operate the Northeastern railway system, which operates in the states of Maranhão, Piauí, Ceará, Paraíba, Pernambuco, Alagoas and Rio Grande do Norte and connects with the region's leading ports, offering an important competitive advantage through opportunities for intermodal transportation solutions and made-to-measure logistics projects.

In 1997, we were awarded a concession granting the exclusive right to operate cargo railway transportation at the RFFSA, which we currently call Northeastern Railway System I, effective January 1, 1998, and the preference to operate cargo railway transportation in any new tracks of the Northeastern Railway System that the Brazilian government elected to build.

In 2005, we executed a letter of intent with the Brazilian government (the grantor of this concession) to enable the development of new tracks and certain other improvements of the Northeastern Railway System, in a project called "Nova Transnordestina." The Nova Transnordestina project discussions resulted in the execution, in 2013 and 2014, of a TAC, which settled all claims of non-compliance by us with the original concession agreement until 2012, and multiple agreements, including an investment agreement (discussed below) and a new concession, pursuant to which we were granted the right to develop and operate new tracks and the Northeastern Railway System management was divided in two sub-railway systems:

(i) Northeastern Railway System I, which is in operation by our subsidiary FTL, encompasses the RFFSA network, covering the stretches between the cities of São Luís – Mucuripe, Arrojado – Recife, Itabaiana – Cabedelo, Paula Cavalcante – Macau and Propiá – Jorge Lins, with 4,238 km of railways, of wich 1,191 km are operational and the rest are in negociation process with the National Agency for Ground Transportation (*Agência Nacional de Transportes Terrestres*), or ANTT. As of December 31, 2017, we held 90.78% of the capital stock of FTL and its concession extends until 2027, renewable for an additional 30 years. As of December 31, 2017, R\$90.7 million in concession payments were outstanding over the remaining 10 years of the concession.

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(ii) Northeastern Railway System II, which is under construction by our jointly controlled investee TLSA, will encompass the new network, covering the stretches between the cities of Missão Velha – Salgueiro, Salgueiro – Trindade, Trindade – Eliseu Martins, Salgueiro – Porto de Suape and Missão Velha – Porto de Pecém, with an expected extension of 1,753 km that will connect the interior of Northeast Brazil to Pecém and Suape Ports. As of December 31, 2017, we held 46.30% of the capital stock of TLSA and its concession extends until the earlier of 2057 or the date when TLSA reaches a rate of annual return of 6.75% of its invested capital.

In September 2013, we entered into an investment agreement, or the TLSA Investment Agreement, with our partners in TLSA, Valec Engenharia, Construções e Ferrovias S.A., or Valec, and Fundo de Desenvolvimento do Nordeste, or FDNE, two Brazilian government entities focused on infrastructure and the development of the northeastern region. Under the TLSA Investment Agreement we and our partners agreed on a budget of R\$7.5 billion to complete the construction of the Northeastern Railway System II. A revised budget of approximately R\$11.2 billion has been already approved by FINOR, or Fundo de Investimentos do Nordeste, and it is currently being revised and under approval by FDNE. If the construction of Northeastern Railway System II requires funds in addition to the budget, they will be provided by us or third parties under trackage right agreements.

The TLSA Investment Agreement also provides for indicative terms and conditions, including amounts, under which Banco Nacional de Desenvolvimento Econômico e Social – BNDES, agreed to provide long-term financing for the completion of Northeastern Railway System II. Although we have received indicative terms, the financing is subject to several conditions, including the satisfactory completion of internal and credit approval processes by lenders. If any of the conditions are not met, including final credit approval by the lenders in terms and costs reasonable to us, we may not be able to obtain the financing. The other long-term financing from FDNE and FNE, or Fundo Constitucional de Desenvolvimento do Nordeste, has been already taken by TLSA.

