Company overview

History and development of the Company

ArcelorMittal is the world's leading integrated steel and mining company. It results from the merger in 2007 of its predecessor companies Mittal Steel Company N.V. and Arcelor, each of which had grown through acquisitions over many years. Since its creation ArcelorMittal has experienced periods of external growth as well consolidation and deleveraging (including through divestments), the latter in particular during the years following the global financial and economic crises of 2008-2010. In recent years ArcelorMittal has punctuated its overall deleveraging focus with targeted acquisitions. These have included the acquisition through a joint venture of the Calvert plant in the United States in 2014 and, in 2018 the acquisition of AMSF in Brazil and ArcelorMittal Italia in Italy, Europe's largest single steel site. In 2019, the Company completed its acquisition of AMNS India through a joint venture with NSC. For more information on the key transactions carried out in 2019, see "—Key transactions and events in 2019" below.

ArcelorMittal's success is built on its core values of sustainability, quality and leadership and the entrepreneurial boldness that has empowered its emergence as the first truly global steel and mining company. Acknowledging that a combination of structural issues and macroeconomic conditions will continue to challenge returns in its sector, the Company has adapted its footprint to the new demand realities, redoubled its efforts to control costs and repositioned its operations with a view toward outperforming its competitors. ArcelorMittal's research and development capability is strong and includes several major research centers as well as strong academic partnerships with universities and other scientific bodies.

Against this backdrop, ArcelorMittal's strategy is to leverage four distinctive attributes that will enable it to capture leading positions in the most attractive areas of the steel industry's value chain, from mining at one end to distribution and first-stage processing at the other: global scale and scope; superior technical capabilities; a diverse portfolio of steel and related businesses, one of which is mining; and financial capabilities.

Geography: ArcelorMittal is the largest steel producer in the Americas, Africa and Europe and is the fifth largest steel producer in the CIS region. ArcelorMittal has steel-making operations in 18 countries on four continents, including 46 integrated and mini-mill steel-making facilities. As of December 31, 2019, ArcelorMittal had approximately 191,000 employees.

ArcelorMittal's steel-making operations have a high degree of geographic diversification. Approximately 37% of its crude steel is produced in the Americas, approximately 49% is produced in Europe and approximately 14% is produced in other countries, such as Kazakhstan, South Africa and Ukraine. In addition, ArcelorMittal's sales of steel products are spread over both developed and developing markets, which have different consumption characteristics. ArcelorMittal's mining operations, present in North and South America, Africa, Europe and the CIS region, are integrated with its global steel-making facilities and are important producers of iron ore and coal in their own right.

Products: ArcelorMittal produces a broad range of high-quality finished and semi-finished steel products ("semis"). Specifically, ArcelorMittal produces flat steel products, including sheet and plate, and long steel products, including bars, rods and structural shapes. In addition, ArcelorMittal produces pipes and tubes for various applications. ArcelorMittal sells its steel products primarily in local markets and through its centralized marketing organization to a diverse range of customers in approximately 160 countries including the automotive, appliance, engineering, construction and machinery industries. The Company also produces various types of mining products including iron ore lump, fines, concentrate and sinter feed, as well as coking, PCI and thermal coal.

As a global steel producer, the Company is able to meet the needs of different markets. Steel consumption and product requirements clearly differ between developed markets and developing markets. Steel consumption in developed economies is weighted towards flat products and a higher value-added mix, while developing markets utilize a higher proportion of long products and commodity grades. To meet these diverse needs, the Company maintains a high degree of product diversification and seeks opportunities to increase the proportion of higher value-added products in its product mix.

Automotive focus: ArcelorMittal has a leading market share in its core markets in the automotive steel business and is a leader in the fast-growing advanced high strength steels segment. ArcelorMittal is the first steel company in the world to embed its own engineers within an automotive customer to provide engineering support. The Company begins working with original equipment manufacturers ("OEMs") as early as five years before a vehicle reaches the showroom, to provide generic steel solutions, co-engineering and help with the industrialization of the project. In November 2016, ArcelorMittal introduced a new generation of advanced high strength steels, including new press hardenable steels and martensitic steels. Together, these new steel grades aim to help automakers further reduce body-in-white weight to improve fuel economy without compromising vehicle safety or performance. In November 2017, ArcelorMittal launched the second generation of its iCARe® electrical steels. iCARe® steel grades play a central role in the construction of electric motors.

Mining Value Chain: ArcelorMittal has a significant portfolio of raw material and mining assets. In 2019, approximately

52% of ArcelorMittal's iron-ore requirements and approximately 12% of its PCI and coal requirements were supplied from its own mines. The Company currently has iron ore mining activities in Brazil, Bosnia, Canada, Kazakhstan, Liberia, Mexico, Ukraine and the United States. The Company currently has coal mining activities in Kazakhstan and the United States.

In addition, ArcelorMittal produces substantial amounts of direct reduced iron, or DRI, which is a scrap substitute used in its mini-mill facilities to supplement external metallics purchases. ArcelorMittal is also a significant producer of coke, which is produced from metallurgical coal and is a critical raw material for steel-making, satisfying 95% of its coke needs through its own production facilities. ArcelorMittal's facilities have good access to shipping facilities, including through ArcelorMittal's own, or partially owned, 15 deep-water port facilities and linked railway sidings.

ArcelorMittal has its own downstream steel distribution business, primarily run through its Europe segment. It also provides value-added and customized steel solutions through additional processing activities to meet specific customer requirements.

Cautionary statement regarding forward-looking statements

This annual report and the documents incorporated by reference in this annual report contain forward-looking statements based on estimates and assumptions. This annual report contains forward-looking statements within the meaning of the Private Securities Litigation Reform Act of 1995. Forward-looking statements include, among other things, statements concerning the business, future financial condition, results of operations and prospects of ArcelorMittal, including its subsidiaries. These statements usually contain the words "believes", "plans", "expects", "anticipates", "intends", "estimates" or other similar expressions. For each of these statements, you should be aware that forward-looking statements involve known and unknown risks and uncertainties. Although it is believed that the expectations reflected in these forward-looking statements are reasonable, there is no assurance that the actual results or developments anticipated will be realized or, even if realized, that they will have the expected effects on the business, financial condition, results of operations or prospects of ArcelorMittal.

These forward-looking statements speak only as of the date on which the statements were made, and no obligation has been undertaken to publicly update or revise any forward-looking statements made in this annual report or elsewhere as a result of new information, future events or otherwise, except as required by applicable laws and regulations. A detailed discussion of principal risks and uncertainties which may cause actual results and events to differ materially from such forward-looking statements is included in the section titled "Risk related to the global economy and the mining and steel industry". The Company undertakes no obligation to update or revise publicly any forward-looking statements whether because of new information, future events, or otherwise, except as required by securities and other applicable laws.

Corporate and other information

ArcelorMittal is a public limited liability company (*société anonyme*) that was incorporated for an unlimited period under the laws of the Grand Duchy of Luxembourg on June 8, 2001. ArcelorMittal is registered at the R.C.S. Luxembourg under number B 82.454.

The mailing address and telephone number of ArcelorMittal's registered office are:

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ArcelorMittal's agent for U.S. federal securities law purposes is:

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Internet site

ArcelorMittal maintains an Internet site at www.arcelormittal.com. Information contained on or otherwise accessible through this Internet site is not a part of this annual report. All references in this annual report to this Internet site are inactive textual references to this URL and are for information only.

Business overview

The following discussion and analysis should be read in conjunction with ArcelorMittal's consolidated financial statements and related notes for the year ended December 31, 2019 included in this annual report.

Key factors affecting results of operations

The steel industry, and the iron ore and coal mining industries, which provide its principal raw materials, have historically been highly cyclical. They are significantly affected by general economic conditions, consumption trends as well as by worldwide production capacity and fluctuations in international steel trade and tariffs. This is due to the cyclical nature of the automotive, construction, machinery and equipment and transportation industries that are the principal consumers of steel. A telling example of the industry cyclicality was the sharp downturn in 2008/2009 after several strong years, which was a result of the global economic crisis. Such cyclicality, though to a lesser degree than in 2008/2009, was seen again in the downturns experienced in 2015 and 2019.

Weakness in North American and European markets have a significant impact on ArcelorMittal's results, with these markets together accounting for over 60% of ArcelorMittal's deliveries in 2019, despite demand declining in both markets. In the European Union ("EU"), 2019 was the first year to show a decline in demand since 2012, when the onset of the eurozone crisis caused European apparent steel demand to decline over 10%. Since then, EU steel demand rebounded by 18% until 2018, returning to the average demand levels seen during the period between 2000 to 2005 but remaining almost 20% below 2007 peak levels. During this same period, import competition also increased, with imports more than doubling since 2012 to over 31 million tonnes in 2018, meaning domestic European deliveries have lost market share, impacting the ability of ArcelorMittal to serve its largest market. Steel demand fell by around 4% in the EU in 2019 as underlying real demand declined by approximately 2.5%, driven by macroeconomic headwinds including declining automobile production, coupled with significant destocking, which negatively impacted apparent steel demand by a further 2%. Underlying steel demand in the United States increased strongly following the 2008/2009 financial crisis, but apparent demand has been affected by inventory movements, since demand peaked in 2014. Although the decline in apparent demand for flat products in 2019 at around -4.7% was less severe than the decline in 2015 (-8.6%) and both of these declines were exacerbated by significant destocking. This was due to underlying real steel demand weakening more than was anticipated at the start of the year, coupled by steel prices falling from high levels, resulting in stockists and later end-users, reducing inventory levels, which negatively impacted the Company's deliveries and profitability. Although the Company does not anticipate an economic recession in the United States over the next twelve months, as the country is in the longest economic expansion on record and given the frailty of the current global economic outlook, any new economic downturn could significantly impact ArcelorMittal's deliveries and profitability.

See "Risks related to the global economy and the mining and steel industry."

Demand dynamics in China have also substantially affected the global steel business. Historically, after growing strongly since 2000, Chinese steel demand started to decline in 2015 because of weaker real estate sector construction and machinery production. This decline in domestic demand led to a surge in Chinese steel exports, which more than doubled between 2012 and 2015, increasing by over 56 million tonnes to 112 million tonnes in 2015. This increase in Chinese exports was greater than the growth in world ex-China steel demand over the same period, and had the effect of curtailing domestic production in countries outside of China. A rebound in domestic demand and the beginning of a capacity reduction plan in China in the second half of 2016 led to a decline in exports, by 14% year-on-year in the second half of 2016 and by 3% for the year as whole. While most exports were directed to Asia, and exports to the U.S. were limited due to the impact of anti-dumping trade cases, a declining but still significant proportion were directed toward ArcelorMittal's core European markets in 2016. Indeed, Chinese exports in 2015 were being sold at prices below cost (China Iron and Steel Association (CISA) reported CISA mills losing an accumulated RMB 65 billion ($10 billion) in 2015), negatively impacting prices and therefore margins in many regions. Chinese producers continued to accumulate losses until April 2016 when domestic and export prices rose sharply as domestic demand surprised producers on the upside, increasing capacity utilization. Between mid 2016 and early 2018, significant capacity had been closed, consisting of over 150 million tonnes of legal blast furnace capacity and an estimated 120 million tonnes of illegal induction furnaces. This led to a significantly higher capacity utilization rate, despite a 40 million tonnes reduction in exports over the past few years, translating into an improved domestic spread of steel prices over raw material costs, and therefore higher export prices. Starting in October 2017, this situation, combined with environmental policies which led to temporary capacity restrictions over the winter period, caused even higher utilization rates in China and an even higher spread of steel prices over raw materials. Prices have since fallen back as these temporary capacity restrictions have been less strictly enforced and the risk of continued capacity increases remains. The Company expects Chinese steel demand to grow in 2020 within a range of +0.0% to +1.0% (versus estimated growth of +3.2% in 2019) driven by robust real estate activity and given the Company's current view on the Coronavirus. This may be revised downward due to the impact of the Coronavirus on Chinese demand and the knock-on impact elsewhere. However, demand is eventually expected to decline as infrastructure spending has been front-loaded and real estate demand structurally weakens due to lower levels of rural-urban migration. If this does not coincide with renewed capacity closures, this is expected to have a

negative impact on steel prices and spreads. See "—Risks related to the global economy and the mining and steel industry—Excess capacity and oversupply in the steel industry and in the iron ore mining industry have in the past and may continue in the future to weigh on the profitability of steel producers, including ArcelorMittal."

Unlike many commodities, steel is not completely fungible due to wide differences in its shape, chemical composition, quality, specifications and application, all of which affect sales prices. Accordingly, there is still limited exchange trading and uniform pricing of steel, whereas there is increasing trading of steel raw materials, particularly iron ore. Commodity spot prices can vary, which causes sale prices from exports to fluctuate as a function of the worldwide balance of supply and demand at the time sales are made.

ArcelorMittal's sales are made based on shorter-term purchase orders as well as some longer-term contracts to certain industrial customers, particularly in the automotive industry. Steel price surcharges are often implemented on steel sold pursuant to long-term contracts to recover increases in input costs; however longer term contracts with low steel prices will not reflect increases in spot steel prices that occur after contract negotiation. Spot market steel, iron ore and coal prices and short-term contracts are more driven by market conditions.

One of the principal factors affecting the Company's operating profitability is the relationship between raw material prices and steel selling prices. Profitability depends in part on the extent to which steel selling prices exceed raw material prices, and specifically the extent to which changes in raw material prices are passed through to customers in steel selling prices. Complicating factors include the extent of the time lag between (a) the raw material price change and the steel selling price change and (b) the date of the raw material purchase and of the actual sale of the steel product in which the raw material was used (average cost basis). In recent periods, steel selling prices have not always been correlated with changes in raw material prices, although steel selling prices may also be impacted quickly due in part to the tendency of distributors to increase purchases of steel products early in a rising cycle of raw material prices and to hold back from purchasing as raw material prices decline. With respect to (b), as average cost basis is used to determine the cost of the raw materials incorporated, inventories must first be worked through before a decrease in raw material prices translates into decreased operating costs. In some of ArcelorMittal's segments, in particular Europe and NAFTA, there are several months between raw material purchases and sales of steel products incorporating those materials. Although this lag has been reduced recently by changes to the timing of pricing adjustments in iron ore contracts, it cannot be eliminated and exposes these segments' margins to changes in steel selling prices in the interim (known as a "price-cost squeeze"). This lag can result in inventory write-downs, as occurred in 2015 and 2019 due to sharp declines in steel prices. In addition, decreases in steel prices may outstrip decreases in raw material costs in absolute terms, as has occurred numerous times over the past few years, for example throughout 2019 as well as the fourth quarters of 2015, 2016 and 2018.

The Company's operating profitability has been particularly sensitive to fluctuations in raw material prices, which have become more volatile since the iron ore industry moved away from annual benchmark pricing to quarterly pricing in 2010. Volatility on steel margins aside, the results of the Company's mining segment (which sells externally as well as internally) are also directly impacted by iron ore prices, which decreased significantly in 2015, ending the year at $40 per tonne ("/t") and averaging only $56/t. Iron ore (62% Fe) prices rebounded from $40/t during December 2015 to an average of $58/t during 2016, and the upward trend continued into the first quarter of 2017 with an average of $86/t, and then fluctuated between $60-75/t during most of the following two years, leading to an annual average of $71/t in 2017 and $69/t in 2018. Vale's Brumadinho dam disaster at the end of January 2019, coupled with strong steel production in China during the first half of 2019, pushed the price up to highs above $120/t in July. Vale managed to bring back 35 million tonnes of supply by the end of 2019, allowing the price to decline to an average of $92/t during December 2019 as supply better matched levels of demand. Iron ore prices have so far remained slightly above these levels during January 2020 but should iron ore prices decline significantly from these levels as further supply is brought online and especially if Chinese demand weakens, this would negatively impact ArcelorMittal's revenues and profitability. See Risks related to the global economy and the mining and steel industry—Protracted low steel and iron ore prices would likely have an adverse effect on ArcelorMittal's results of operations.

Economic environment

Global growth in 2019 is estimated to have been 2.6% - its lowest level since the global financial crisis ("GFC") in 2008/09. This subdued growth is a consequence of rising trade barriers, elevated uncertainty surrounding trade and geopolitical issues and the impact of prior U.S. interest rate increases which had a tightening effect on financing conditions in emerging economies ("EM"s). A notable feature of the sluggish growth in 2019 was the sharp and geographically broad-based slowdown in manufacturing and global trade. A few factors drove this slowdown, including higher tariffs and prolonged uncertainty surrounding trade policy which dented investment and demand for capital goods that are heavily traded. The automobile industry is continuing to contract due to distinct reasons, including lower demand and disruptions from new emission standards in Europe and China. Consequently, global import volume growth in 2019 declined to less than 1%, the weakest level

since 2015. In contrast to weak manufacturing and trade, the services sector across much of the globe continues to hold up, which has kept labor markets buoyant and wage growth healthy in advanced economies.

U.S. GDP growth decelerated to 2.4% in 2019 from 2.9% in 2018, amid slowing investment and exports as the heightened uncertainty due to trade policy and increasing perceived risk of recession caused businesses to scale back investment. Escalation of the U.S.-China trade conflict led to increased U.S. tariffs of 25% (from 10%) on $250 billion of Chinese imports, and imposed 15% tariffs on an additional $160 billion. While the recent “Phase-One” trade deal with China rolled back some of the tariffs (15% tariff halved to 7.5%), rising tariffs increased trade costs in 2019, while policy uncertainty weighed on investment and confidence. As in many other advanced economies, the U.S. manufacturing sector has been weak, while support from tax cuts and changes in government spending faded and became a drag on growth. Despite these headwinds, the labor market has remained robust and benefited from a rising participation rate. The unemployment rate of 3.5% which was reached at certain points of 2019 was near a decade low and wage growth has been solid, fueling resilient private consumption. However, concerns about the global outlook and persistent below-target inflation have resulted in the Federal Reserve cutting its policy rates by 75 basis points since mid-2019. See "Risks related to the global economy and the mining and steel industry". Unfair trade practices in ArcelorMittal’s home markets could negatively affect steel prices and reduce ArcelorMittal’s profitability, while trade sanctions and barriers may have an adverse effect on ArcelorMittal’s operations in various markets.

After reaching a cyclical peak of 2.7% in 2017, EU GDP growth slowed notably to 2.0% in 2018 and 1.4% in 2019. The main source of the slowdown has been weaker external demand, including from Turkey and Asia, especially China. External trade drove most of the volatility in eurozone growth in recent years, with exports contracting during 2019. While the U.S.-China trade war was partly responsible, exports to Asia have fallen, other impacts include Brexit-related uncertainty and especially Turkey’s recession reducing external demand from the automotive sector, which was exacerbated by the disruption caused by emission standards. Several economies were on the verge of recession at some point during 2019, particularly Germany as its industrial sector was exposed to weakness in external trade and disruptions to car production. By contrast, domestic fundamentals in Europe remain strong, with unemployment having fallen to 6.3% in 2019 the lowest level since the GFC and increasing real wages supporting household consumption. As a result, the European economy remains dominated by the wide divergence between resilient activity in services and a struggling manufacturing sector.

Growth in China slowed from 6.6% in 2018 to a still robust 6.2% in 2019, supported by resilient consumption. Growth has decelerated amid cooling domestic demand and heightened trade tensions, with trade policy uncertainty weighing on sentiment for most of 2019. Industrial production growth has reached multi-year lows (5.5% in 2019) and trade flows have weakened substantially. Imports, especially those of intermediate goods, have declined, falling more than exports, partly reflecting a deceleration in domestic demand. The contraction in exports to the U.S. deepened due to the escalation in trade tensions resulting in new tariffs imposed on Chinese exports to the U.S. (although some tariffs have been reduced since the "Phase-One" trade deal discussed above was reached), though shipments to the rest of the world were somewhat more resilient. In response to the deceleration in activity, monetary policy has become more accommodative, but regulatory tightening to reduce non-bank lending has continued. The government has also stepped up some fiscal measures, including tax cuts and increased bond issuances by the central government to support local governments’ public infrastructure investment spending. As a result, total debt has surpassed 260% of GDP, but the share of non-bank lending has continued to decline.

GDP growth in Brazil slowed slightly to 1.2% in 2019 (compared to 1.3% in 2018), largely due to weak growth in the first half of 2019, reflecting the impact of the iron ore dam disaster (Brumadinho) which caused a contraction in mining output and the recession in Argentina - Brazil’s largest trading partner - leading to weaker export growth. In Russia, growth weakened to 1.3% (compared to 2.3% in 2018) due to slower investment growth as high funding costs due to the risk of further sanctions dampened private investment, while slow implementation of the infrastructure-related national projects impacted public investment. Exports have also fallen, due to lower oil prices, while an increase in VAT negatively impacted private consumption. Following the sharp lira depreciation and associated recession in late-2018, Turkey’s economy recovered during the second half of 2019, with 2019 growth averaging 0.3%, supported by expansionary fiscal policy and rapid credit expansion by state-owned banks. In South Africa, growth remained subdued at 0.3% in 2019 (down from 0.8% in 2018) due to infrastructure bottlenecks - especially in electricity supply - and weakening external demand, particularly from the eurozone and China. Slowing global trade, a weakness in global automotive sales and destocking, have negatively impacted global manufacturing, with output growth slowing in 2019 to an estimated 1.9% (down from 3.8% in 2018). While growth in manufacturing output in China weakened to 5.7% (down from 6.3% in 2018), world-ex China manufacturing output declined by approximately 0.4%. The main impacts came from developed markets, where manufacturing output is estimated to have contracted by approximately 0.9% in 2019, offsetting an estimated 0.8% growth in output from

developing markets ex-China. European manufacturing has been impacted by weakness in automotive production which has impacted Europe more than the U.S., with output estimated to have declined by 0.8% while output in the U.S. was broadly stable in 2019.

Global apparent steel consumption (“ASC”) is estimated to have grown by 1.1% in 2019 following strong growth of 2.4% in 2018. ASC growth in China remained resilient at 3%, primarily driven by construction, supporting robust machinery output, offsetting declining automotive output and slower growth in infrastructure. World-ex China ASC is down by around 0.8% year-on-year. Demand in developing ex-China is estimated to have declined by an estimated 1.2% year-on-year, due to domestic crises in some large emerging markets causing steel demand to decline sharply in Turkey (-10% year-on-year), Iran (-7% year-on-year) and Argentina (-14% year-on-year). This more than offset growth in India (+4% year-on-year), ASEAN (+3% year-on-year) and Russia (+4% year-on-year). In EU28, underlying demand for steel was impacted by weak manufacturing, particularly automotive and machinery, due to weaker external demand and heightened uncertainty related to both the U.S.-China trade conflict and Brexit. Weakness in real demand led to inventory destocking, causing ASC to decline by over 4% in 2019. While underlying demand for steel in the US performed better than EU28, U.S. ASC is estimated to have declined by around 2% year-on-year, with construction performing better than manufacturing. Indeed, due to weaker than expected manufacturing output, and prices declining from elevated levels, stockists reduced inventory levels causing demand for flat products to decline over 4% year-on-year, more than offsetting continued growth in longs.

Sources: GDP and industrial production data and estimates sourced from Oxford Economics January 17, 2020.

Steel production

After growing strongly in 2017 (+6.3%) and 2018 (+4.7%), reaching 1.79 billion tonnes in 2018, world crude steel production in 2019 is estimated to have increased 3.5% year-on-year to 1.85 billion tonnes, primarily driven by increased production in China. In 2019, China accounted for 52% of global steel production, East Asia 12%, EU28 9%, NAFTA 7%, India 6%, CIS 6% and the rest of the world 8%. World ex-China production declined by 1.6% (down 14 million tonnes) as the higher output in the U.S. (+1.5%), India (+1.8%) and Middle East (+20%) was not enough to offset lower output in other developed markets, particularly in the EU (-4.9%) and Developed Asia (-3.6%), and in some emerging markets, including Turkey (-9.6%) and South America (-8.4%).

Chinese steel production data over the past few years has been subject to increased uncertainty due to under-reporting, particularly at illegal induction furnaces ("IF"s) after most were closed during 2017. Since IF production was mostly unrecorded in the official figures previously, and this production has moved to mills whose production is recorded officially, it led to official estimates of production growing more strongly than actual production output as estimated by ArcelorMittal. Although the Company believes that the most recent production data is broadly accurate, it estimates that production was under-recorded until mid-2018, meaning that the World Steel Association's growth rate of 8.3% in 2019 is overstated (as are growth rates in 2017 and 2018). ArcelorMittal's crude steel production estimates are consistent with its belief that Chinese steel demand grew just over 3%, supported by the Company's proprietary bottom-up steel demand modeling, as well as China’s production and trade in raw materials and metallics.

World ex-China steel production declined in 2019 as production in all major regions either fell or stagnated, except for the Middle East, where output rose by 7.3 million tonnes, largely due to Iran, where output grew more than 30% year-on-year. In 2018, production in the EU28 (168 million tonnes) was curtailed by increased import penetration despite continued demand growth and due to weakness in German steel production. In 2019, while a sharp fall in domestic European steel prices led to lower import penetration, steel production in EU28 declined by approximately 9 million tonnes to 159 million tonnes as the weakness in industrial output, particularly automotive production, led to much weaker steel demand. In North America, strong production growth in 2018 (4.4% year-on-year) was driven by U.S. fiscal stimulus and supported by Section 232 applied tariffs and quotas on steel imports. As the impact of the U.S. fiscal stimulus faded and North America steel demand fell, steel production in 2019 declined slightly (-0.8% year-on-year) due to weaker manufacturing with lower production in Mexico (-8.0%) and Canada (-4.9%) more than offsetting growth in the U.S. (+1.5%). The decline in steel output in South America was mainly caused by a 9% decline in Brazil production (down 3.2 million tonnes). Production in Developed Asia fell by 3.6% year-on-year (down 7 million tonnes), particularly Japan (-4.8%) and South Korea (-1.5%). Weakness in CIS steel production is due to persistent weakness in Ukrainian steel production (2019 production of 21 million tonnes is one third below the 2011 peak of 35 million tonnes), while Russian production declined slightly to 71.2 million tonnes from its historically high production in 2018 (approximately 72 million tonnes). After increasing 13.1% year-on-year to a record 37.5 million tonnes in 2017, Turkish steel production fell significantly to 33.4 million tonnes in 2019 as the economy suffered from a domestic recession triggered by a lira crisis in late 2018 which led to a collapse in domestic demand, especially in the construction sector.

Annual Global production data above is estimated using the 63 countries for which monthly production data is published by the World Steel Association.

Steel prices

Flat products

Steel prices for flat products in Europe were stable in Southern Europe and on a slight upward trend in Northern Europe during the first quarter of 2017 compared to December 2016. Prices of hot rolled coil ("HRC") increased in Northern Europe by €69/t quarter-on-quarter and in Southern Europe by €63/t quarter-on-quarter. Prices weakened in the second quarter of 2017 with an average price decline of €47/t in Europe. The average HRC prices for the first half of 2017 were at €545/t in Northern Europe and €513/t in Southern Europe compared to the first half of 2016. Prices bottomed out in July 2017, thus the downtrend reversed during August and September 2017. In the third quarter of 2017, spot HRC prices in Northern Europe remained €5/t below the second quarter 2017 average, and in Southern Europe there was an average increase of €9/t quarter-on-quarter.

There was little fluctuation in prices in the fourth quarter of 2017, with a quarter-on-quarter improvement of €22/t in Northern Europe and €11/t in Southern Europe. HRC prices during the second half of 2017 increased €65/t in Northern Europe and €67/t in Southern Europe compared to the second half of 2016.

In the first quarter of 2018, steel prices for flat products in Europe continued their steady upward trend which started in November 2017. HRC prices peaked towards the end of March at €574/t in Northern Europe. In Southern Europe, HRC prices increased from €519/t in January to €558/t at the beginning of March. In the second quarter of 2018, prices decreased sharply in USD terms following the international market trend. However, the depreciation of the euro against the USD helped sustain domestic HRC prices in euro terms, with a low of €561/t in Northern Europe at the beginning of June 2018, €13 below its peak in April 2018. In Southern Europe, HRC prices bottomed out at €514/t by mid-June 2018 from a peak of €544/t in April 2018. Average HRC prices were €564/t in Northern Europe and €538/t in Southern Europe for the first half of 2018, compared to €545/t in Northern Europe and €513/t in Southern Europe for the first half of 2017. The provisional safeguard measures and tariff rate quotas implemented in July 2018 did not create a tangible effect on market protection in Europe and there was very limited improvement in flat products prices during the third quarter of 2018. In Northern Europe HRC prices increased slightly in euro terms compared to the June level but only to reach a quarterly average of €566/t representing a €1/t decrease quarter-on-quarter, while in Southern Europe the price improvement averaged at €537/t representing a €7/t increase over the second quarter level. In USD terms, however, prices declined across the regions due to further euro depreciation against USD. Market seasonality, high inventory levels and imports pressured prices during the fourth quarter of 2018 and HRC prices declined in euro and USD terms both in Northern Europe by €18/t to €548/t and in Southern Europe by €38/t to €499/t compared to the third quarter of 2018 average levels. Overall, the second half 2018 HRC prices averaged at €557/t in Northern Europe and at €518/t in Southern Europe, corresponding to a €30/t and €13/t year-on-year increase, respectively.

In the first quarter of 2019, steel prices for flat products in Europe continued their steady downward trend which started in September 2018. The prices of HRC in Northern Europe reached €517/t in January 2019, finishing the quarter €8/t lower, at €509/t. The decrease was attributable to weak domestic demand in the beginning of the year, high levels of inventories and the influence of declining international steel prices. In Southern Europe, HRC prices followed an inversed trend starting at €470/t in January and closing the quarter at €486/t, €16/t higher. This inversed trend was partially driven by a stronger demand in Southern Europe and partially by the Turkish imports that were entering the Italian market with higher price ranges between €495/t-€500/t Cost, Insurance and Freight Free Out ("CIFFO") effective. Domestic mills followed the Turkish import prices.

In the second quarter of 2019, prices in Northern Europe continued to decrease and ended the quarter at €487/t, which was €11/t lower compared to April 2019. HRC prices in the Southern regions followed the same trend from the previous quarter peaking in June at €472/t, from €469/t in April. Turkish suppliers continued with their export offers of €470/t-€480/t CIFFO effective into Italy and Iberia, providing room for further increases in Southern European domestic prices, given there was no import price pressure. The average HRC prices for the first half of 2019 were €499/t in Northern Europe and €472/t in Southern Europe, which were accordingly €65 and €66/t lower than in the first half of 2018.

Flat products prices continued to slide down in the third quarter of 2019, impacted by soft demand and weakening international raw material prices. HRC in Northern Europe had several trenches of price drops, ending the quarter at €469/t, which was €18/t lower versus the previous quarter. In Southern Europe the price of HRC averaged €453/t, which was €19/t lower compared to the second quarter of 2019. Market seasonality, high inventory levels and import pressure during the fourth quarter of 2019 pushed the HRC prices on a downward spiral. Several attempts of price increases were rejected by the market, as real demand in Europe was weak. In Northern Europe, HRC prices ended the fourth quarter at €431/t, which was €38 lower quarter-on-quarter and in Southern Europe, HRC averaged €413/t in the fourth quarter of 2019, €40/t lower than the previous quarter. In the second half of 2019, HRC prices averaged €450/t in Northern Europe and €433/t in Southern Europe respectively €107/t and €85/t lower than the second half of 2018.

In the United States, HRC spot prices increased during the first quarter of 2017 by an average of $106/t quarter-on-quarter. Price levels improved sharply during January, had stability during February and peaked at $725/t by end of March 2017, to reach their highest average level since September 2014. During the second quarter of 2017, HRC spot prices decreased $11/t quarter-on-quarter, with progressive declines until the first week of June 2017, but were followed by a price pickup, sustained by declining inventories and improved international market sentiment. The average HRC price in the United States during the first half of 2017 was $688/t compared to the first half of 2016 at $547/t. The HRC spot price slightly improved in July and August, and stabilized towards the end of the third quarter of 2017, increasing $4/t quarter-on-quarter. Slight declines were recorded during October, but prices picked up during November and December to reach $704/t by the end of 2017. The average prices during the fourth quarter of 2017 decreased $2/t quarter-on-quarter. Overall, in the second half of 2017 prices averaged at $686/t, representing a $68/t increase compared to the second half of 2016.

In the United States, as a consequence of the then-ongoing Section 232 national security investigation which started in April 2017 and the expectation of the imminent implementation of import tariffs on steel, spot HRC prices increased sharply during the first quarter of 2018. Before the release of the investigation report by the Department of Commerce on February 16, 2018, HRC prices reached $830/t from $723/t at the beginning of January 2018. After the release of the report that recommended tariffs in the range of 24 to 53%, prices spiked further to $936/t at the beginning of March 2018. The increase slowed down as 25% tariffs and exceptions went into effect during March 2018, closing the month at a high of $960/t. In the second quarter of 2018, HRC prices surpassed the $1,000/t level in the United States, peaking at $1,012/t by the end of June. The average HRC prices were $907/t for the first half of 2018 in the United States, as compared to $688/t for the first half of 2017, corresponding to a $219/t increase year-on-year. HRC prices hit a 10 year high of $1,014/t at the beginning of July 2018 in the United States. However, market seasonality and weakening of the international prices in the second part of the year coupled with an increase in the domestic capacity utilization rate (thus an increase in domestic supply), resulted in consistent price deterioration, with HRC prices falling to $799/t by the end of the year. Third quarter HRC prices averaged $982/t, still $2/t above the second quarter level, while average prices declined in the fourth quarter by $99/t quarter-on-quarter to $883/t. Overall, average HRC prices for the second half of 2018 were $932/t as compared to $686/t for the second half of 2017 corresponding to a $246/t increase year-on-year.

In the United States, domestic HRC prices in the first half of 2019 continued the downward trend that began in July 2018. The first quarter of 2019 started with prices at $776/t in January and in March reached $767/t ($9/t lower). Prices in the second quarter of 2019 plunged even deeper - from $749/t in April to $598/t in June (a drop of $151/t), well below import parity levels. This descent represents the market’s search for an equilibrium point after additional local capacity came on-stream in the second half of 2018. This additional supply availability added pressure on domestic prices at the same time as domestic mills were fighting imports. U.S. suppliers' short lead time combined with comfortable inventory levels at customers contributed to the downward trend in domestic prices.

The average HRC price for the first half of 2019 in the United States was $723/t, as compared to $907/t for the first half of 2018 (a drop of $184/t). The anticipated decline in imports, as an outcome of the implementation of the Section 232 import tariffs was not as strong as expected. Therefore, import prices continued to add pressure on the domestic pricing. The HRC import Houston DDP index continued to decline over the first half of 2019, from $746/t in the first quarter to $685/t in the second quarter.

In the second half of 2019, the average HRC price in the United States was $603/t, $330/t below the second half of 2018. The dramatic decrease is due to 2018 having been a record year in which prices were inflated by Section 232 import tariffs on steel. In 2019, prices fell due to weak real demand and decreasing scrap prices. The average HRC price for the third quarter was $627/t, a drop of $52/t versus the previous quarter which was mainly due to the scrap USA #1 Busheling price dropping by $33/t, to $290/t and pressure from destocking at both Steel Service Centers (“SSCs”) and Original Equipment Manufacturers (“OEMs”).

Prices in the fourth quarter of 2019 averaged at $579/t, which is $48/t lower versus the third quarter. The situation further deteriorated in October due to the strike at General Motors that added to the market's negative sentiment. From November onwards, some relief came as scrap started an upward trend and international prices began to show signs of recovery. As a result, the fourth quarter ended in December at $623/t from the yearly low of $545/t, recorded in October.

In China, spot HRC prices increased during the first quarter of 2017, compared to the average levels of the fourth quarter of 2016, fluctuating on an upward trend until the first part of February 2017, but deteriorated afterwards, in line with raw material basket cost decline. Domestic HRC prices increased during the first quarter of 2017 by an average of $35/t quarter-on-quarter. Prices then continued to slide, hitting a bottom level of $374/t, VAT excluded by mid-May, followed however by a rapid recovery to a $439/t, VAT excluded average in June, supported by a new upward trend in raw materials cost, positive market sentiment and local mill interest to ramp up production and maximize profits. HRC spot prices decreased in the second quarter of 2017 on average by $62/t quarter-on-quarter. In the first half

of 2017, HRC domestic prices in China averaged $427/t, VAT excluded, compared to $317/t, VAT excluded, during the first half of 2016. HRC spot prices in China continued their steady increase in the beginning of September and increased for the third quarter of 2017 by $113/t quarter-on-quarter. The price increases slowed down during the fourth quarter of 2017 with an increase of $29/t quarter-on-quarter. HRC spot prices in China averaged $523/t, VAT excluded in the second half of 2017, an increase of $138/t, VAT excluded from the second half of 2016.

In China, spot HRC prices fluctuated during the first quarter of 2018, peaking at $562/t VAT excluded at the end of February, followed by a sharp decline due to weak demand and high inventories. HRC prices bottomed out at the end of March at $507/t VAT excluded. Production cuts in several regions and mill inspections to ensure compliance with pollution emission standards impacted supply during the second quarter of 2018. These measures supported HRC prices in China, which increased from $524/t VAT excluded at the beginning of April to a high of $581/t VAT excluded by mid-June. However, due to improvements in production levels and seasonal weak demand, HRC prices declined at the end of the month. In China, HRC domestic prices averaged $555/t VAT excluded for the first half of 2018, as compared to $427/t VAT excluded for the first half of 2017.

Despite the implementation of tough environmental controls and positive fiscal policies to expand domestic demand, production continued to increase, sustained by attractive margins, while consumption remained flat during the second half of 2018. This resulted in further pressure on HRC prices in China, which declined by $15/t (during the third quarter of 2018) as compared to the second quarter average level to $546/t VAT excluded and by an additional $58/t to $488/t VAT excluded during the fourth quarter of 2018.

HRC domestic prices averaged $517/t VAT excluded for the second half of 2018, representing a $7/t decline as compared to $524/t VAT excluded for the second half of 2017.

In China, spot HRC prices averaged at $482/t VAT excluded in the first quarter of 2019. The year started in January with prices at $467/t, strengthening to $494/t by March, as a result of the market's resumed activity following the Chinese New Year.

In the second quarter of 2019, due to Brazil's major accident at one of its largest iron ore mining facilities, as well as due to the market seasonality, the peak prices were reached in April at $523/t VAT excluded. The second quarter of 2019 closed in at an average of $512/t VAT excluded. Despite the governmental measures targeting production cuts due to overcapacity and environmental issues, domestic mills have reacted slowly to the indications, driving the domestic price by end of June 2019 to $493/t VAT excluded, i.e. on a downward trajectory. The HRC domestic price in China averaged $497/t VAT excluded for the first half of 2019, compared to $557/t VAT excluded for the first half of 2018.