The TCU – Tribunal de Contas da União - has initiated a proceeding questioning the legality of certain aspects of the concession contract for the Northeastern Railway System II, which has contributed to a slow pace of construction of the new tracks, and the ANTT has initiated a proceeding claiming TLSA did not comply with the terms of the concession contract for the Northeastern Railway System I. In April 2017, the Brazilian government created an inter-ministerial working group comprised of various government representatives in order to identify and implement alternatives to continue the Northeastern Railway System projects, which may include the settlement of the TCU and ANTT proceedings. See "Item 8A. Financial Information—Consolidated Statements and Other Financial Information—Legal Proceedings—Northeastern Railway System Proceedings."

#### Port Facilities

#### Solid Bulks Terminal

We operate an integrated and modern logistics structure. Part of this structure includes the operation of TECAR through a concession renewed in 2015 and expiring in 2047.

TECAR is connected to road and rail systems across Southeastern Brazil and is one of the four port terminals that make up the Port of Itaguaí facilities. With a strategic location and a total area of 740,761 m², the terminal consists of a concrete molded berthing pier superposed on jacketed stilts connected to the mainland by an access bridge perpendicular to the berthing pier. Its backyard includes conveyor belts, an internal road system, bulk storage yards, a railway looping, as well as industrial and administrative facilities.

Our imports of coal and coke and exports of iron ore occur through this terminal. Under the terms of the concession, we have the obligation to unload at least 3.0 million tons of coal and coke annually and, as of 2020, to ship 38.4 million tons of iron ore annually.

#### Container Terminal

We own 99.99% of TECON, which holds a concession to operate, for a 25-year term (which can be renewed for up to 70 years), the container terminal at the Itaguaí Port, located in the state of Rio de Janeiro. As of December 31, 2017, R\$263 million of the cost of the concession was outstanding and payable over the remaining 9 years of the concession.

The Itaguaí Port is located in Brazil's Southeast region, with all major exporting and importing areas in the states of São Paulo, Minas Gerais and Rio de Janeiro within 500 km. In 2014, this area represented more than 55% of the Brazilian GDP, according to the Brazilian Geography and Statistics Institute (*Instituto Brasileiro de Geografia e Estatística*), or IBGE.

In the past few years, significant investments in port infrastructure projects were made, including expansion of the maritime access channel to the Port of Itaguaí, duplication of the Rio-Santos road, and the Rio de Janeiro metropolitan

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bypass, which is a beltway that crosses the Rio de Janeiro metropolitan area. Favorable natural conditions, like deep waters and a low urbanization rate around the Port of Itaguaí allow large vessels to operate and also allow for highly competitive prices for services rendered.

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Container Terminal 88

After TECON's investments in infrastructure and equipment, which increased our capacity to 440,000 containers (660,000 TEUs) per year, new improvements were achieved in 2016 and 2017, which increased the terminal's service level and productivity.

TECON handled 188,000 containers, 989,000 tons of steel products and 9,000 tons of general cargo in 2017. Its volume increased 34% in 2017 due to new services on the routes from Asia and the Mediterranean.

# **Our Cement Segment**

Our cement segment is comprised of cement plant in Volta Redonda, in the state of Rio de Janeiro, and in Arcos, in the state of Minas Gerais.

In 2015, two new grinding facilities were delivered in Arcos, increasing its annual capacity by 2.3 million tons of cement. In 2016, a new clinker kiln line was delivered allowing CSN to achieve self-sufficiency in the production of this raw material.

#### **Production**

Our cement production takes place at Volta Redonda and Arcos and begins with the influx of raw materials comprising clinker, limestone, gypsum and slag. The clinker is produced in our plant in Arcos, where limestone, clay and other correctives such as iron ore and bauxite are ground in a raw mill and calcined inside the kiln. The clinker and limestone are stored in silos and warehouses and come in part from Arcos to Volta Redonda by rail. Slag is a by-product of iron and steel, produced in the blast furnace, and is also stored in the warehouse, arriving at the plant by road. CSN uses natural gypsum, which arrives at the plant by truck and is stored in the warehouse.