The downward spiral of the Chinese HRC price continued in the third quarter of 2019 reaching $474/t, which was $38/t lower versus the previous quarter, with increased inventory levels of both raw materials and finished products. Domestic demand was impacted by seasonality. The fourth quarter of 2019 began with further weakening of Chinese HRC prices, with October being the weakest month at an average of $441/t. The Purchasing Managers' Index ("PMI") dropped to its lowest point in four years, with the rate of new order intake dropping by over 5% for both domestic and exports. However, the market started to improve from November onwards when the 7-month downward spiral reversed. Better domestic demand and a decrease in finished product inventory (-10% month-on-month) helped improve the prices in November. In December, international steel prices started to improve, which also supported a positive price environment in China. The fourth quarter of 2019 ended at $462/t, $12/t lower than in the third quarter. HRC spot prices in China averaged $468/t, VAT excluded in the second half of 2019, a decrease of $50/t, VAT excluded from the second half of 2018.

The following table presents the spot HRC average price range per tonne in Northern and Southern Europe, the United States and China on a quarterly basis from 2017 to 2019.

Flat products				
	Northern Europe	Southern Europe	United States	China
Source: Steel Business Briefing (SBB)	Spot HRC average price per tonne	Spot HRC average price per tonne	Spot HRC average price per tonne	Spot HRC average price per tonne, VAT excluded
Q1 2017	€569	€537	$694	$458
Q2 2017	€521	€491	$682	$396
Q3 2017	€517	€500	$687	$509
Q4 2017	€538	€510	$685	$538
Q1 2018	€561	€545	$834	$549
Q2 2018	€567	€530	$980	$565
Q3 2018	€566	€537	$982	$546
Q4 2018	€548	€499	$883	$489
Q1 2019	€510	€477	$766	$482
Q2 2019	€487	€467	$679	$512
Q3 2019	€469	€453	$627	$474
Q4 2019	€431	€413	$579	$462

Long products

Long steel product prices increased in Europe in the beginning of the first quarter of 2017, followed by a decline in mid-February, but with a recovery by the end of March. Prices then weakened during the second quarter of 2017 for

both medium sections and rebars, but seemed to bottom out by the end of June with a quarter on quarter decline of €15/t and €22/t, respectively. The average price for medium sections in Europe during the first half of 2017 was €508/t compared to €481/t in the first half of 2016. The average rebar price in Europe during the first half of 2017 was €452/t compared to €404/t in the first half of 2016. Prices for long steel products were on a steady upward trend toward the end of the year. Medium sections prices increased €29/t quarter-on-quarter, while rebar prices increased €28/t quarter-on-quarter. During the fourth quarter of 2017, medium sections prices further increased €58/t quarter-on-quarter, while rebar prices increased €84/t quarter-on-quarter. The average medium sections price in Europe for the second half of 2017 was €557/t as compared to €499/t for the second half of 2016. The average rebar price in Europe for the second half of 2017 was €517/t as compared to €432/t for the second half of 2016.

Long steel product prices remained relatively stable in Europe in euro terms at the beginning of 2018 compared to the peak level in December 2017, but continued their upward trend in USD terms as the euro strengthened. Prices weakened from mid-February and towards the end of the first quarter of 2018 with inventories reaching comfortable levels and a cautious market following the volatility in raw material costs. Medium sections prices declined from €625/t in January to €600/t by the end of March. Similarly, rebar prices declined from €568/t in January to €553/t in March. Prices remained stable again during April 2018 but followed a downward trend until mid-June when medium sections bottomed out at €585/t and rebar at €528/t. Average medium sections prices were €603/t in Europe for the first half of 2018 as compared to an average of €508/t for the first half of 2017. Average rebar prices were €552/t in Europe for the first half of 2018 as compared to €452/t for the first half of 2017. Good market sentiment and strong demand supported an improvement of long product prices during the third quarter of 2018, with medium sections reaching €620/t and rebars €560/t by September corresponding to a €35/t and €32/t increase, respectively, as compared to the bottom level in June, and representing a quarter-on-quarter average improvement of €20/t for medium sections and €6 for rebars. Prices remained relatively stable during the fourth quarter of 2018 as compared to the levels at the end of September despite some weakening in rebars with a quarterly average of €538/t representing a €13/t decrease quarter-on-quarter. The average medium sections prices were €618/t in Europe for the second half of 2018 as compared to €557/t for the second half of 2017. The average rebar prices were €545/t in Europe for the second half of 2018 as compared to €517/t for the second half of 2017.

Prices of long steel products in Europe continued their steady downward trend in 2019. In January 2019, rebar price and medium sections price reached €528/t and €624/t, respectively. The rebar price decline started in August 2018, while the medium sections price decline started in January 2019. By the end of March 2019, the rebar price and the medium section price dropped to €526/t and €588/t, respectively, reaching a quarterly average of €526/t and €605/t, respectively. In June 2019, prices bottomed further to €501/t for rebar and €579/t for medium sections. The falling domestic pricing environment followed the trend of weakening world scrap prices on international markets.

In Europe, the average medium sections price for the first half of 2019 was €595/t as compared to an average of €603/t for the first half of 2018. The average rebar price for the first half of 2019 was €521/t as compared to €552/t for the first half of 2018.

Prices for long steel products in Europe continued their steady downward trend in the second half of 2019. The prices reached a floor in November 2019 at €452/t for rebar and €521/t for medium sections, the lowest over the last two years. The average medium sections price in Europe for the second half of 2019 was €548/t as compared to €619/t for the second half of 2018, representing a drop of €71/t year-on-year. The average rebar price in Europe for the second half of 2019 was €476/t as compared to €545/t for the second half of 2018, a decrease of €69/t year-on-year.

In the first quarter of 2017, imported scrap HMS 1&2 in Turkey improved by $18/t compared to the fourth quarter of 2016 average of $275/t CFR. Rebar export prices closely followed the evolution of Turkey imported Scrap HMS 1&2, declining in the beginning of 2017 from $430/t FOB in December 2016 to close to an average of $390/t FOB by the end of January 2017, and continued fluctuating towards the end of March 2017. However, Turkish rebar export prices increased during the first quarter of 2017 by $14/t quarter-on quarter. The price fluctuation continued during the second quarter of 2017, but with an uptick towards the end of June with an overall increase of $4/t over the previous quarter. The average price in the first half of 2017 for rebar exported from Turkey was $425/t FOB compared to $388/t FOB in the first half of 2016. From July through the end of 2017, the Turkey rebar FOB price has been fluctuating on an upward trend, closely following HMS 1&2 Turkey CFR price evolution. After hitting a three-year high of $550/t FOB in the beginning of September 2017, rebar prices declined to $508/t FOB by October. This drove an increase in the average price range during the third quarter of 2017 by $80/t quarter-on-quarter. Toward the end of 2017, the Turkey rebar FOB export price reached $570/t, and further improved the quarterly average price by $20/t for the fourth quarter of 2017. The average Turkey rebar export price was $517/t FOB in the second half of 2017, an increase of $123/t compared to $394/t FOB for the second half of 2016.

In the first quarter of 2018, the price of imported scrap HMS 1&2 in Turkey improved by $40/t to an average level of

$363/t CFR as compared to the fourth quarter of 2017. Rebar export prices closely followed the evolution of Turkey imported scrap HMS 1&2, declining from $573/t FOB at the beginning of January to $555/t FOB by the end of the month. Rebar export prices then increased to a peak of $590/t FOB by the end of February followed by a downward trend reaching $568/t FOB at the end of March. During the second quarter of 2018, the Turkish export rebar price continued to follow a downward trend alongside the scrap HMS 1&2 index, ranging between $565/t FOB at the beginning of April to $540/t FOB at the end of May. The average Turkish export rebar price for the first half of 2018 was $562/t FOB, as compared to $425/t FOB for the first half of 2017. With US and European markets blocked for Turkish exporters due to EU safeguard measures and doubling of the Section 232 import tariffs into the U.S., Turkish producers faced increased competition on alternative markets resulting in further pressure on export rebar prices during the first part of the third quarter. Prices seemed to bottom out mid-August at $523/t; however they continued to deteriorate during October to a $500/t level. After a small uptick in November supported by an improvement in scrap prices as well as a strengthening of the Turkish Lira, Turkish export rebar prices dropped by the end of the fourth quarter of 2018 to $455/t, the lowest level since July 2017.

The average Turkish export rebar price for the second half of 2018 was $507/t FOB, as compared to $518/t FOB for the second half of 2017.

In Turkey, rebar export prices continue to align closely with the evolution of world scrap prices. The first quarter of 2019 started for Turkish rebar at one of the lowest points compared to the previous six quarters, being at $466/t FOB, which is in line with the bottomed HMS 1&2 index at $310/t CFR. However, the March 2019 rebar export price was $482/t FOB, higher by $36/t compared to January at $446/t. During the second quarter of 2019, the Turkish export rebar price followed a month over month downward trend alongside scrap HMS 1&2 index, from a high of $480/t FOB at beginning of April down to $468/t FOB at the end of June. Nevertheless, the average for the second quarter, at $473/t, was higher than the average for the previous quarter at $466/t. In the first half of 2019, the Turkish export rebar price averaged $470/t FOB compared to $562/t FOB average during the first half of 2018.

In the third quarter of 2019, the price of Turkish rebar continued the downward trend from the previous quarter, reaching $441/t FOB, which is a $32/t decrease quarter-on-quarter. July opened the quarter at $461/t, while September closed at $413/t, representing a drop of $48/t driven by the seasonally limited demand. In October, prices reached a floor for the year at $405/t, which was also the lowest point over the last three years. The prices subsequently increased with the overall fourth quarter of 2019 averaging at $421/t. The year closed in December with a price of $442/t, $37/t higher versus the low reached in October. The increase in prices was driven by the U.S. scrap price improvement from early November, which recovered the $40/t lost in September/October and ended the year in December at $290/t, although not enough to surpass the level from the first half of the year at $348/t. The average Turkish rebar export price for the second half of 2019 was $431/t FOB as compared to $508/t FOB for the second half of 2018.

Long products			
	Europe medium sections	Europe rebar	Turkish rebar
Source: Steel Business Briefing (SBB)	Spot average price per tonne	Spot average price per tonne	Spot FOB average price per tonne
Q1 2017	€515	€463	$424
Q2 2017	€501	€441	$427
Q3 2017	€530	€469	$507
Q4 2017	€587	€553	$527
Q1 2018	€614	€558	$572
Q2 2018	€592	€545	$552
Q3 2018	€611	€551	$525
Q4 2018	€626	€538	$490
Q1 2019	€605	€526	$466
Q2 2019	€583	€515	$473
Q3 2019	€567	€490	$441
Q4 2019	€529	€461	$421

Current and anticipated trends in steel production and prices

The global economy clearly slowed in 2019, particularly in Europe, and the lower global automotive production weighed on steel demand. This impact was exacerbated by supply chain destocking in all the major markets, particularly in the Company's core markets of NAFTA, Europe and Brazil.

In China, in 2019, ArcelorMittal believes steel production grew almost 3% (despite the 8.3% increase in official figures - see discussion in "-Steel production" above) as demand grew over 3%, while net exports declined by 6 million tonnes. Before the onset of the coronavirus, the Company expected production to grow in 2019 as domestic demand increased by around 1 to 2%, coupled by marginally higher exports as world ex-China demand grows. This may be revised downward due to the impact of the Coronavirus on Chinese demand and the knock-on impact elsewhere, particularly the rest of Asia. The Chinese HRC spread (difference between raw material costs and finished steel prices) in 2017 increased from approximately $150/t in the first half of 2017 to $250/t in the second half supported by an elevated crude steel utilization rate mainly due to a structural steel capacity cut and the winter heating season policy, which temporarily restricted steel supply. Since then,

Chinese spreads have seen a sharp correction, declining from $280/t in the third quarter of 2018 to approximately $160/t in the third quarter of 2019. This was largely impacted by the Chinese government lowering the focus on reducing emissions and deleveraging and increasing the focus on sustaining the economy. This led to both stronger demand in 2019 (largely due to the stimulus plan targeting infrastructure), and to more capacity (due to less effective winter capacity constraints and some capacity creep). The U.S.-China “phase one” trade deal led to improved market sentiment, which resulted in industrial restocking. The Chinese government also continued to ease liquidity conditions moderately, as a tool to simulate the economy supporting an improved HRC spread, reaching $190-200 by the end of 2019 and sustained into January 2020. The precise impact of the Coronavirus is unknown but has had a negative impact on Chinese prices and spreads, and could continue to have a negative impact if inventories continue to rise at mills in China, putting downward pressure on pricing. While the Company expects a significant negative impact on industrial output and steel demand during the first quarter of 2020, assuming the disruption fades soon, employment and incomes are expected to be relatively unaffected, with most of the lost output expected to be recouped during the remainder of 2020, supported by fiscal and monetary easing. However, in 2020 both GDP and steel demand growth are still likely to be weaker than what was expected prior to the outbreak (Steel demand now expected to grow only 0 to 1% in 2020, down from 1 to 2% previously expected).

U.S. ASC decreased by almost -2% in 2019, as significant destocking and declining auto output led flat products to decline -4.7%, coupled with reduced pipe and tube deliveries, this more than offset growth in long products. Imports, however, continued to decline in 2019 (-18% year-on-year) due to Section 232 25% tariffs on most non-NAFTA countries, which allowed domestic production to increase (+1.5% year-on-year). The Company anticipates a small (0 to 1%) further increase in steel demand in 2020, but with imports expected to be broadly stable, steel production is expected to grow at a similar rate to demand. In the EU, steel demand declined by over 4%, driven by weaker real demand and exacerbated by destocking, which accounted for almost half the decline in apparent steel consumption. Brazilian flat products demand was also negatively impacted by destocking in 2019 and alongside continuing growth in real demand, the Company expects growth in apparent steel consumption of almost 5% in 2020. Despite imports declining too, steel production in the EU still declined by 4.9% in 2019. While real steel demand is expected to remain weak in 2020, an end to destocking is expected to support mild growth (around +1.5%) in ASC. In 2020, the Company expects continued pressure from imports, which is why appropriate safeguard measures on steel trade are important to enable European mills to benefit from any improvement in demand.

Overall, ArcelorMittal expects world ex-China ASC to grow again in 2020 due to relatively strong demand growth in developing Asian markets and a rebound from significant declines in Turkish steel demand, coupled by slow growth in developed markets. Continued capacity restraint and relatively stable production in China, together with continued growth in demand in world ex-China is expected to lead to a gradual improvement in utilization and support the spread of steel prices over raw material costs.However, the Coronavirus is having a significant impact on Chinese demand during the first quarter of 2020 and is likely to have a negative impact elsewhere, mainly Asia, through reduced goods exports to China, fewer tourists from China and supply-chain disruptions due to shortages of Chinese produced intermediate goods. Although the impact on the Company's core markets is expected to be smaller, until the virus is under control, these cannot be quantified and our current forecasts for steel demand assume that the situation in China does not deteriorate materially. However, the recent increase in cases outside China is worrying and increases the risk of a global pandemic and a much larger negative impact on global GDP. The Company is monitoring the situation closely and in particular in Italy, as should the virus spread more widely through Europe this will likely have a material impact on the Company’s sales and profitability in 2020

Raw materials

The primary raw material inputs for a steelmaker are iron ore, coking coal, solid fuels, metallics (e.g., scrap), alloys, electricity, natural gas and base metals. ArcelorMittal is exposed to price volatility in each of these raw materials with respect to its purchases in the spot market and under its long-term supply contracts. In the longer term, demand for raw materials is expected to continue to correlate closely with the steel market, with prices fluctuating according to supply and demand dynamics. Since most of the minerals used in the steel-making process are finite resources, their prices may also rise in response to any perceived scarcity of remaining accessible supplies, combined with the evolution of the pipeline of new exploration projects to replace depleted resources.

In 2017, the increase in the average reference iron ore and hard coking coal price that occurred in 2016 continued due to the impact of closures of induction furnaces capacity since 2016. In 2017, iron ore and coking coal prices increased by 22.3% and 31.5% year-on-year respectively (Metal Bulletin 2017 vs. 2016). In the first quarter of 2018, iron ore market reference prices increased following a decrease in the fourth quarter of 2017, averaging $74.39/t, up 13.6% compared to the fourth quarter of 2017 (Metal Bulletin 2018 vs. 2017), supported by robust crude steel production in China. For the full year 2018, the strong steel production in China amid its fight against air pollution and overcapacity kept iron ore and coking coal prices at elevated levels and boosted prices for high-grade qualities

as steel mills chased productivity. Though prices for the most common qualities of iron ore decreased 2.2% year-on-year in 2018, the high-grade qualities of iron ore posted a price increase on an annual basis. Coking coal prices increased 10.3% compared to 2017 (Metal Bulletin 2018 vs. 2017).

In 2019, iron ore market reference prices increased following a supply disruption caused by the collapse of the Brumadinho dam owned by Vale in Brazil on January 25, 2019 and the cyclone in Australia mining region (end of March 2019), averaging $93.63/t, up 34% compared to 2018 (Metal Bulletin 2019 vs. 2018).

Coking coal prices in 2018 averaged $206.58/t (compared to $187.31/t in 2017) and were supported by robust crude steel production in China as well as bullish market sentiment from risk of lower Australian supply due to the announcement of changes in the maintenance schedule by the main local rail network operator. Coking coal prices in 2019 averaged $177.36/t (compared to $206.58/t in 2018) and were initially supported by incidents in Australia (heavy rains, accident at Anglo's Moranbah mine) and the local Australian rail network operator trade union's industrial action and maintenance works, however, in the second half of 2019, the prices decreased, driven by coking coal import restrictions at key Chinese ports and a weak demand from India amid domestic slowdown.

As for pricing mechanisms, since 2012, quarterly and monthly pricing systems have been the main type of contract pricing mechanisms, but spot purchases also appear to have gained a greater share as steelmakers have developed strategies to benefit from increasing spot market liquidity and volatility. In 2017, 2018 and 2019, the trend for using shorter-term pricing cycles continued. Pricing is generally linked to market price indexes and uses a variety of mechanisms, including current spot prices and average prices over specified periods. Therefore, there may not be a direct correlation between market reference prices and actual selling prices in various regions at a given time.

Iron ore

Iron ore prices recovered to $85.60/t in the first quarter of 2017 following strong demand for steel after the Chinese New Year. The average price for the second quarter of 2017 decreased to $62.90/t; this downward trend was influenced by increased inventory levels at Chinese ports. In the third quarter of 2017, the average price increased to $71.20/t driven by bullish sentiment in the steel market reflected in strong steel PMIs (Purchasing Manager Index) for China. During the fourth quarter of 2017, the price varied from a minimum of $58.52/t on October 31, 2017 and a maximum of $76.36/t on December 22, 2017, with the average for the fourth quarter at $65.50/t. The quarter was marked by high volatility driven by environmental regulation announcements by the Chinese authorities to constrain emissions and steel production during the 2017-2018 winter period.

In the first quarter of 2018 iron ore prices recovered at $74.39/t, up 13.6% compared to the fourth quarter of 2017. However, great price disparities were observed. Seaborne iron ore demand was hit by a persistent weakness in downstream steel demand, the trade war developing between China and the U.S. and the extension of winter restrictions in China beyond March 15, 2018 all of which had a significant impact. In March, prices plummeted from the highest quarter price of $79.39/t in the beginning of the month to $64.99/t at the end of the month (Metal Bulletin 2017 & 2018). In the second quarter of 2018, prices decreased and remained stable at an average $65.30/t despite strong steel demand over the period. China iron ore port stocks remained high and concentrate production sharply decreased year-over-year as a result of mine inspections. However, steel PMI remained in expansion at 51.6 points in June. In the third quarter, prices were fairly stable, averaging $66.8/t. Low prices on the seaborne market found support in the fear of an intensification of the trade war between China and the U.S., depreciation of the Chinese currency, low future prices and environmental restriction in China. The last quarter of 2018 saw the iron ore price jumping and averaging $71.6/t. It reached $76.75/t on November 12, 2018 amid strong steel margins depleting stocks at Chinese ports and restocking demand in China before the start of the winter period. Also, the derailment of a BHP train carrying iron ore in Australia in the beginning of November provided some short-term support to the iron ore price that boosted the November average. However, prices dropped at the end of November, and in the beginning of December, mills corrected for weak off-season demand and reduced steel margins due to less stringent winter restrictions, which led to prices at the end of 2018 at $72.70/t.

In the first quarter of 2019, following the Vale owned Brumadinho dam disaster in Brazil, the seaborne iron ore market surged to $82.41/t on average, up 15% compared to the last quarter of 2018. The supply shock was aggravated by the cyclone season in Australia with some Australian iron ore producers lowering their output guidance for the year, which contributed to reaching $100.92/t on average in the second quarter of 2019 with a peak of $125.77/t observed on July 2 (Metal Bulletin) also supported by lower inventories at Chinese ports. Prices remained elevated in July at $119.93/t in average and sharply decreased in August to $90.69/t following expectations of weaker demand as well as the impact of currency risks which were exacerbated by the decision of China's central bank to depreciate the yuan in response to decision of the U.S. government to extend punitive tariffs, both of which cast uncertainty on the iron ore future market, along with supply recovery. In September 2019, iron ore prices rose again on the back of a supportive paper market and expectations of

increased end-user restocking activity. The average price for the third quarter of 2019 was $102.03/t. October 2019 was bearish with continued lack of end-user demand for iron ore fines ahead of announcements for winter production cuts. However, prices recovered sharply in November amid higher end-user demand for high-grade materials and supportive futures market for steel. The fourth quarter of 2019 average price was $88.97/t and the average price for 2019 was $93.63/t (Metal Bulletin).

Coking coal

In the first quarter of 2017, the spot prices (Metal Bulletin Premium Hard Coking Coal FOB Australia index "HCC FOB") sharply dropped from $266.50/t in December 2016 (monthly average) to $155.20/t in March 2017 (monthly average) with the average spot price for the first quarter at $166.80/t. The temporary relief of the Chinese working days restriction and fully recovered supply from Australia, as well as expected additional seaborne supply from North America allowed such a sharp drop in prices by the end of the first quarter of 2017. At the beginning of the second quarter of 2017, the cyclone Debbie that unexpectedly hit Australia caused supply disruptions and spot prices spiked. The upward trend of April up to $300/t on April 18, 2017 and a monthly average of $257.80/t was followed by the downward trend in May and June as the Australia mining-rail-port system recovered earlier than expected from the cyclone disruption. The spot price decreased through the second quarter to $175/t in May (monthly average) and $145/t in June 2017 (monthly average), leading to an average spot price for the second quarter of 2017 of $190.60/t.

For the second quarter of 2017, a new index-based methodology was adopted for the premium HCC FOB Australia quarterly contract price between some Japanese steel makers and Australian HCC suppliers. In the third quarter of 2017, the average spot price (Metal Bulletin Premium HCC FOB Australia index) increased to $188.30/t driven by bullish sentiment in the steel market and strong steel PMIs for China. In the fourth quarter, supported by the port congestion in Australia, the price further increased to $203.50/t.

Coking coal prices entered 2018 as a bullish market with record high vessel queues at a key port in Queensland, Australia and Chinese restocking demand high ahead of the Chinese New Year holiday. The spot prices (Metal Bulletin Premium HCC FOB Australia index) averaged $228.48/t in the first quarter of 2018 increasing 36.8% year-on-year and 12.2% as compared to the fourth quarter of 2017. The elevated prices were then corrected in the second quarter and reached $188.89/t (quarterly average) due to the extension of Chinese winter restrictions until April and delayed increase of steel demand in China. However, the downward movement was limited by a continued threat of supply disruptions due to Aurizon’s announced change in the maintenance plan at its rail system in Australia, and safety check at Chinese mines. The price also found support from Chinese coke prices as domestic coke producers faced environmental crackdowns. In the third quarter, coking coal prices averaged $184/t and $183/t in July and August respectively with no major supply disruption and less demand during Indian monsoon season. The prices rose again in September to $198/t with demand from strong steel production in China amid healthy margins and tight supply of low-Sulphur coking coal in the Chinese domestic market. Prices kept on increasing in the last quarter on the back of strong steel production and threat of supply issues from scheduled maintenance at key Australian ports which increased port queues again to the record levels seen at the end of 2017. The bullish sentiment found support from the breakout of a fire at one Australian mine, rendering it idle for at least six months. The coking coal spot prices increased to a quarterly average of $220.79/t in the fourth quarter of 2018.

In the first quarter of 2019, coking coal prices were volatile ranging from $190/t to $217/t. The volatility was supported by incidents in Australia, including heavy rains, an accident at Anglo’s Moranbah mine and a trade union's industrial action at a local rail network operator. The average spot price in the first quarter of 2019 was $206.33/t (Metal Bulletin Premium HCC FOB Australia index). In the second quarter of 2019, prices first increased to the quarter’s high of $213.16/t on May 13, 2019 fueled by the increased sentiment of potential less availability of metallurgical coal railroad capacity in Australia due to maintenance at a local rail network operator in April. Prices then decreased to $191.61/t on June 28, 2019 due to reduced steel margins putting pressure on coke prices. The average spot price in the second quarter of 2019 was $202.85/t. In the third quarter of 2019, tightening of coking coal import restrictions at key Chinese ports and weak demand from India during the monsoon season led to a decrease in prices with the average spot price at $161.03/t (Metal Bulletin Premium HCC FOB Australia index). In the fourth quarter of 2019, the bearish trend in the coking coal market continued driven by a slowdown in Chinese imports including a ban on imports at China’s largest coking coal handling port in Jingtang effective from October 1, 2019. Weak demand from India post the monsoon season amid domestic slowdown contributed to this bearish trend. The average coking coal spot price decreased to $139.27/t in the fourth quarter of 2019.

ArcelorMittal has continued to leverage its iron ore and coking coal supply chain and diversified supply portfolio as well as the flexibility provided by contractual terms to mitigate regional supply disruptions and also mitigate part of the market price volatility.

	Iron ore	Coking coal
Source: Metal Bulletin	average price per tonne (Delivered to China, Metal Bulletin index, 62% Fe)	average price per tonne (Premium Hard Coking Coal FOB Australia index)
Q1 2017	85.63	166.82
Q2 2017	62.90	190.58
Q3 2017	71.24	188.34
Q4 2017	65.50	203.50
Q1 2018	74.39	228.48
Q2 2018	65.97	188.89
Q3 2018	66.86	188.17
Q4 2018	71.56	220.79
Q1 2019	82.41	206.33
Q2 2019	100.92	202.85
Q3 2019	102.03	161.03
Q4 2019	88.97	139.27

Scrap

The Company considers the German suppliers' index ("BDSV") Delivered at Place ("DAP") as market reference.

During 2019, the BDSV for reference grade E3 started in January at €262/t and reached a maximum for the period of €278/t in March. From April on it decreased month by month until reaching the bottom in October at €196/t € followed by two consecutive increases in November and December to €244/t. The average index for 2019 was €252/t as compared to €285/t for 2018 and €259/t for 2017, a decrease of €33 or 12% less than 2018.

Turkey's scrap imports declined by 11% in the first nine months of 2019 compared to the same period of 2018, nevertheless it remains by far the main scrap buying country in the international market. Turkish Electric Arc Furnace steel production share dropped from 69% in 2018 to 68% in the first 9 months of 2019 and total crude steel production was down by 10.1% in the same period. The Scrap Index HMS 1&2 CFR Turkey, North Europe origin, started January 2019 at $280/t reaching a maximum for the year in March at $317/t and then dropped during the second quarter to $286/t in June. It then reached a peak in July at $288/t followed by a continuous decrease until October to $233/t and then increasing again to reach $290/t in December. The average yearly prices were $294/t in 2017, $334/t in 2018 and $281/t in 2019. The average European scrap prices were consistent with the exports HMS 1&2 CFR Turkey, North Europe reference for 2019.

In the domestic U.S. market, HMS 1 delivered Midwest index was $75/t lower in 2019 than 2018. The Midwest Index for HMS 1 decreased from an average of $322/t for 2018 to $247/t for 2019. On the export market, HMS export FOB New York average prices of 2019 were at $266/t, a decrease by $54/t compared to 2018 ($280/t in 2017).

Ferro alloys and base metals

Ferro alloys

The underlying price driver for manganese alloys is the price of manganese ore which was at the level of $5.63 per dry metric tonne unit ("dmt") (for 44% lump ore) on Cost, Insurance and Freight ("CIF") China for 2019, representing a 21% decrease from $7.16/dmt in 2018 ($5.97/dmt in 2017) mainly due to overstocking of material at Chinese ports reflecting low appetite from manganese alloy producers as a result of low steel demand.

Manganese alloys prices also followed a downward trend where high carbon ferro manganese decreased by 10% from $1,330/t in 2018 to $1,203/t in 2019 ($1,428/t in 2017), silicon manganese decreased by 7% from $1,325/t in 2018 to $1,234/t in 2019 ($1,343/t in 2017) and medium carbon ferro manganese decreased by 8% from $1,930/t in 2018 to $1,780/t in 2019 ($1,910/t in 2017).

Base metals

Base metals used by ArcelorMittal are zinc, tin and aluminum for coating, aluminum for deoxidization of liquid steel and nickel for producing stainless or special steels. ArcelorMittal partially hedges its exposure to its base metal inputs in accordance with its risk management policies.

The average price of zinc for 2019 was $2,549/t, representing a 13% decrease as compared to the 2018 average of $2,926/t (the 2017 average was $2,896/t). Stocks registered at the London Metal Exchange ("LME") warehouses stood at 51,225 tonnes as of December 31, 2019, representing a 60% decrease compared to December 31, 2018 when registered stocks stood at 129,325 tonnes (182,050 tonnes in 2017).

The average price of tin for 2019 was $18,671/t, 7% lower than the 2018 average of $20,167/t (2017 average was $20,098/t).

The average price of aluminum for 2019 was $1,792/t, representing a 15% decrease compared to the 2018 average of $2,110/t (the 2017 average was $1,968/t).

The average price of nickel for 2019 was $13,936/t, representing a 6% increase compared to the 2018 average of $13,118/t (the 2017 average was $10,407/t).

Energy market

Solid fuels, electricity and natural gas are some of the primary raw material inputs for a steelmaker. ArcelorMittal is exposed to price volatility in each of these raw materials with respect to its purchases in the spot market and under its long-term supply contracts.

Oil

In the first quarter of 2016, after decreasing for six quarters in a row, the Brent crude oil price leveled at just below $30/barrel (“bbl”). To boost prices, a group of producers led by OPEC (the "Organization of the Petroleum Exporting Countries") and Russia agreed at the end of 2016 to cut production by 1.8 million barrels per day (“bpd”). Initially, the cuts were expected to last for only six months. However, an extension in May 2017 and again in November the same year launched an era in which production cuts became a popular tool among producers to support global oil prices. As a consequence, prices increased starting in the summer of 2017 when prices gained 75% year-on-year from $45/bbl in May 2017 to $80/bbl in May 2018, with prices continuing to steadily increase throughout the first three quarters of 2018. The Brent crude oil front month contract started 2018 at $66/bbl and peaked at $86/bbl (a 4-year high) in October 2018. During the same period, the U.S. pulled out of the Iran nuclear deal, and was threatening sanctions against any country which further imported Iranian oil. In the following months, Brent crude oil fell more than 30% and finished the year at $53.80/bbl, a 15-month low. The drop was backed by growing concerns of a global economic slowdown as a tariff war between the world's biggest economies (namely, the U.S. and China) intensified. To stop plummeting prices, a final effort from OPEC and its allies was made in early December 2018, when they jointly decided to cut output by 1.2 million bpd throughout the first half of 2019. Immediately, the oil market started tightening throughout the first quarter of 2019, finishing the first half of the year just higher than $65/bbl. The driving forces of 2019 proved to be the same as in 2018. While tensions grew in the Middle East fueled by renewed sanctions on Iran, the U.S. continued to pump oil at record high levels. The U.S. and China continued its trade war and the UK continued to postpone Brexit. At the start of the third quarter of 2019, OPEC and Russia confirmed that they would continue their efforts to balance the global market by extending the 1.2 million bpd cut by another nine months and into the first quarter of 2020. In December 2019, a decision was made to increase the level of cuts in the first quarter of 2020 but not to extend these cuts beyond March 2020. In the meantime, Iran's retaliation threats kept the oil markets on alert. Throughout 2019, Brent crude oil moved between $55/bbl and $75/bbl, not exposing a clear trend, not even after supply shocks like the bombing of a Saudi facility in September. Brent crude oil finished the year in the middle of the range at $66/bbl.

The following table shows certain quarterly average prices of oil, thermal coal and CO2 for the past three years:

Commodities

Source: Thomson Reuters	Brent crude oil spot average price $ per barrel	West Texas intermediate spot average price $ per barrel	European thermal coal import (API2) spot average price $ per ton	European Union allowance spot average price € per ton of CO2 equivalent
Q1 2017	54.57	51.78	77.86	5.17
Q2 2017	50.79	48.15	75.71	4.81
Q3 2017	52.17	48.20	86.11	5.91
Q4 2017	61.46	55.30	92.68	7.47
Q1 2018	67.23	62.89	86.09	9.80
Q2 2018	74.97	67.91	89.97	14.49
Q3 2018	75.84	69.43	98.66	18.85
Q4 2018	68.60	59.34	92.45	20.47
Q1 2019	63.83	54.90	75.38	22.24
Q2 2019	68.47	59.91	57.13	25.55
Q3 2019	62.03	56.44	58.75	26.93
Q4 2019	62.42	56.87	58.24	24.88

CO2

The integrated steel process involves carbon and CO_2, which distinguishes integrated steel producers from mini-mills and many other industries where CO_2 generation is primarily linked to energy use. Launched in 2005, the European Union Emission Trading System (“EU-ETS”) is currently in its third phase, stretching from 2013 to December 2020 and the trading system for the period after 2020 has been revised in a manner that may require ArcelorMittal to incur additional costs to acquire emissions allowances. The EU-ETS is based on a cap-and-trade principle; it sets a cap on greenhouse gas emissions (“GHG”) from covered installations, which is then reduced year after year. Since 2009, a surplus of emission allowances has built up in the EU-ETS, keeping prices below €10 per ton of CO_2 equivalent (“€/tCO2e”) until 2018. In 2016 and 2017, the price for a European Union Allowance (“EUA”) - which gives the holder the right to emit one ton of carbon dioxide (“CO_2”) - ranged between €4/tCO2e and €6/tCO2e.

To boost the EUA price and to provide an incentive to the industry and the power sector to alter their behavior in terms of CO_2 emissions, in July 2015 the European Commission proposed a reform of the EU-ETS for the period 2021-2030 (phase 4). More than 2 years later, inter-institutional negotiations were concluded presenting solutions to reduce the current surplus. Consequently, in November 2017 the EUA price crossed the €8/tCO2e mark for the first time since January 2016. With the EU Council’s final approval in

February 2018, the ETS reform became law (Directive (EU) 2018/410). As a result, the EUA price surged further and only leveled after surpassing the historical high of €25/tCO2e in September 2018. This marked a 360% price increase in only nine months. At the end of 2018, the price reached an all-time high of €25.3/tCO2e amid thin trading activity during the holiday period. Throughout the first half of 2019 the EUA price increased by 15% and finished the second quarter of 2019 at €26.5/tCO2e. Not only did the EUA price increase but the market also witnessed great volatility mainly driven by uncertainties around Brexit, the end of the compliance period in April and the market stability reserve ("MSR") which started operating in January 2019, reducing auction supplies since the second week of January. A new historical high was reached in July 2019, when the price for a EUA touched €30/tCO2e. However, more generally, during the first quarter of 2019, prices remained around €22/tCO2e while prices remained around €25/tCO2e for the rest of 2019. See "Risks related to the global economy and the mining and steel industry". Laws and regulations restricting emissions of greenhouse gases could force ArcelorMittal to incur increased capital and operating costs and could have a material adverse effect on ArcelorMittal's results of operations and financial condition.

Thermal coal

The 2017/2018 winter began with a Chinese campaign aimed at switching millions of households from using coal to natural gas for heating purposes. At the same time, the country tightened imports by banning small ports from receiving foreign coal cargoes. The campaign unexpectedly boosted demand from coal-fired power plants as it created a shortage of natural gas. The tightening of the Asian market had some severe spill-overs to the European market and pushed the spot price for all publications index number 2 ("API2") - which reflects the price for imports into ARA (Amsterdam-Rotterdam-Antwerp) - above $90/t, a level not seen since the end of 2012. Throughout the first quarter of 2018, the API2 shed almost 20% as the global supply demand balance softened amid the Chinese New Year holiday. After increasing throughout the second quarter of 2018, the API2 reached a new 6-year high when it surpassed the $100/t mark in the third quarter. This was triggered by utilities replenishing stocks and strong demand from power stations due to a hot and dry summer. In the fourth quarter of 2018, prices remained volatile but decreased almost 20% amid China's imposition of new import restrictions, and Europe benefiting from a mild start to the winter. During the first half of 2019, the downward trend continued and the spot contract for API2 lost more than 40%, finishing the second quarter of 2019 at a 3 year low of just below $50/t. This sharp price decrease was driven by coal-to-gas switching across the European power sector and an abundance of supply, since Australia had to redirect its cargoes due to Chinese import restrictions. During the third quarter of 2019, short term prices rebounded amid higher spot demand and stock replenishing activity ahead of the winter. However, a milder than average winter led to a price decrease of almost 20% during the fourth quarter of 2019, from around $64/t in September to $52/t end of December.

Natural gas - Europe

Year after year, the natural gas market moves toward becoming a global commodity due to the continuous development of liquefied natural gas ("LNG"), driven by the construction of new liquefaction units (called trains) in Russia, Australia and in the U.S. The worldwide LNG exports reached 485 billion cubic meters ("bcm") in 2019, an increase of 11.5% compared to 2017. Consequently, natural gas is increasingly exposed to the same commodity super-cycles that also affect thermal coal and crude oil, for example. Unlike thermal coal and crude oil, the European natural gas market is showing stronger seasonal patterns.

Despite starting 2018 at the same price level as 2017, the 2018 TTF Spot Price (the price for natural gas to be delivered the next day, which is traded on a virtual trading platform located in the Netherlands) averaged €22.85 per Megawatt hour ("€/MWh"), which is more than 30% higher than the 2017 average (€17.32/MWh). The year 2018 started with milder than normal weather but a late cold snap at the end of February brought freezing temperatures from Siberia to Europe. Combined with limited storage flexibility and supply problems across Europe, spot prices at major European hubs skyrocketed to multi-year highs. In the aftermath, northwest European natural gas storage levels dropped well below the 5-year average. Efforts to refill storages, together with strong summer demand from natural gas fired power plants, exceptionally high LNG prices and an overall rising energy complex kept supporting European natural gas prices up until the start of the fourth quarter of 2018 (an increase of 50% throughout the first nine months of the year). During the last quarter of 2018, the TTF spot price tumbled from €29.50/MWh down to €22.00/MWh. This trend continued into 2019, and the TTF spot price plummeted below the €10.00/MWh mark by end of June. This sharp decrease of 55% from the beginning of first quarter to the end of second quarter happened on the back of milder than normal seasonal temperatures, rapidly improving storage levels, historical high LNG arrivals and a continuous strong import of Norwegian and Russian piped gas. Even high levels of coal-to-gas switching across the European power sector could not prevent prices from dropping to historical lows by the end of June. Throughout the third quarter of 2019, TTF spot prices traded in average at €10.2/MWh (year-on-year decrease of 58%), with a low in September close to €7/MWh. In November, TTF spot prices traded up and reached levels of around €16.6/MWh. This price increase was supported by colder temperatures and the fear that Russia and Ukraine would not be able to sign a new multi-year transit contract. It was only in the very last days of December that the two countries agreed on a deal

leading to a price collapse during the second half of December, and the front month delivery finished the year at €11.7/MWh.