All transportation of raw materials within the plant is carried out by conveyor belts, placing inputs in scales according to a predefined formula and delivering them to the mills. In Volta Redonda, there are two grinding lines and each mill has a nominal capacity of 170 tons/h and in Arcos the other two grinding lines have a nominal capacity of 160 tons/h each, resulting in an annual plant capacity of 2.4 million tons of cement in Volta Redonda and 2.3 million tons in Arcos. The mill has a hydraulic roller system, which uses pressure to grind the layer of material on the turntable. In Volta Redonda, a hot gas, derived from the combustion of natural gas or petroleum coke, is used in the mills to dry materials.

The types of cement we produce are: CP III-40 RS, CP II-E-32, CP II-E-40 and CP II-F in bagged and bulk forms. Our Volta Redonda plant has four silos, two of them with 10,000 tons of capacity and two with 5,000 tons of capacity. Our Arcos plant has a silo with 7 chambers and 28,000 tons of total capacity. Cement can be shipped in bagged and bulk forms.

# **Our Energy Segment**

Our energy segment is comprised of generation plants and is aimed at enabling us to maintain our self-sufficiency in energy, reducing our production cost and our exposure to fluctuations or availability of certain energy sources.

Our energy related assets include:

## Thermoelectric Co-Generation Power Plant

We completed the construction of a 235.2 MW thermoelectric co-generation power plant at the Presidente Vargas Steelworks in December 1999. Aside from operational improvements, the power plant supplies our strip mills with electric energy, processed steam and forced air from the blast furnaces, benefiting the surrounding environment through the elimination of flares that burn steel-processing gases into the atmosphere. In addition, we installed a new turbine generator in 2014, which added 21 MW to our existing installed capacity. This turbine is located near our Blast Furnace No. 3, and uses the outlet gases from the iron making process to generate electricity.

# Itá Hydroelectric Facility

CSN and ENGIE each own 48.75% of ITASA, a special-purpose company formed for the purpose of owning and operating, under a 30-year concession granted in 2000, 60.5% of the Itá hydroelectric facility on the Uruguay river in Southern Brazil. Companhia de Cimento Itambé, or Itambé, owns the remaining 2.5% of ITASA. ENGIE directly owns the remaining 39.5% of the Itá hydroelectric facility.

The power facility was built using a project finance structure with an investment of approximately US\$860 million. The long-term financing for the project was closed in March 2001 and consisted of US\$78 million in debentures issued by ITASA, a US\$144 million loan from private banks and US\$116 million of direct financing from BNDES, all of which were paid in February 2013. The sponsors of the project have invested approximately US\$306 million in this project.

Itá has an installed capacity of 1,450 MW, and became fully operational in March 2001.

# Igarapava Hydroelectric Facility

We own 17.9% of a consortium that built and has the right to operate for 30 years the Igarapava hydroelectric facility, which has an installed capacity of 210 MW. Other consortium members are Aliança, Votorantim Metais Zinco and AngloGold Ashanti Mineração Ltda.

# Marketing, Organization and Strategy

#### Flat Steel

Our steel products are sold both domestically and abroad as a raw material for several manufacturing industries, including the automotive, home appliance, packaging, construction and steel processing industries.

Our sales approach involves establishing brand loyalty and achieving a reputation for quality products by developing relationships with our clients, focusing on their specific needs and providing tailor-made solutions.

Our commercial area is responsible for sales of all our products. This area is divided into two major teams, one focused on sales in international markets and the other on sales in the domestic market. The domestic market sales team covers seven market divisions: packaging, distribution network, automotive industry (automakers and auto parts), home appliances, general industry, construction and pipes. We also have a team responsible for selling all process residues, which include blast furnace slag, pitch and ammonia, which are widely used as inputs in chemical and cement industries.

The distribution network division is responsible for supplying large steel processors and distributors. In addition to independent distributors, we count with our own distributor, Prada Distribuição. The pipes division supplies oil and gas pipe manufacturers as well as industries that produce small diameter pipe and light profiles. The packaging division acts in an integrated way with suppliers, representatives of the canning industry and distributors to respond to customer needs for finished products. We supply the automotive division from a specialized mill, CSN Porto Real, and also by a portion of the galvanized material produced at Presidente Vargas Steelworks, thereby benefitting from a combined sales strategy.