Natural gas - United States

In 2019, natural gas production in the U.S. reached another record. Total production grew by 8.3 billion cubic feet per day ("bcf/d") in 2019 year-over-year, with associated gas contributing to more than half (4.5 bcf/d) of the increase. Gas markets across the U.S. remain oversupplied and continuously pressured Henry Hub gas prices lower in search of a new floor. Consequently, low gas prices in 2019 led to another record year for gas-for-power demand at 31 bcf/d, growing 2 bcf/d from the previous year. Furthermore, 2019 was also a record year for LNG development in the number of final investment decisions reached ("FIDs") and LNG train start-ups. More than 30 Million Metric Tonnes per Annum ("mmpta") of capacity became available following the FIDs reached in 2019, the single largest year in U.S. LNG history. In 2019, the U.S. exported a total of 37.6 mmpta of LNG, which marks an increase of 66% year-on-year.

In North America, natural gas prices trade independently of oil prices and are set by spot and future contracts, traded on the NYMEX exchange or over-the-counter. In the first nine months of 2018, the Henry Hub front month price (the price for gas traded on a U.S. virtual trading platform, for delivery in the next calendar month) averaged $2.85 per million British Thermal Units ("/MMBtu"), a 6.5% decrease compared to the first nine months of 2017. The recession in natural gas prices that held from the beginning of 2015 until September 2018 changed in the first two weeks of November 2018, as weather-related natural gas demand increased sharply, and the relatively low levels of natural gas in storage could not provide the needed flexibility leading to a 60% price increase in only 10 days. In mid-November 2018, the front-month Henry Hub natural gas futures hit a price of $4.8/MMBtu, the highest price since the second quarter of 2014. Consequently, at the end of November, natural gas inventories stood 19% lower than the previous five-year average forcing the Henry Hub Month Ahead price to average $4.0/MMBtu throughout November and December 2018. Henry Hub natural gas futures lost more than 20% throughout the first half of 2019 and at the end of June stood more than 50% lower than the winter peak in the fourth quarter of 2018. U.S. dry gas production during the first quarter of 2019 was almost 13% higher than in the same period a year earlier. This led to a faster than normal rise of working stocks in underground storage, resulting in downward pressure of the natural gas market. This downward pressure persisted throughout the second half of 2019, with only occasional spikes up to $2.7/MMBtu in September and $2.9/MMBtu in November. Nevertheless, the fourth quarter of 2019 averaged $2.4/MMBtu (down 35% from the fourth quarter of 2018).

Natural gas - Asia

Throughout the first quarter of 2018, the Platts Japan Korea Marker ("JKM") - the LNG benchmark price assessment for spot physical cargoes delivered ex-ship into Japan, South Korea, China and Taiwan - front month contract prices dropped 35% (equivalent to $4/MMBtu) and bottomed at $7.2/MMBtu before entering a period of increasing prices. While prices normally would have relaxed on the back of muted demand from Asian consumers at the end of June 2018, the front month contract price again surpassed the $11/MMBtu level ($6/MMBtu higher year-on-year). However, in 2018 strong Asian restocking demand ahead of the winter met strong cooling needs. At the end of the first quarter of 2018, the price spread between the Pacific and the Atlantic basin dropped below $1/MMBtu erasing the arbitrage window and allowing LNG cargoes to sail to Europe. This spread quickly increased to $3.7/MMBtu dragging cargoes away from Europe. After a period of high volatility, the spread stabilized around $2.0/MMBtu by the end of the third quarter and into the fourth quarter of 2018, fueled by lackluster Asian demand. At the same time, charter rates for LNG vessels exploded and moved north of $160,000/day (a long way from the lows of 2016 and 2017 when spot rates were hovering at $25,000/day). This led to trapped LNG supply in the Atlantic basin leading to sharply dropping European natural gas prices. During the first half of 2019, European importers saw record high levels of LNG arrivals, reflecting the abundant supply across Asia amid healthy storage levels in key importing countries as a result of a mild winter. Furthermore, a significant ramp-up of new liquefaction capacity across Australia, the U.S. and Russia meant more supply to an already oversupplied market. Consequently, the JKM front month contract lost 47% from the start of the year until the end of June 2019. With muted demand and more global supply, the low prices persisted until the end of the second quarter of 2019. In the fourth quarter of 2019, amid the start of the winter, the JKM rose and averaged $5.9/MMBtu (42% lower than 2018).

The following table shows quarterly average spot prices of natural gas for the past three years:

Natural gas			
Source: Thomson Reuters	TTF Spot average price € per MWh	Henry Hub Spot average price $ per MMBtu	JKM Spot average price $ per MMBtu
Q1 2017	18.42	3.06	7.35
Q2 2017	15.61	3.14	5.85
Q3 2017	16.13	2.95	6.19
Q4 2017	19.13	2.92	9.45
Q1 2018	21.25	2.85	9.35
Q2 2018	21.06	2.83	8.71
Q3 2018	24.56	2.86	10.71
Q4 2018	24.65	3.72	10.24
Q1 2019	18.47	2.87	6.86
Q2 2019	13.02	2.51	4.94
Q3 2019	10.20	2.33	4.74
Q4 2019	12.66	2.41	5.91

Electricity			
Source: Thomson Reuters	Germany Baseload spot average price € per MWh	France Baseload spot average price € per MWh	Belgium Baseload spot average price € per MWh
Q1 2017	41.32	54.77	51.58
Q2 2017	29.76	33.90	35.74
Q3 2017	32.73	34.56	34.17
Q4 2017	32.49	56.19	56.47
Q1 2018	36.05	44.09	45.17
Q2 2018	36.03	36.78	44.10
Q3 2018	53.86	57.58	61.08
Q4 2018	51.89	62.47	71.01
Q1 2019	41.35	47.18	48.34
Q2 2019	35.74	34.81	34.44
Q3 2019	37.55	35.64	35.11
Q4 2019	36.51	40.23	39.37

Electricity - Europe

Due to the regional nature of electricity markets, prices follow mainly local drivers (i.e. energy mix of the respective country, power generation from renewables, country specific energy policies, etc.). However, unlike previous years, 2018 marked a structural change with the emergence of the CO2 price as one of the major price drivers. The forward baseload power contract for the front calendar year (delivery 2019) strongly increased in all European market places throughout the year (e.g. from €40.5 to €59.1/MWh in Belgium (an increase of 46% year-to-date), from €41.75 to €58.45/MWh in France (an increase of 40% year-to-date) and from €36.7 to €52.7/MWh in Germany (an increase of 44% year-to-date)). The 2018 price increase was mainly due to the overall fuel price increases, the unreliability of an aging French and Belgian nuclear fleet and a weak year in terms of renewable output, a trend which reversed in the first half of 2019. Tumbling fuel prices, combined with healthy renewable power generation and strong nuclear output helped to pressure spot prices across North West Europe in the first half of 2019. The lack of a severe summer heatwave helped to pressure the third quarter of 2019 prices. Wet early winter months, mild temperatures and good renewable power output contributed to a significant reduction in France and Belgium the fourth quarter of 2019 compared to 2018. This decrease occurred despite the fact that French nuclear availability was at a multi-year low for that time of the year, which is normally a strong support for prices.

The following table shows quarterly average spot prices of electricity in Germany, France and Belgium for the past three years:

Ocean freight

Ocean freight prices (average for all sizes) remained at the same level in 2019 compared to 2018 due to the increase on cape size offset by the decrease on Panamax, Supramax and Handymax segments. The Baltic Dry Index ("BDI") maintained the same average at 1,352 points in 2019 compared to 2018 (1,145 points in 2017). The Capesize index increased by 9% year-on-year to average $18,025/day against $16,529/day in 2018 ($15,129/day in 2017). Meanwhile the Panamax index increased by 9% to an average of $11,112/day as compared to $11,654/day in 2018 ($9,766/day in 2017). In 2019, on the cape size a total of 79 vessels or 18.8 million deadweight was delivered, the most since 2016 and up from 52 vessels or 14.4 million deadweight in 2018. Panamax in 2019 was heavy in terms of deliveries with 134 vessels or 11.1 million deadweight delivered, the most since 2014 and up from 67 units or 5.5 million deadweight in 2018.

Fleet growth remained moderate but picked up slightly by 4.1% in deadweight terms in 2019 (2.6% increase compared to 2018) following increased deliveries and limited demolition activity. Deliveries up 22% y-o-y to 98.4 million deadweight, scrapping down 45% year-over-year to 17.0 million deadweight. Part of the impact of this fleet growth was offset by scrubber retrofitting activity (at year end, 35 million deadweight was in repair yards undergoing a retrofit) and slower speeds. The high fleet growth in 2019 (4.1%) is expected to continue in 2020 when the fleet is also expected to grow more than demand. The cumulative impact of these growth rates means that the gap between demand for shipping and the supply of ships is expected to continue to put downward pressure on freight rates throughout the year.

Sources: Baltic Index, Fearnleys, Clarksons Platou, BIMCO, CTM

Impact of exchange rate movements

Because a substantial portion of ArcelorMittal's assets, liabilities, sales and earnings are denominated in currencies other than the U.S. dollar (its reporting currency), ArcelorMittal has exposure to fluctuations in the values of these currencies relative to the U.S. dollar. These currency fluctuations, especially the fluctuation of the U.S. dollar relative to the euro, as well as fluctuations in the currencies of the other countries in which ArcelorMittal has significant operations and sales, can have a material impact on its results of operations. For example, ArcelorMittal's non-U.S. subsidiaries may purchase raw materials, including iron ore and coking coal, in U.S. dollars, but may sell finished steel products in other currencies. Consequently, an appreciation of the U.S. dollar will increase the cost of raw materials; thereby having a negative impact on the Company's operating margins, unless the Company is able to pass along the higher cost in the form of higher selling prices. In order to minimize its currency exposure, ArcelorMittal enters into hedging transactions to lock-in a set exchange rate, as per its risk management policies.

In 2017, the fluctuations on the foreign exchange markets were broadly driven by the activity of central banks that started to reduce their accommodative monetary policies, including the U.S. Federal Reserve (the "Federal Reserve"), which increased rates three times during the year. The less accommodative policies adopted by the European Central Bank ("ECB"), Bank of Canada ("BoC") and Bank of England ("BoE") were already anticipated by the markets and their respective currencies strengthened even before the banks' monetary decisions. The euro strengthened significantly against the U.S. dollar, from 1.0541 at the beginning of 2017 to 1.1993 at the end of the year.

Since April 1, 2018, the Company has designated a portfolio of euro denominated debt (€6.9 billion as of December 31, 2019) as a hedge of certain euro denominated investments (€8.1 billion as of December 31, 2019) in order to mitigate the foreign currency risk arising from certain euro denominated subsidiaries net assets. The risk arises from the fluctuation in spot exchange rates between EUR/USD, which causes the amount of the net investments to vary. See also note 6.3 to the consolidated financial statements. As a result of the hedge designation, foreign exchange gains and losses related to the portfolio of euro denominated debt are recognized in other comprehensive income.

As of December 31, 2019, the Company is mainly subject to foreign exchange exposure relating to the euro, Brazilian real, Canadian dollar, Indian rupee, Kazakhstani tenge, South African rand, Mexican peso, Polish zloty, Argentine peso and Ukrainian hryvnia against the U.S. dollar resulting from its trade payables and receivables.

In 2019, the euro decreased from 1.1450 at December 31, 2018 to 1.0889 at end of the third quarter, before gradually increasing back to 1.1234 on December 31, 2019 against the U.S. dollar as a result of a global context driven by the U.S. administration's protectionism on trade policies and progressive narrowing of U.S. dollar and euro rate differentials as the U.S. Federal Reserve ("FED") delivered three rates cuts in the second half of 2019 thus lowering FED Funds target rate to 1.55%.

The Polish zloty marginally decreased against the U.S. dollar throughout 2019 from 3.7567 on December 31, 2018 to 3.7892 on December 31, 2019 after reaching 4.0208 at the end of the third quarter. Although Polish economic performance remained strong for the period, the zloty's behavior for the period mainly resulted from the persistently accommodative stance from the Polish Central Bank even with local inflation finally beating the 2.5% official target on the second semester.

The Ukrainian hryvinia increased gradually against the U.S. dollar in 2019 starting from 27.6886 on December 31, 2018 to 23.6860 on December 31, 2019 reflecting the positive news around the local economic potential following the election of the new president Volodymyr Zelensky and benefiting from improvements in the country's relations with Russia as well as optimistic view on key structural reforms.

The Kazakh tenge was stable at 384.17 against the U.S. dollar at the beginning of the year, depreciated to 390.39 on October 9, 2019 and then appreciated to 381.24 as of December 31, 2019. This fluctuation was due to the National Bank raising its base rate in order to contain rising inflationary pressures from the ongoing recovery of consumer demand and a 4.2% stronger than expected economic growth.

The Indian rupee decreased against the U.S. dollar in 2019 from 69.6330 at the beginning of the year to 71.3776 on December 31, 2019 resulting mainly from extremely accommodative monetary measures taken by the National Bank of India in its attempt to support India's slowing economy notably affected by the deteriorating trade context globally as well as through weak household demand locally, slower credit disbursements by banks and non-bank financial companies, policy disruptions, a sluggish investment cycle and structural issues. In October 2018, the Company entered into hedging programs including non-deliverable forwards and non-deliverable options for a total nominal amount of $5.9 billion in order to hedge the volatility between the Indian Rupee and U.S. dollar in relation to the proposed acquisition of AMNS India. In 2019, $5.1 billion of the hedging program settled generating a gain of $360 million. As of December 31, 2019, the total amount of the hedging program remained at $0.8 billion. See note 6.3 to the consolidated financial statements for further information.

The South African rand concluded 2019 slightly appreciating against the U.S. dollar after having decreased from 14.4306 on December 31, 2018 to 15.4190 in August 2019 and finally appreciating to 14.1183 on December 31, 2019 and thus not reflecting significantly the fact that signs of improvement from the South African economy remain quite weak.

The Canadian dollar appreciated against the U.S. dollar in 2019 from 1.3629 to 1.3248 between the beginning of the year and the end of the third quarter, before finishing the year stronger at 1.2994, due to commodity prices weighing on the currency followed by a solid increase in domestic demand, government spending and a strong job market supporting the Canadian dollar.

The Mexican peso decreased in 2019 from 19.6437 on December 31, 2018 to 20.0767 at the beginning of September 2019 before finishing the year stronger at 18.8893 against the U.S. dollar, as 2019 growth was lower than expected, followed by low interest rates in U.S. dollar supporting the improvement.

The Brazilian real decreased in 2019 from 3.8748 on December 31, 2018 to 4.2304 at the end of November 2019 before finishing the year stronger at 4.0307 against the U.S. dollar, as a social security reform was approved.

The Argentine peso decreased in 2019 from 37.7003 on December 31, 2018 to 59.8910 on December 31, 2019 against the U.S. dollar, as poor economy and debt issues weighed on the local economy.

Trade and import competition

Europe

There has been a trend of imports growing more strongly than domestic demand in Europe since 2012. ASC increased approximately 14% between 2012 and 2019, while finished steel imports increased by approximately 80%, taking market share from domestic producers. Over this period total finished imports have risen from just over 15 million tonnes in 2012 to around 28 million tonnes in 2019, causing import penetration to rise to 18% in 2019 from 11% in 2012. A slowdown in global steel consumption coupled with excess capacity in China led to increased finished steel shipments into Europe in 2015, with import penetration increasing to over 16%. Since then, Chinese imports into Europe have fallen back from a peak of 7 million tonnes in 2015 to around 2.5 million tonnes in 2019. However, this has been more than offset by an increase in imports from Turkey (up from 2 million tonnes in 2015 to 7 million tonnes in 2019) and developed Asia (2 million tonnes in 2014 to 4 million tonnes in 2019). Meanwhile, CIS imports have remained the largest share (approximately 25%) remaining relatively stable at an average of 7 million tonnes annually between 2014 and 2019. While there has been a trend of imports growing more strongly than domestic demand since 2012, in 2019, due to weakness in industrial output, particularly European automotive production, ASC decreased by 4%. As domestic European steel prices fell sharply, imports followed suit decreasing approximately 10% year-on-year, particularly from CIS (down 12%), developed Asia (down 14%), China (down 14%) and India (down 20%). As a result, import penetration declined to 18% in 2019 from 19.5% in 2018, with flat product imports declining to 20% (from 22% in 2018) and long product imports declining to 11% (from 13% in 2018). See —Risk factors—Risks related to the global economy and the mining and steel industry—Unfair trade practices, import tariffs and/or barriers to free trade could negatively affect steel prices and ArcelorMittal's results of operations in various markets.

Source: Eurostat trade data to November 2019, Company estimates for December 2019.

United States

Finished steel imports peaked in 2014 at almost 30 million tonnes, declining to approximately 25.7 million tonnes in 2017 (or an import penetration of over 26%). In 2019, with section 232 (implemented in 2018) adding a 25% tariff on most imports outside NAFTA, finished steel imports decreased by approximately 7 million tonnes from the levels of 2017, despite the level of apparent steel consumption in 2019 being similar to 2017 levels. As a result, import penetration has continued to fall, from 23% in 2018 to 19% 2019, as imports declined (-18% year-on-year) more sharply than apparent steel consumption (-2% year-on-year). Import penetration in 2019 was at 19%, close to the average level between 2007 and 2013, but much lower than the 27% average import penetration between 2014 and 2017.

Relative to other regions, imports from NAFTA decreased by only approximately 15% year-on-year as section 232 tariffs only applied until May 2019. As a result, over a third of imports came from the NAFTA region, of which 27% came from Canada and 9% from Mexico, up slightly from the two countries' 34% combined share in 2018. Other countries such as Brazil, Ukraine, Australia and South Korea, though not subject to 25% tariffs, are subject to quotas. Imports decreased further from Turkey (down approximately 70% year-on-year), where its share of imports declined from 5% in 2018 to approximately 1% in 2019. Though declining year-on-year, the breakdown of imports from the rest of the world remained stable, with 20% of U.S. steel imports coming from both Developed Asia (with the total down 14% year-on-year) and from EU28 (total down 16% year-on-year), with a 6% share from ASEAN (total down 19% year-on-year), 3% from CIS (total down 13% year-on-year) and approximately 2% from China (total down 21% year-on-year). See —Risk factors—Risks related to the global economy and the mining and steel industry—Unfair trade practices, import tariffs and/or barriers to free trade could

negatively affect steel prices and ArcelorMittal's results of operations in various markets.

Sources: American Iron and Steel Association data to November 2019, Company estimates for December 2019.

Consolidation in the steel and mining industries

Prior to 2017, consolidation transactions had decreased significantly in terms of number and value in the context of economic uncertainties in developed economies combined with a slowdown in emerging markets.

However, in an effort to reduce the worldwide structural overcapacity, some key consolidation steps were undertaken in 2019 and 2018, specifically in China and in Europe.

Steel industry consolidation in China aims at enhancing international competitiveness, reducing overcapacity, rationalizing steel production based on obsolete technology, improving energy efficiency, achieving environmental targets and strengthening the bargaining position of Chinese steel companies in price negotiations for iron ore. The Chinese government set a target that 60 to 70 percent of steel should be produced by the top ten steel groups by 2025. China will soon release guidelines to foster mergers and restructuring plans for the steel industry to facilitate the creation of larger and stronger groups that can compete in the global market. The guidelines, aiming to clear obstacles in steel consolidation, will encourage cross-region and cross-ownership mergers and restructuring by qualified enterprises. Examples of recent merger activity in China include the Baosteel Group and Wuhan Iron and Steel Group merger that was completed in late 2016, creating Baowu Steel Group ("Baowu") with an annual production capacity of around 60 million tonnes. Further, in September 2019, Baowu and Magang (Group) Holding Co., Ltd ("Magang") signed a partnership agreement where Baowu secured a 51% stake in Magang, increasing Baowu's steel production capacity to approximately 90 million tonnes and representing a big step in the ongoing consolidation of the Chinese steel industry.

In Europe, the proposed joint venture between Thyssenkrupp and Tata Steel, which would have created Europe's second-largest steel company after ArcelorMittal, was canceled in May 2019 as the joint venture partners considered that the concessions required by the European Commission to overcome its concerns over higher prices for electrical steel, automotive steel and packaging, among others, in the event of the merger, would adversely affect the intended synergies of the merger. On October 29, 2019, Liberty House Group announced a merger with GFG Alliance's steel businesses to create Liberty Steel Group with a capacity of 18 million tonnes and a plan to be carbon neutral by 2030. According to the announcement, Liberty Steel Group will be the eighth largest steel producer outside China, with operations stretching from Australia to continental Europe, the United Kingdom and the United States.

In another step towards consolidation in the U.S., United States Steel Corp announced on October 1, 2019 that it reached an agreement to purchase a minority stake in Big River Steel with an option to take complete control of the company over the next four years. On December 3, 2019, AK Steel and Cleveland Cliffs announced an all stock merger which is expected to close in the first half of 2020.

In November 2018, ArcelorMittal completed the acquisition (via a long-term lease) of ArcelorMittal Italia, Europe's largest single steel site and only integrated steelmaker in Italy with its main production facility based in Taranto. ArcelorMittal Italia also has significant steel finishing capacity in Taranto, Novi Ligure and Genova. The transaction was approved by the European Commission on May 7, 2018 subject to the disposal of certain assets in Italy, Romania, North Macedonia, the Czech Republic, Luxembourg and Belgium, which were completed in June 2019. ArcelorMittal is engaged in ongoing negotiations with the Italian government regarding ArcelorMittal Italia. See Key transactions and events in 2019.

In the first quarter of 2018, ArcelorMittal signed a joint venture formation agreement with NSC and submitted its Resolution Plan for the acquisition of AMNS India, setting out a positive future for the bankrupt company, an integrated flat steel producer and the largest steel company in western India. The acquisition was completed in December 2019, and ArcelorMittal announced the creation of its joint venture with NSC. The Company's Resolution Plan for AMNS India should enable it to participate in anticipated steel demand growth in India. See Key transactions and events in 2019.

Further future consolidation should allow the steel industry to perform more consistently through industry cycles by achieving greater efficiencies and economies of scale.

Critical accounting policies and use of judgments and estimates

Management's discussion and analysis of ArcelorMittal's operational results and financial condition is based on ArcelorMittal's consolidated financial statements, which have been prepared in accordance with IFRS. The preparation of financial statements in conformity with IFRS recognition and measurement principles and, in particular, making the critical accounting judgments highlighted below require the use of estimates and assumptions that affect the reported amounts of assets, liabilities, revenues and expenses. Management reviews its estimates on an ongoing basis using currently available information. Changes in facts and circumstances or obtaining new information or more experience may result in revised estimates, and actual results could differ from those estimates.

An overview of ArcelorMittal's critical accounting policies under which significant judgments, estimates and assumptions are made may be found in note 1.2 to the consolidated financial statements.

Key indicators

The following discussion and analysis should be read in conjunction with ArcelorMittal's consolidated financial statements included in this annual report.

ArcelorMittal reports its operations in five reportable segments: NAFTA, Brazil, Europe, ACIS and Mining. The key performance indicators that ArcelorMittal's management uses to analyze operations are sales, average steel selling prices, crude steel production, steel shipments, iron ore and coal production and operating income. Management's analysis of liquidity and capital resources is driven by net cash provided by operating activities less capital expenditures.

This annual report includes net debt and operating working capital, which are alternative performance measures. ArcelorMittal believes net debt and operating working capital to be relevant to enhance the understanding of its financial position and provides additional information to investors and management with respect to the Company's operating cash flows, capital structure and credit assessment. Alternative performance measures should be read in conjunction with and not as an alternative for, ArcelorMittal's financial information prepared in accordance with IFRS. Such alternative performance measures may not be comparable to similarly titled measures applied by other companies.

Years ended December 31, 2019, 2018 and 2017

Sales, operating income, crude steel production, steel shipments, average steel selling prices and mining production

The following tables provide a summary of ArcelorMittal's performance by reportable segment for the year ended December 31, 2019, 2018 and 2017:

	Sales for the year ended December 31,[1]			Operating (loss) income for the year ended December 31,[2]		
	2019	2018	2017	2019	2018	2017
Segment	(in $ millions)	(in $ millions)	(in $ millions)	(in $ millions)	(in $ millions)	(in $ millions)
NAFTA	18,555	20,332	17,997	(1,259)	1,889	1,185
Brazil	8,113	8,711	7,755	846	1,356	697
Europe	37,721	40,488	36,208	(1,107)	1,632	2,359
ACIS	6,837	7,961	7,621	(25)	1,094	508
Mining	4,837	4,211	4,033	1,215	860	991
Others and eliminations	(5,448)	(5,670)	(4,935)	(297)	(292)	(306)
Total	70,615	76,033	68,679	(627)	6,539	5,434

1. Amounts are prior to inter-segment eliminations (except for total) and sales include non-steel sales.
2. Others and eliminations to segment operating income reflects certain adjustments made to operating income of the segments to reflect corporate costs, income from non-steel operations (e.g. energy, logistics and shipping services) and the elimination of stock margins between segments. See table below.

	Year ended December 31,		
	2019	2018	2017
Others and eliminations operating (loss) income	(in $ millions)	(in $ millions)	(in $ millions)
Corporate and shared services [1]	(144)	(170)	(199)
Financial activities	8	(23)	(23)
Shipping and logistics	(19)	1	(16)
Intragroup stock margin eliminations	13	(45)	(41)
Depreciation and impairment [2]	(155)	(55)	(27)
Total adjustments to segment operating income and other	(297)	(292)	(306)

1. Includes primarily staff and other holding costs and results from shared service activities.
2. Depreciation charges for 2019 include 94 of depreciation of right-of-use assets recognized in property, plant and equipment following the adoption of IFRS 16 "Leases" as of January 1, 2019 with respect to the Company's shipping business Global Chartering, of which ArcelorMittal sold a 50% controlling interest on December 31, 2019.

Sales

ArcelorMittal had sales of $70.6 billion for the year ended December 31, 2019, representing a 7.1% decrease from sales of $76.0 billion for the year ended December 31, 2018, primarily due to a 9.6% decrease in average steel selling prices, partially offset by a 0.8% increase in steel shipments and higher marketable iron ore selling prices. In the first half of 2019, sales were $38.5 billion decreasing 1.8% from sales of $39.2 billion in the first half of 2018, primarily due to 6.1% lower average steel selling prices, partially offset by 3.5% higher steel shipments. In the second half of 2019, sales of $32.1 billion represented a 12.8% decrease as compared to sales of $36.8 billion in the second half of 2018, primarily driven by a 13.7% decrease in average steel selling prices and a 2.1% decrease in steel shipments.

ArcelorMittal had sales of $76.0 billion for the year ended December 31, 2018, representing a 10.7% increase from sales of $68.7 billion for the year ended December 31, 2017, primarily due to a 13.5% increase in the average steel selling prices, partially offset by a 1.6% decrease in steel shipments. In the first half of 2018, sales were $39.2 billion increasing from sales of $33.3 billion in the first half of 2017, primarily due to 16.7% higher average steel selling prices. In the second half of 2018, sales of $36.8 billion represented a 4.2% increase as compared to sales of $35.3 billion in the second half of 2017, primarily driven by a 10.6% increase in average steel selling prices, partially offset by a 4.5% decrease in steel shipments.

Cost of sales

Cost of sales consists primarily of purchases of raw materials necessary for steel-making (iron ore, coke and coking coal, scrap and alloys), electricity, repair and maintenance costs, as well as direct labor costs, depreciation and impairment. Cost of sales for the year ended December 31, 2019 was $68.9 billion as compared to $67.0 billion for the year ended December 31, 2018, due to an increase in shipments (primarily due to the inclusion of ArcelorMittal Italia from November 1, 2018, partially offset by the sale of remedy asset as of June 30, 2019), an increase in raw material costs, impairment charges of $1.9 billion related to impairment of the fixed assets of ArcelorMittal USA ($1.3 billion - see NAFTA below), remedy asset sales in connection with the ArcelorMittal Italia acquisition ($0.5 billion) and impairment charges in South Africa ($0.1 billion) as well as $0.8 billion primarily for inventory related charges in NAFTA and Europe following a period of exceptionally weak steel pricing. Selling, general and administrative expenses (“SG&A”) were $2.4 billion for the year ended December 31, 2019 compared to $2.5 billion for the year ended December 31, 2018. SG&A as a percentage of sales increased marginally for the year ended December 31, 2019 (3.3%) as compared to 2018 (3.2%).

Cost of sales for the year ended December 31, 2018 was $67.0 billion as compared to $60.9 billion for the year ended December 31, 2017, primarily due to a 9.4% increase in raw material costs (consistent with the increase in sales) and impairment charges of $1.0 billion primarily related to the remedy asset sales in connection with the ArcelorMittal Italia acquisition and the agreed remedy package required for the approval of the AMSF acquisition, partially offset by the $0.2 billion in gain from a bargain purchase recognized with respect to the acquisition of ArcelorMittal Italia. Selling, general and administrative expenses (“SG&A”) were $2.5 billion for the year ended December 31, 2018 compared to $2.4 billion for the year ended December 31, 2017. SG&A as a percentage of sales decreased for the year ended December 31, 2018 (3.2%) as compared to 2017 (3.4%).

Operating (loss) income

ArcelorMittal’s operating loss for the year ended December 31, 2019 was $0.6 billion as compared with an operating income of $6.5 billion for the year ended December 31, 2018 and was primarily impacted by weaker operating conditions (negative price-cost effect in steel segments) reflecting both the decline in steel prices and higher raw material costs (due in particular to supply-side developments in Brazil), impairments and inventory related charges described above, offset in part by improved mining segment performance driven by higher seaborne iron ore reference prices (which were up 34.3%). The raw material prices increased during 2019 and for most of the year remained disconnected from steel fundamentals, compressing steel spreads to unsustainably low levels.

ArcelorMittal's operating income for the year ended December 31, 2018 was $6.5 billion as compared with an operating income of $5.4 billion for the year ended December 31, 2017 and was primarily driven by improved operating conditions (positive price-cost effect in the steel segments), offset in part by the impact of lower iron ore reference prices and impairment charges of $1.0 billion primarily related to the remedy asset sales in connection with the ArcelorMittal Italia acquisition and the agreed remedy package required for the approval of the AMSF acquisition, partially offset by a $0.2 billion bargain purchase gain relating to the acquisition of ArcelorMittal Italia. Operating income for the year ended December 31, 2018 was also impacted by $113 million in charges related to a blast furnace dismantling in Florange (France), $60 million in charges related to the new collective labor agreement in the United States (including a signing bonus), a $146 million provision taken in the first quarter of 2018 in respect of a litigation case that was paid in the third quarter of 2018, offset in part by the recognition in Brazil of $202 million in PIS/Cofins tax credits related to prior periods.

Shipments and average steel selling price

ArcelorMittal had steel shipments of 84.5 million tonnes for the year ended December 31, 2019 as compared to steel shipments of 83.9 million tonnes for the year ended December 31, 2018, representing an increase of 0.8%, primarily due to higher steel shipments in Europe by 3.2% due to the impact of the consolidation of ArcelorMittal Italia as from November 1, 2018, offset in part by the remedy asset sales related to the ArcelorMittal Italia acquisition (completed on June 30, 2019) and ongoing weak demand driven by macro headwinds including declines in automobile production. Weaker domestic apparent demand conditions led to lower shipments in NAFTA (5.1%), while weaker export markets led to lower shipments in ACIS (1.7%) and Brazil (2.4%).

Steel shipments increased 3.5% to 44.6 million tonnes in the first half of 2019 compared to 43.1 million tonnes for the first half of 2018 while steel shipments decreased 2.1% to 39.9 million tonnes in the second half of 2019 compared to 40.8 million tonnes in the second half of 2018.

ArcelorMittal had steel shipments of 83.9 million tonnes for the year ended December 31, 2018 as compared to steel shipments of 85.2 million tonnes for the year ended December 31, 2017, representing a decrease of 1.6%, primarily due to a 10.3% decline in shipments in ACIS (including unplanned maintenance in Ukraine and operational issues in Kazakhstan/Ukraine) offset in part by increases in Brazil (5.8%, including the impact of the Votorantim acquisition), NAFTA (1.0%, including the impact of a slower restart post blast furnace maintenance in Mexico) and Europe (0.2%, including the impact from the Ilva acquisition offset by the effect of a flood in Asturias (Spain), power outage in Fos (France) and slower ramp-up after the blast furnace reline in Poland). Steel shipments increased 1.3% to 43.1 million tonnes in the first half of 2018 compared to 42.5 million tonnes for the first half of 2017 while steel shipments decreased 4.5% to 40.8 million tonnes in the second half of 2018 compared to 42.7 million tonnes in the second half of 2017.

Average steel selling price decreased by 9.6% for the year ended December 31, 2019 as compared to the year ended December 31, 2018. Average steel selling price in the first half of 2019 decreased by 6.1% as compared to the first half of 2018 and decreased by 13.7% in the second half of 2019 as compared to the second half of 2018.

Average steel selling price increased by 13.5% for the year ended December 31, 2018 as compared to the year ended December 31, 2017. Average steel selling price in the first half of 2018 increased by 16.7% as compared to the first half of 2017 and increased by 10.5% in the second half of 2018 as compared to the second half of 2017.

NAFTA

	Performance for the year ended December 31,		
(in millions of USD unless otherwise shown)	2019	2018	2017
Sales	18,555	20,332	17,997
Depreciation	570	522	518
Impairments	(1,300)	—	—
Operating (loss) income	(1,259)	1,889	1,185
Crude steel production (thousand tonnes)	21,897	22,559	23,480
Steel shipments (thousand tonnes)	20,921	22,047	21,834
Average steel selling price (USD/tonne)	810	852	742

Sales

Sales in the NAFTA segment were $18.6 billion for the year ended December 31, 2019, representing a 8.7% decrease as compared to the year ended December 31, 2018. Sales decreased primarily as a result of a decrease in average steel selling prices by 4.9% and a decrease in steel shipments by 5.1%.

Sales in the NAFTA segment were $20.3 billion for the year ended December 31, 2018, representing a 13.0% increase as compared to the year ended December 31, 2017. Sales increased primarily as a result of the increase in average steel selling prices by 14.8% and a 1.0% increase in steel shipments.

Operating (loss) income

Operating loss for the NAFTA segment was $1.3 billion for the year ended December 31, 2019 as compared to operating income of $1.9 billion for the year ended December 31, 2018, primarily driven by a 5.1% decline in steel shipments and a negative price cost effect due to a 4.9% decrease in average steel selling prices, reflecting weaker demand exacerbated by prolonged customer destocking and increased domestic supply with prices well

below import parity, and an increase in raw material prices. Operating income for the year ended December 31, 2019 was negatively impacted by an impairment in the second quarter of 2019 of property, plant and equipment of ArcelorMittal USA for $0.6 billion and a further impairment in the fourth quarter of 2019 of the property, plant and equipment of ArcelorMittal USA for $0.7 billion following downward revisions of future cash flow projections reflecting lower near term average steel selling price assumptions. Operating loss for the year ended December 31, 2019 also included $0.2 billion in charges related to inventory following a period of exceptionally weak steel pricing.

Operating income for the NAFTA segment was $1.9 billion for the year ended December 31, 2018 as compared to operating income of $1.2 billion for the year ended December 31, 2017, primarily driven by a 14.8% increase in average steel selling prices. Operating income for the year ended December 31, 2018 included $60 million in charges related to the new collective labor agreement in the United States (which included a signing bonus).

Crude steel production, steel shipments and average steel selling price

Crude steel production decreased 2.9% to 21.9 million tonnes for the year ended December 31, 2019 as compared to 22.6 million tonnes for the year ended December 31, 2018. Crude steel production declined in the first half of 2019 primarily due to the restart of a blast furnace in Mexico which was only fully operational in the second quarter of 2019 after scheduled maintenance in the third quarter of 2018, loss due to power outage in Burns Harbour in the first quarter of 2019 and a slowdown following weaker market demand in the first half while production in the second half of 2019 was 1.6% higher than the second half of 2018 mainly due to the impact of the scheduled maintenance of a blast furnace in Mexico from third quarter of 2018, partly offset by planned outages both in flat and long product operations in the fourth quarter of 2019.

Crude steel production decreased 3.9% to 22.6 million tonnes for the year ended December 31, 2018 as compared to 23.5 million tonnes for the year ended December 31, 2017. Crude steel production declined in particular in the second half of 2018, primarily due to market slowdown and blast furnace reline delay in Mexico.

Steel shipments decreased 5.1% for the year ended December 31, 2019 as compared to the year ended December 31, 2018 reflecting the decreased production and market demand during the year (including pronounced supply chain destocking).

Steel shipments increased 1.0% for the year ended December 31, 2018 as compared to the year ended December 31, 2017 reflecting improved demand in the first half and a slowdown and the impact of the blast furnace delay in the second half. Shipments were 11.4 million tonnes for the first half of 2018, an increase of 3% from 11 million tonnes in the first half of 2017, in line with available inventory. Shipments decreased 1.1% to 10.7 million tonnes in the second half of 2018 as compared to 10.8 million tonnes in the second half of 2017.

Average steel selling prices decreased 4.9% for the year ended December 31, 2019 as compared to the year ended December 31, 2018. Average steel selling prices increased 4.7% to $855/t in the first half of 2019 from $817/t in the first half of 2018. In the first quarter of 2019, average steel selling prices were 12.1% higher than the first quarter of 2018 while in the second quarter of 2019, average steel selling prices were 1.9% and 4.3% lower than the second quarter of 2018 and first quarter of 2019, respectively. This decline continued in the second half of 2019 with average steel selling prices decreasing by 14.3% compared to the second half of 2018, reflecting the ongoing supply chain destock. The average steel selling prices in the second half of 2018 were higher following the imposition of import tariffs on steel in the second quarter of 2018.

Average steel selling prices increased 14.8% for the year ended December 31, 2018 as compared to the year ended December 31, 2017 in particular as a result of import tariffs on steel implemented in the United States. Average steel selling prices increased 10.5% for the first half of 2018 as compared to the first half of 2017 and 19.4% for the second half of 2018 as compared to the second half of 2017.

Brazil	Performance for the year ended December 31,		
(in millions of USD unless otherwise shown)	2019	2018	2017
Sales	8,113	8,711	7,755
Depreciation	274	298	293
Impairments	—	86	—
Operating income	846	1,356	697
Crude steel production (thousand tonnes)	11,001	12,264	11,210
Steel shipments (thousand tonnes)	11,192	11,464	10,840
Average steel selling price (USD/tonne)	679	719	667

Sales

In the Brazil segment, sales decreased 6.9% to $8.1 billion for the year ended December 31, 2019 as compared to the year ended December 31, 2018, primarily due to a 5.5% decrease in average steel selling prices and a 2.4% decrease in shipments. In the first half of 2019, sales increased 2.5% to 4.3 billion as compared to $4.2 billion for the first half of 2018 primarily due to 6.6% higher steel shipments partially offset by 4.7% lower average steel selling prices while in the second half of 2019, sales decreased 15.5% compared to the second half of 2018 driven by a 10.1% decrease in shipments and a 7.0% decrease in average steel selling prices.