Historically, our sales in international markets were primarily through international brokers. However, as part of our strategy to establish direct, longer-term relationships with end-users, we have decreased our reliance on these brokers and have instead focused on direct sales to more profitable international markets.

All of our sales are on an order basis and have an average delivery time of 45 days. As a result, our production levels closely reflect our order log book status. We forecast sales trends in both the domestic and international markets based on historical data and general economic outlooks. We have our own data systems to remain informed of worldwide and Brazilian market developments. Our management believes that a key to our success is maintaining our presence in international markets, which provide us flexibility to shift between domestic and international markets depending on

how favorable conditions are.

Unlike other commodity products, steel is not traded on an exchange, nor is there uniform pricing, due to wide differences in size, quality and specifications. In general, we price exports based on international spot prices of steel at the time of sale in U.S. dollars or euros, depending on the destination. Sales are normally paid up front, or within 14 or 28 days, and, in the case of exports, usually backed by a letter of credit and an insurance policy. Sales are made primarily on cost and freight terms.

# Sales by Geographic Region

In 2017, we sold steel products to customers in Brazil and 29 other countries. The fluctuations in the portion of total sales assigned to domestic and international markets, which are presented in the table below, reflect our ability to adjust our sales domestic and international sales mix in light of economic conditions, steel demand and prices.

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The two main export markets for our products are Europe and North America, representing approximately 41% and 38%, respectively, of our export sales volume in 2017.

In North America, we operate through our subsidiary CSN LLC, which acts as a commercial channel for our products. We have historically shipped hot-rolled steel sheets and coils to CSN LLC, which then processes and transforms it into higher value-added products at its own plant, including cold-rolled coils and galvanized products. We also export cold-rolled coils directly to CSN LLC, to be sold by them or processed to manufacture galvanized products.

## CSN - Sales of All Steel Products by Destination

(in thousands of tons and millions of R\$)

			2017				2016				2015	
	Tons	% of Total	Net Operating Revenues <sup>(2)</sup>	% of Total	Tons	% of Total	Net Operating Revenues <sup>(2)</sup>	% of Total	Tons	% of Total	Net Operating Revenues <sup>(2)</sup>	% of Total
Brazil	2,841	58%	7,819	60%	2,784	57.31%	6,815	60.82%	2,968	59.50%	6,612	60.40%
Export	2,081	42%	5,140	40%	2,073	42.69%	4,391	39.18%	2,023	40.50%	4,332	39.60%
Total	4,922	100%	12,959	100%	4,857	100%	11,205	100%	4,990	100%	10,944	100%
<b>Exports by</b>												
Region												
Asia	13	1%	23	1%	18	1%	31	1%	9	0%	17	0%
North America <sup>(1)</sup>	651	31%	2,009	39%	759	36.62%	1,802	41.05%	802	39.70%	1,834	42.30%
Latin America	180	9%	507	10%	95	4.58%	260	5.91%	115	5.70%	376	8.70%
Europe	1,223	59%	2,565	49%	1,189	57.34%	2,269	51.69%	1,090	53.90%	2,087	48.20%
All Others	14	1%	36	1%	12	1%	29	1%	7	0%	18	0%
(1) Sales to	Mexico	o are in	icluded in Nor	th Ame	erica.							

<sup>(2)</sup> Net operating revenues presented above differ from amounts in our IFRS consolidated financial statements because they do not include revenues from non-steel products (non-steel products include mainly by-products, iron ore, logistics services and cement).

#### Sales by Product

The following table sets forth our sales breakdown by product in Brazil in each of the last three years:

CSN Domestic Sales Breakdown	2017	2016	2015
Hot-Rolled Products	34%	33%	36%
Cold-Rolled Products	18%	18%	