In the Brazil segment, sales increased 12.3% to $8.7 billion for the year ended December 31, 2018 as compared to the year ended December 31, 2017, primarily due to a 7.7% increase in average steel selling prices and a 5.8% increase in shipments. Sales for the year ended December 31, 2018 were also negatively impacted by hyperinflation accounting in Argentina.

Operating income

Operating income for the Brazil segment was $0.8 billion for the year ended December 31, 2019, representing a decrease of 37.6% as compared to the year ended December 31, 2018, driven primarily by a negative price-cost effect reflecting in part the increasing price of iron ore due to supply-side developments in Brazil, foreign exchange translation impact and lower steel shipments in the second half of 2019.

Operating income for the Brazil segment was $1.4 billion for the year ended December 31, 2018, representing an increase of 94.6% as compared to the year ended December 31, 2017, primarily driven by increased shipments and higher average steel selling prices. Operating income for the year ended December 31, 2018 was negatively affected by foreign exchange translation impact, hyperinflation in Argentina and $86 million impairment related to the agreed remedy package required for the approval of the AMSF acquisition. It was positively affected by the recognition of $202 million additional PIS/Cofins tax credits in the fourth quarter of 2018 relating to favorable judgments obtained in cases filed by ArcelorMittal Brasil concerning the period of 2005 to 2013. See note 9.3 to the consolidated financial statements for further information on pending cases related to the PIS/Cofins topic.

Crude steel production, steel shipments and average steel selling price

Crude steel production decreased 10.3% to 11.0 million tonnes for the year ended December 31, 2019 as compared to 12.3 million tonnes for the year ended December 31, 2018 mainly due to lower flat production following the stoppage of ArcelorMittal Tubarão's blast furnace #2 in response to deteriorating export market conditions and lower long product production.

Crude steel production increased 9.4% to 12.3 million tonnes for the year ended December 31, 2018 as compared to 11.2 million tonnes for the year ended December 31, 2017 mainly due to an increase in long products following the integration of AMSF. Excluding AMSF, crude steel production increased 4.9%.

Steel shipments decreased to 11.2 million tonnes for the year ended December 31, 2019 as compared to 11.5 million tonnes for the year ended December 31, 2018. Steel shipments in the first half of 2019 increased 6.6% to 5.7 million tonnes as compared to 5.3 million tonnes in the first half of 2018 due to higher sales of flat products in both domestic and export markets, while shipments for the second half of 2019 decreased 10.1% to 5.5 million tonnes compared to 6.2 million tonnes for the second half of 2018 due to deteriorating export market conditions.

Steel shipments increased to 11.5 million tonnes for the year ended December 31, 2018 as compared to 10.8 million tonnes for the year ended December 31, 2017, reflecting the contribution from the acquisition of AMSF. Excluding AMSF, steel shipments increased 0.5%. Total steel shipments in the Brazil segment increased 9.6% to 5.3 million tonnes for the first half of 2018 as compared to 4.8 million tonnes for the first half of 2017, driven by improved demand in long products and the integration of AMSF, partially offset by a nationwide truck strike. Total steel shipments in the Brazil segment increased 2.6% to 6.2 million tonnes in the second half of 2018 as compared to 6.0 million tonnes for the second half of 2017.

Average steel selling prices decreased 5.5% for the year ended December 31, 2019 as compared to the year ended December 31, 2018 in line with domestic and export prices. Average steel selling prices declined 4.7% in the first half of 2019 compared to first half of 2018 and 7.0% in the second half of 2019 compared to the second half of 2018.

Average steel selling prices increased 7.7% for the year ended December 31, 2018 as compared to the year ended December 31, 2017 in line with international prices. Average steel selling prices in the Brazil segment increased 11.0% for the six months ended June 30, 2018 as compared to the six months ended June 30, 2017, in line with domestic and export prices, and 4.9% during the second half of 2018 as compared to the second half of 2017.

Europe	Performance for the year ended December 31,		
(in millions of USD unless otherwise shown)	2019	2018	2017
Sales	37,721	40,488	36,208
Depreciation	1,256	1,195	1,201
Impairments	525	908	—
Operating (loss) income	(1,107)	1,632	2,359
Crude steel production (thousand tonnes)	43,913	44,693	43,768
Steel shipments (thousand tonnes)	42,352	41,020	40,941
Average steel selling price (USD/tonne)	696	787	702

Sales

Sales in the Europe segment were $37.7 billion for the year ended December 31, 2019, representing an 6.8% decrease as compared to sales of $40.5 billion for the year ended December 31, 2018, primarily due to a 11.7% decrease in average steel selling prices offset in part by a 3.2% increase in steel shipments. Sales decreased by 1.3% and 12.9% in the first and second half of 2019 as compared to the first and second half of 2018, respectively.

Sales in the Europe segment were $40.5 billion for the year ended December 31, 2018, representing an 11.8% increase as compared to sales of $36.2 billion for the year ended December 31, 2017, primarily due to a 12.2% increase in average steel selling prices, a 0.2% increase in steel shipments and the depreciation of the U.S. dollar against the euro.

Operating (loss) income

Operating loss for the Europe segment for the year ended December 31, 2019 was $1.1 billion as compared to an income of $1.6 billion for the year ended December 31, 2018. The operating loss was impacted by a negative price-cost effect (with lower steel pricing due to weaker economic activity and continued high level of imports, as well as higher raw material costs), continued losses at ArcelorMittal Italia, foreign exchange impact, an impairment of $0.5 billion in the first half of 2019 related to the remedy asset sales for the ArcelorMittal Italia acquisition and inventory related charges of $0.5 billion in the fourth quarter of 2019 following a period of exceptionally weak steel pricing. For the purposes of comparison with the prior year, the operating loss contribution (excluding purchase price allocation impact in 2018 and full year depreciation effect in 2019) of ArcelorMittal Italia for 2019 deteriorated by $0.6 billion compared to 2018 as it was consolidated from November 1, 2018.

Operating income for the Europe segment for the year ended December 31, 2018 decreased to $1.6 billion as compared to $2.4 billion for the year ended December 31, 2017, primarily due to the impairment charges of $908 million mainly related to the remedy asset sales for the acquisition of ArcelorMittal Italia (reflecting the adjustment to the carrying amount of the disposal group to the expected sale proceeds based on the offers received) as well as charges of $113 million related to blast furnace dismantling in Florange (France) and a charge of $146 million taken for the German Cartel case which settled in July 2018. Operating income for the Europe segment for the year ended December 31, 2018 was positively impacted by $209 million of bargain purchase gain recognized with respect to the acquisition of ArcelorMittal Italia.

Crude steel production, steel shipments and average steel selling price

Crude steel production for the Europe segment decreased 1.7% to 43.9 million tonnes for the year ended December 31, 2019 as compared to 44.7 million tonnes for the year ended December 31, 2018. In the first half of 2019, crude steel production increased 9.8% to 24.5 million tonnes from 22.3 million tonnes in the first half of 2018, primarily due to the impact of ArcelorMittal Italia (subsequent to its acquisition on November 1, 2018). The Company announced production cuts in May 2019 for approximately 4.2 million tonnes of annualized production to bring supply in line with addressable demand. The production cuts were implemented in the second half of 2019, with a portion taking effect in the third quarter of 2019 and the remainder completed as scheduled in the fourth quarter of 2019. Crude steel production decreased 13.2% in the second half of 2019 compared to the second half of 2018, including the impact of the remedy asset sales for the ArcelorMittal Italia acquisition with effect from June 30, 2019 and production cuts mentioned above.

Crude steel production for the Europe segment increased 2.1% to 44.7 million tonnes for the year ended December 31, 2018 as compared to 43.8 million tonnes for the year ended December 31, 2017, due primarily to the consolidation of ArcelorMittal Italia as from November 1, 2018, partially offset by production issues including floods in Asturias (Spain) and blast furnace reline in ArcelorMittal Zenica (Bosnia) in the second quarter and a power outage

in ArcelorMittal Méditerranée (Fos-sur-Mer, France) and a slower ramp up following a blast furnace repair in Poland in the third quarter of 2018.

Steel shipments were 42.4 million tonnes for the year ended December 31, 2019, a 3.2% increase from steel shipments of 41.0 million for the year ended December 31, 2018. Steel shipments increased 10.1% to 23.4 million tonnes in the first half of 2019, from 21.2 million tonnes in the first half of 2018, primarily due to the impact of ArcelorMittal Italia as mentioned above, partially offset by lower long product shipments, while shipments in the first half of 2018 were impacted by floods in Asturias, Spain and rail strikes in France. Steel shipments decreased 4.13% in the second half of 2019 compared to the second half of 2018, due to the impact of the remedy asset sales for the ArcelorMittal Italia acquisition and the impact of ongoing weak demand, in particular macroeconomic headwinds including declines in automobile production.

Steel shipments were 41.0 million tonnes for the year ended December 31, 2018, a 0.2% increase from steel shipments of 40.9 million for the year ended December 31, 2017. In the first half of 2018, steel shipments increased 2.6% to 21.2 million tonnes, from 20.7 million tonnes in the first half of 2017, both for flat and long products partially offset by the operational issues described above, while steel shipments in the second half of 2018 decreased 2.3% to 19.8 million tonnes from 20.3 million tonnes in the second half of 2017 due to weak market conditions in the fourth quarter of 2018, particularly in long products, and the operational issues described above, partially offset by the consolidation of Ilva as from November 1, 2018.

Average steel selling prices decreased 11.7% for the year ended December 31, 2019 as compared to the year ended December 31, 2018 in line with market prices and the appreciation of the U.S. dollar against the euro in 2019. Average steel selling prices decreased 10.5% during the first half of 2019 as compared to the first half of 2018 in line with market prices and 13.3% during the second half of 2019 as compared to the second half of 2018.

Average steel selling prices increased 12.2% for the year ended December 31, 2018 as compared to the year ended December 31, 2017 in line with higher international prices. Average steel selling prices increased 18.8% during the first half of 2018 as compared to the first half of 2017 in line with higher international prices and the depreciation of the U.S. dollar against the euro and 6.0% during the second half of 2018 as compared to the second half of 2017.

ACIS	Performance for the year ended December 31,		
(in millions of USD unless otherwise shown)	2019	2018	2017
Sales	6,837	7,961	7,621
Depreciation	364	311	313
Impairments	102	—	206
Operating (loss) income	(25)	1,094	508
Crude steel production (thousand tonnes)	12,998	13,022	14,678
Steel shipments (thousand tonnes)	11,547	11,741	13,094
Average steel selling price (USD/tonne)	517	598	515

Sales

Sales in the ACIS segment were $6.8 billion for the year ended December 31, 2019, representing a decrease of 14.1% as compared to the year ended December 31, 2018, primarily due to a 13.6% decrease in average steel selling prices and a 1.7% decrease in steel shipments.

Sales in the ACIS segment were $8.0 billion for the year ended December 31, 2018, representing an increase of 4.5% as compared to the year ended December 31, 2017, primarily due to a 16.1% increase in average steel selling prices, partially offset by a 10.3% decrease in steel shipments.

Operating (loss) income

Operating loss for the ACIS segment for the year ended December 31, 2019 was $25 million as compared to an income of $1.1 billion for the year ended December 31, 2018, primarily due to a negative price-cost effect, lower shipments, impairments of $0.1 billion related to ArcelorMittal South Africa (of which $75 million related to the fixed assets of the Newcastle facility as a result of lower domestic volume forecasts and $20 million related to the closure of the Saldanha facility) and $0.1 billion of closure and retrenchment costs related to the Saldanha facility in relation to the announced Section 189 process.

Operating income for the ACIS segment for the year ended December 31, 2018 was $1.1 billion as compared to $508 million for the year ended December 31, 2017, increasing primarily due to a positive price-cost effect and partially offset by the decrease in shipments in 2018.

Crude steel production, steel shipments and average steel selling price

Crude steel production for the ACIS segment decreased marginally by 0.2% remaining at 13.0 million tonnes for the year ended December 31, 2019 and 2018.

Crude steel production for the ACIS segment decreased by 11.3% to 13.0 million tonnes for the year ended December 31, 2018, from 14.7 million tonnes for the year ended December 31, 2017, primarily due to planned (blast furnace #9) and unplanned maintenance in Ukraine in the first half of 2018 and an explosion at a gas pipeline at Temirtau (Kazakhstan) in the fourth quarter of 2018.

Steel shipments for the year ended December 31, 2019 decreased by 1.7% to 11.5 million tonnes as compared to 11.7 million tonnes for the year ended December 31, 2018 primarily due to lower shipments in South Africa impacted by weaker demand, offset in part by the normalization of production in the second quarter of 2019 at Temirtau following the explosion described above.

Steel shipments for the year ended December 31, 2018 decreased by 10.3% to 11.7 million tonnes as compared to 13.1 million tonnes for the year ended December 31, 2017 reflecting the operational issues mentioned above. In the first half of 2018, steel shipments decreased 6.1% to 6.1 million tonnes from 6.5 million tonnes in the first half of 2017 due to lower CIS shipments partially offset by higher steel shipments in South Africa, while steel shipments in the second half of 2018 decreased 14.5% to 5.7 million as compared to 6.6 million in the second half of 2017, primarily due to lower steel shipments in CIS following the incidents mentioned above.

Average steel selling prices decreased 13.6% for the year ended December 31, 2019 as compared to the year ended December 31, 2018 in line with market prices. Average steel selling prices decreased 12.6% and 14.7% in the first and second half of 2019, respectively compared to the same periods in 2018.

Average steel selling prices increased 16.1% for the year ended December 31, 2018 as compared to the year ended December 31, 2017 in line with international prices. Average steel selling prices increased 23.1% and 9.4% in the first and second half of 2018, respectively, as compared to the same periods in 2017.

Mining		Performance for the year ended December 31,		
(in millions of USD unless otherwise shown)	Note	2019	2018	2017
Sales		4,837	4,211	4,033
Depreciation		448	418	416
Operating income		1,215	860	991
Own iron ore production (million tonnes)		57.1	58.5	57.4
Iron ore shipped externally and internally at market price (million tonnes)	1,2	37.1	37.6	35.7
Iron ore shipment - cost plus basis (million tonnes)	1	22.2	20.6	22.2
Own coal production (million tonnes)		5.5	5.9	6.3
Coal shipped externally and internally at market price (million tonnes)	1,2	2.8	2.5	2.8
Coal shipment - cost plus basis (million tonnes)	1	2.9	3.3	3.5

1. There are three categories of sales: (1) “External sales”: mined product sold to third parties at market price; (2) “Market-priced tonnes”: internal sales of mined product to ArcelorMittal facilities reported at prevailing market prices; (3) “Cost-plus tonnes”: internal sales of mined product to ArcelorMittal facilities on a cost-plus basis. The determinant of whether internal sales are reported at market price or reported at cost-plus is whether or not the raw material could practically be sold to third parties (i.e., there is a potential market for the product and logistics exist to access that market).
2. Market-priced tonnes represent amounts of iron ore and coal from ArcelorMittal mines that could practically be sold to third parties. Market-priced tonnes that are transferred from the Mining segment to the Company’s steel producing segments are reported at the prevailing market price. Shipments of raw materials that do not constitute market-priced tonnes are transferred internally on a cost-plus basis.

Iron ore production (million metric tonnes)	Note 1	Type	Product	Year ended December 31, 2019	2018	2017
Own mines						
North America	2	Open pit	Concentrate, lump, fines and pellets	35.4	36.9	38.1
South America		Open pit	Lump and fines	2.3	2.8	3.2
Europe		Open pit	Concentrate and lump	1.5	1.4	1.6
Africa		Open pit / Underground	Fines	4.4	4.6	2.0
Asia, CIS & Other		Open pit / Underground	Concentrate, lump, fines and sinter feed	13.5	12.8	12.5
Total own iron ore production				57.1	58.5	57.4
Strategic long-term contracts - iron ore						
North America	3	Open pit	Pellets	—	—	0.9
Africa		Open pit	Lump and fines	—	—	—
Total strategic long-term contracts - iron ore				—	—	0.9
Total				57.1	58.5	58.3

1. Total of all finished production of fines, concentrate, pellets and lumps.
2. Includes own mines and share of production from Hibbing (United States, 62.30%) and Peña (Mexico, 50%).
3. Consists of a long-term supply contract with Cleveland-Cliffs Inc. which expired in the first quarter of 2017.

Coal production (million metric tonnes)	Note	2019	Year ended December 31, 2018	2017
Own mines				
North America		1.96	2.09	2.06
Asia, CIS & Other		3.53	3.82	4.25
Total coal production		5.49	5.91	6.31

Sales

Sales in the Mining segment were $4.8 billion for the year ended December 31, 2019, representing an increase of 14.9% as compared to the year ended December 31, 2018. Sales were 22.1% higher at $2.6 billion and 7.8% higher at $2.2 billion for the first and second half of 2019, respectively as compared to the same periods in 2018.

Sales in the Mining segment were $4.2 billion for the year ended December 31, 2018, representing an increase of 4.4% as compared to the year ended December 31, 2017. Sales were 2.2% higher at $2.1 billion and 6.7% higher at $2.1 billion for the first and second half of 2018, respectively as compared to the same periods in 2017.

Sales to external customers were $1,165 million for the year ended December 31, 2019, representing an increase of 15.5% as compared to the year ended December 31, 2018 mainly due to the increase in seaborne iron ore reference prices. Iron ore shipments were 59.3 million tonnes for the year ended December 31, 2019, representing a 1.8% increase as compared to 58.3 million tonnes for the year ended December 31, 2018. Iron ore shipments to external parties were 12.0 million tonnes for the year ended December 31, 2019 as compared to 12.7 million tonnes for the year ended December 31, 2018, primarily due to lower production at AMMC described below. Coal shipments were 5.7 million tonnes for the year ended December 31, 2019 as compared with 5.8 million tonnes for the year ended December 31, 2018.

Sales to external customers were $1,009 million for the year ended December 31, 2018, representing an increase of 2.4% as compared to the year ended December 31, 2017, primarily due to the increase in prices. Iron ore shipments were 58.3 million tonnes for the year ended December 31, 2018, representing a marginal 0.7% increase as compared to 57.9 million for the year ended December 31, 2017. Iron ore shipments to external parties were 12.7 million tonnes for the year ended December 31, 2018 as compared to 11.8 million tonnes for the year ended December 31, 2017. Coal shipments were 5.8 million tonnes for the year ended December 31, 2018 as compared with 6.3 million tonnes for the year ended December 31, 2017.

The average reference iron ore price was $93.63 per tonne in 2019, $69.70 per tonne in 2018 and $71.39 per tonne in 2017 (delivered to China, normalized to Qingdao and 62% Fe US $ per tonne, Metal Bulletin) and the average reference price for hard coking coal was $176.71 per tonne in 2019, $206.62 per tonne in 2018 and $187.28 per tonne in 2017 (Premium HCC FOB Aus, Metal Bulletin). However, there may not be a direct correlation between reference prices and actual selling prices in various regions at a given time.

Operating income

Operating income for the Mining segment was $1,215 million for the year ended December 31, 2019 as compared to $860 million for the year ended December 31, 2018, primarily driven by the increase in the iron ore reference

prices offset in part by the reduction in market-priced iron ore shipments and lower coking coal reference prices and lower iron ore quality premia.

Operating income for the Mining segment was $860 million for the year ended December 31, 2018 as compared to $991 million for the year ended December 31, 2017, primarily driven by the decrease in the iron ore reference prices and lower coal volumes.

Production

ArcelorMittal had iron ore production of 57.1 million tonnes for the year ended December 31, 2019, a decrease of 2.3% compared to the year ended December 31, 2018. Iron ore production decreased 1.3% for the first half of 2019 compared to the first half of 2018 primarily due to lower production in Brazil due to the temporary suspension of Serra Azul in Brazil (following evacuation on February 8, 2019) which restarted on March 18, 2019, Liberia, Temirtau and Mexico (Volcan mine reached end of life in May 2019), partially offset by higher production in Canada and Ukraine. Iron ore production decreased 3.4% for the second half of 2019 compared to the second half of 2018 primarily due to lower production in AMMC (following an electrical failure in the third quarter of 2019 which led to a temporary stoppage of the concentrator followed by a slow ramp-up in the fourth quarter of 2019) and the Volcan mine end of life in Mexico, offset in part by higher production in Kazakhstan.

ArcelorMittal had iron ore production of 58.5 million tonnes for the year ended December 31, 2018, an increase of 1.9% compared to the year ended December 31, 2017, primarily due to Liberia (production of 4.6 million tonnes in 2018 which, although above the 2017 level, was slightly below the 5 million tonne full year capacity, due to handling/logistical issues at the new Gangra deposit during the wet season in the second half of 2018), offset in part by lower production in Canada (lower yield from a new mix of ore bodies following a pit wall instability issue which first occurred in the fourth quarter of 2017) and Mexico.

ArcelorMittal had coking coal production of 5.5 million tonnes for the year ended December 31, 2019, a decrease of 7.1% compared to the year ended December 31, 2018 mainly due to lower production in both Kazakhstan and Princeton.

ArcelorMittal had own coking coal production of 5.9 million tonnes for the year ended December 31, 2018, a decrease of 6.3% compared to the year ended December 31, 2017 mainly due to lower production in the Kazakhstan mines following operational and geological issues.

Income or loss from investments in associates, joint ventures and other investments

ArcelorMittal recorded income of $347 million from investments in associates, joint ventures and other investments for the year ended December 31, 2019, as compared to $652 million for the year ended December 31, 2018 driven by lower profitability of Calvert and Chinese investee and includes a dividend income from Erdemir of $93 million as compared to $87 million in 2018.

ArcelorMittal recorded income of $652 million from investments in associates, joint ventures and other investments for the year ended December 31, 2018, as compared to $448 million for the year ended December 31, 2017 and includes a dividend income from Erdemir of $87 million as compared to $45 million in 2017.

Financing costs-net

Financing costs-net include net interest expense, revaluation of financial instruments, net foreign exchange income/expense (i.e., the net effects of transactions in a foreign currency other than the functional currency of a subsidiary) and other net financing costs (which mainly include bank fees, accretion of defined benefit obligations and other long-term liabilities).

Net financing costs were lower at $1.7 billion for the year ended December 31, 2019 as compared to $2.2 billion for the year ended December 31, 2018. Net interest expense (interest expense less interest income) was lower at $607 million for the year ended December 31, 2019 as compared to $615 million for the year ended December 31, 2018.

Foreign exchange gains were $4.0 million as compared to a loss of $235 million for the years ended December 31, 2019 and 2018, respectively. The 2018 loss was primarily due to the first quarter of 2018 as described below.

Other net financing costs (including expenses related to true sale of receivables, bank fees, interest on pensions and fair value adjustments of the call option of the mandatorily convertible bond and derivative instruments) were $1.0 billion for the year ended December 31, 2019 compared to $1.4 billion for the year ended December 31, 2018, and included mark-to-market losses related to the mandatory convertible bond call option totaling $356 million as compared to $501 million for the year ended December 31, 2018.

Net financing costs were higher at $2.2 billion for the year ended December 31, 2018 as compared to $0.9 billion for the year ended December 31, 2017. Net interest expense (interest expense less interest income) was lower at $0.6 billion for the year ended December 31, 2018 as compared to $0.8 billion for the year ended December 31, 2017, driven by debt reduction including early bond repayments and lower cost of debt.

Foreign exchange losses were $235 million as compared to a gain of $546 million for the years ended December 31, 2018 and 2017, respectively. The foreign exchange losses were primarily due to the effect of the depreciation of the

U.S. dollar against the euro on the Company's euro denominated debt in the first quarter of 2018. As of April 1, 2018, the Company designated a portfolio of euro denominated debt (€5,169 million as of December 31, 2018) as a hedge of certain euro denominated investments (€7,804 million as of December 31, 2018) in order to mitigate the foreign currency risk arising from certain euro denominated subsidiaries' net assets. The risk arises from the fluctuation in spot exchange rates between the U.S. dollar and euro, which causes the amount of the net investments to vary. The hedged risk in the hedge of net investments is a risk of a weakening euro against the U.S. dollar that will result in a reduction in the carrying amount of the Company's net investments in the subsidiaries subject to the hedge. The euro denominated debt is designated as a hedging instrument for the change in the value of the net investments that is attributable to changes in the euro/U.S. dollar spot rate. As a result, the Company's statement of operations no longer includes foreign exchange exposure on such euro denominated debt.

Other net financing costs (including expenses related to true sale of receivables, bank fees, interest on pensions and fair value adjustments of the call option of the mandatorily convertible bond and derivative instruments) were $1.4 billion for the year ended December 31, 2018 compared to $0.6 billion for the year ended December 31, 2017, and included mark-to-market losses related to the mandatory convertible bond call option totaling $0.5 billion as compared to gains of $0.8 billion for the year ended December 31, 2017. Other net financing costs for the year ended December 31, 2018 also included $0.1 billion premium expense on the early redemption of bonds as compared to $0.4 billion for the year ended December 31, 2017. Other net financing costs in 2017 were negatively affected by mark-to-market losses relating to a derivative embedded in a pellet supply agreement in the United States (due to a payment based on the evolution of the price of steel in the United States domestic steel market) of $0.3 billion.

Income tax expense (benefit)

ArcelorMittal recorded an income tax expense of $0.5 billion for the year ended December 31, 2019 as compared to income tax benefit of $0.3 billion for the year ended December 31, 2018. The current income tax expense of $786 million for the year ended December 31, 2019 as compared to $928 million for the year ended December 31, 2018 was primarily driven by lower results in a number of countries. The deferred tax benefit of $327 million for the year ended December 31, 2019 includes a $0.3 billion reduction of deferred tax assets following tax rate decrease in Luxembourg and a $0.6 billion deferred tax benefit recorded in Luxembourg, due to the expectation of higher future profits.

ArcelorMittal recorded an income tax benefit of $0.3 billion for the year ended December 31, 2018 as compared to income tax expense of $0.4 billion for the year ended December 31, 2017. The current income tax expense of $928 million for the year ended December 31, 2018 as compared to $583 million for the year ended December 31, 2017 was primarily driven by improved results in a number of countries. The deferred tax benefit of $1,277 million for the year ended December 31, 2018 as compared with a deferred tax benefit of $151 million for the year ended December 31, 2017 included a $1.4 billion deferred tax benefit recorded mainly in Luxembourg, due to the expectation of higher future profits. This benefit included a $0.6 billion deferred tax income in the context of the change in the currency denomination of the Company's tax losses in Luxembourg as the revised taxable income projections in U.S. dollar terms reflect a change in the foreign currency exposure of the different income streams. Following the May 16, 2018 approval of the extraordinary general meeting ("EGM") to change the share capital of the ArcelorMittal parent company from euro to U.S. dollar, the parent company will file consolidated tax returns in U.S. dollar for the main Luxembourg tax integration going forward. The euro denominated tax losses and the related deferred tax asset held by the ArcelorMittal parent company in Luxembourg were translated into U.S. dollar effective as of January 1, 2018.

ArcelorMittal’s consolidated income tax expense (benefit) is affected by the income tax laws and regulations in effect in the various countries in which it operates and the pre-tax results of its subsidiaries in each of these countries, which can change from year to year. ArcelorMittal operates in jurisdictions, mainly in Eastern Europe and Asia, which have a structurally lower corporate income tax rate than the statutory tax rate as enacted in Luxembourg (24.94%), as well as in jurisdictions, mainly in Brazil and Mexico, which have a structurally higher corporate income tax rate.

The statutory income tax expense (benefit) and the statutory income tax rates of the countries that most significantly resulted in the tax expense (benefit) at statutory rate for each of the years ended December 31, 2019, 2018 and 2017 are as set forth below:

	2019		2018		2017	
	Statutory income tax	Statutory income tax rate	Statutory income tax	Statutory income tax rate	Statutory income tax	Statutory income tax rate
United States	(382)	21.00%	44	21.00%	(98)	21.00%
Argentina	3	25.00%	6	25.00%	15	25.00%
France	(164)	25.82%	48	25.82%	112	25.82%
Brazil	84	34.00%	271	34.00%	69	34.00%
Belgium	(37)	25.00%	55	25.00%	105	25.00%
Germany	(124)	30.30%	(22)	30.30%	7	30.30%
Spain	(73)	25.00%	18	25.00%	(4)	25.00%
Italy	(254)	24.00%	2	24.00%	(6)	24.00%
Luxembourg	407	24.94%	123	26.01%	1,139	26.01%
Mexico	(105)	30.00%	73	30.00%	(18)	30.00%
South Africa	(92)	28.00%	19	28.00%	(115)	28.00%
Canada	234	25.90%	359	25.90%	190	25.90%
Kazakhstan	52	20.00%	65	20.00%	77	20.00%
Czech Republic	(2)	19.00%	(51)	19.00%	(21)	19.00%
Poland	(27)	19.00%	45	19.00%	30	19.00%
Romania	(14)	16.00%	(44)	16.00%	(7)	16.00%
Ukraine	(21)	18.00%	69	18.00%	47	18.00%
Liberia	31	25.00%	(3)	25.00%	(18)	25.00%
United Kingdom	4	17.00%	8	17.00%	(1)	17.00%
Switzerland	22	7.83%	17	7.83%	(67)	7.83%
Others	(10)		(59)		(29)	
Total	(468)		1,043		1,407	

Note: The statutory tax rates are the (future) rates enacted or substantively enacted by the end of the respective period.

Non-controlling interests

Net income attributable to non-controlling interests was $63 million for the year ended December 31, 2019 as compared to $181 million for the year ended December 31, 2018. Net income attributable to non-controlling interests decreased in 2019 primarily as a result of the operating performance of ArcelorMittal South Africa.

Net income attributable to non-controlling interests was $181 million for the year ended December 31, 2018 as compared to $7 million for the year ended December 31, 2017. Net income attributable to non-controlling interests increased in 2018 primarily as a result of the improved operating performance of ArcelorMittal South Africa.

Net income attributable to equity holders of the parent

ArcelorMittal's net loss attributable to equity holders of the parent was $2.5 billion for the year ended December 31, 2019, compared to net income attributable to equity holders of the parent of $5.1 billion and $4.6 billion for the years ended December 31, 2018 and 2017, respectively.

Liquidity and capital resources

ArcelorMittal's principal sources of liquidity are cash generated from its operations and its credit facilities at the corporate level.

Because ArcelorMittal is a holding company, it is dependent upon the earnings and cash flows of, as well as dividends and distributions from, its operating subsidiaries to pay expenses and meet its debt service obligations. Significant cash or cash equivalent balances may be held from time to time at the Company's international subsidiaries, in particular those in France and in the United States, where the Company maintains cash management systems under which most of its cash and cash equivalents are centralized, and in Brazil, Canada, Kazakhstan, South Africa and Ukraine. Some of these operating subsidiaries have debt outstanding or are subject to acquisition agreements that impose restrictions on such operating subsidiaries' ability to pay dividends, but such restrictions are not significant in the context of ArcelorMittal's overall liquidity. Repatriation of funds from operating subsidiaries may also be affected by tax and foreign exchange policies in place from time to time in the various countries where the Company operates, though none of these policies is currently significant in the context of ArcelorMittal's overall liquidity.

In management's opinion, ArcelorMittal's credit facilities are adequate for its present requirements.

As of December 31, 2019, ArcelorMittal's cash and cash equivalents, including restricted cash of $128 million, amounted to $5.0 billion as compared to $2.4 billion as of December 31, 2018. In addition, ArcelorMittal had available borrowing capacity of $5.5 billion under its $5.5 billion revolving credit facility as of December 31, 2019 and 2018.

As of December 31, 2019, ArcelorMittal's total debt, which includes long-term debt and short-term debt was $14.3 billion, compared to $12.6 billion as of December 31, 2018.

Net debt (defined as long-term debt ($11.5 billion) plus short-term debt ($2.9 billion) including debt classified as held for sale (nil), less cash and cash equivalents and restricted cash ($5.0 billion)) was $9.3 billion as of December 31, 2019, down from $10.2 billion at December 31, 2018, comprised of long-term debt ($9.3 billion) plus short-term debt ($3.2 billion) including debt classified as held for sale ($0.1 billion), less cash and cash equivalents and restricted cash ($2.4 billion). Most of the external debt is borrowed by the parent company on an unsecured basis and bears interest at varying levels based on a combination of fixed and variable interest rates. Gearing (defined as net debt divided by total equity) at December 31, 2019 and 2018 was 23%.

The margin applicable to ArcelorMittal's principal credit facilities ($5.5 billion revolving credit facility and certain other credit facilities) and the coupons on certain of its outstanding bonds are subject to adjustment in the event of a change in its long-term credit ratings. In 2019, ArcelorMittal's credit ratings remained unchanged although outlooks were revised as described in the Risk Factors above. ArcelorMittal has a substantial amount of indebtedness, which could make it more difficult or expensive to refinance its maturing debt, incur new debt and/or flexibly manage its business and the market's perception of ArcelorMittal's leverage may affect its share price.

ArcelorMittal's $5.5 billion revolving credit facility signed on December 19, 2018 with a maturity of December 19, 2023. During the fourth quarter of 2019, ArcelorMittal executed the option to extend the facility to December 19, 2024. The extension was completed for $5.4 billion of the available amount, with the remaining $0.1 billion remaining with a maturity of December 19, 2023 as of December 31, 2019. The facility may be further extended for an additional year in December 2020. The facility contains restrictive covenants, which among other things, limit encumbrances on the assets of ArcelorMittal and its subsidiaries, the ability of ArcelorMittal's subsidiaries to incur debt and the ability of ArcelorMittal and its subsidiaries to dispose of assets in certain circumstances. The agreement also requires compliance with a financial covenant, as summarized below.

The Company must ensure that the ratio of "Consolidated Total Net Borrowings" (consolidated total borrowings less consolidated cash and cash equivalents) to "Consolidated EBITDA" (the consolidated net pre-taxation profits of the ArcelorMittal group for a Measurement Period, subject to certain adjustments as set out in the facility) does not, at the end of each "Measurement Period" (each period of 12 months ending on the last day of a financial half-year or a financial year of the Company), exceed a certain ratio, referred to by the Company as the "Leverage ratio". ArcelorMittal's principal credit facilities set this ratio to 4.25 to 1. As of December 31, 2019, the Company was in compliance with the ratio.

Non-compliance with the covenants in the Company's borrowing agreements would entitle the lenders under such facilities to accelerate the Company's repayment obligations. The Company was in compliance with the financial covenants in the agreements related to all of its borrowings as of December 31, 2019 and December 31, 2018.

As of December 31, 2019, ArcelorMittal had guaranteed $236 million of debt of its operating subsidiaries, including $23 million following the adoption of IFRS 16 for which the Company recognized additional liabilities, compared to $99 million as of December 31, 2018. See also note 9.4 to the consolidated financial statements for a description of ArcelorMittal guarantees for associates and joint ventures of $3.8 billion as of December 31, 2019. ArcelorMittal's debt facilities have provisions whereby the acceleration of the debt of another borrower within the ArcelorMittal group could, under certain circumstances, lead to acceleration under such facilities.

The following table summarizes the repayment schedule of ArcelorMittal's outstanding indebtedness, which includes short-term and long-term debt, as of December 31, 2019.

	Repayment amounts per year (in billions of $)						
Type of indebtedness as of December 31, 2019	2020	2021	2022	2023	2024	>2024	Total
Bonds	0.5	0.3	1.5	1.4	1.9	3.7	9.3
Commercial paper	1.2						1.2
Lease liabilities and other loans	1.1	0.7	0.4	0.8	0.2	0.6	3.8
Total gross debt	2.8	1.0	1.9	2.2	2.1	4.3	14.3

As of December 31, 2019, the $5.5 billion revolving credit facility was fully available.

The average debt maturity of the Company was 5.3 years as of December 31, 2019, as compared to 4.0 years as of December 31, 2018.

Further information regarding ArcelorMittal's outstanding short-term and long-term indebtedness as of December 31, 2019, including the breakdown between fixed rate and variable rate debt, is set forth in note 6 to the consolidated financial statements. Further information regarding ArcelorMittal's use of financial instruments for hedging purposes is set forth in note 6 to the consolidated financial statements.

Financings

ArcelorMittal's principal credit facilities are described below, for further information on its existing credit facilities and several debt financing and repayment transactions completed during 2019, please refer to note 6 to the consolidated financial statements.

Principal credit facilities

On December 19, 2018, ArcelorMittal signed an agreement for a $5.5 billion revolving credit facility (the "Facility"). This Facility replaced the $5.5 billion revolving credit facility dated April 30, 2015, which was amended and extended on December 21, 2016. The agreement incorporates a single tranche of $5.5 billion and on November 27, 2019 ArcelorMittal exercised the option to extend the facility's maturity by one year to December 19, 2024. The commitments are $5.5 billion until December 19, 2023 and $5.4 billion until December 19, 2024, subject to ArcelorMittal's option to extend the term by an additional year exercisable in the end of 2020. The Facility may be used for general corporate purposes. As of December 31, 2019, the $5.5 billion revolving credit facility was fully available. The Company makes drawdowns from and repayments on this Facility in the framework of its cash management.

On September 30, 2010, ArcelorMittal entered into the $500 million revolving multi-currency letter of credit facility (the "Letter of Credit Facility"). The Letter of Credit Facility is used by the Company and its subsidiaries for the issuance of letters of credit and other instruments. The terms of the letters of credit and other instruments contain certain restrictions as to duration. The Letter of Credit Facility was amended on October 26, 2012 and September 30, 2014 to reduce its amount to $450 million and to $350 million, respectively. On July 31, 2019, the Company refinanced its Letter of Credit Facility by entering into a $350 million revolving multi-currency letter of credit facility, which matures on July 31, 2022.

Mandatory convertible bond

Please refer to note 6.3 and 11.2 to the consolidated financial statements.

True sale of receivables ("TSR") programs and payment terms with suppliers

The Company has established a number of programs for sales without recourse of trade accounts receivable to various financial institutions (referred to as true sale of receivables ("TSR")). As of December 31, 2019, the total amount of trade accounts receivables sold amounted to $4,436 million. Through the TSR programs, certain operating subsidiaries of ArcelorMittal surrender the control, risks and benefits associated with the accounts receivable sold; therefore, the amount of receivables sold is recorded as a sale of financial assets and the balances are removed from the consolidated statements of financial position at the moment of sale.

As part of the Company's ongoing efforts to improve its working capital position, it continually engages with its customers and suppliers with the aim of improving overall terms, including pricing, quality, just in time delivery, discounts and payment terms. Trade accounts payable have maturities from 15 to 180 days depending on the type of material, the geographic area in which the purchase transaction occurs and the various contractual agreements. The Company's average outstanding number of trade payable days amounted to 78 over the last 5 years. The ability of suppliers to provide payment terms may be dependent on their ability to obtain funding for their own working capital needs and or their ability to early discount their receivables at their own discretion. Given the nature and large diversification of its suppliers base the Company does not expect any material impact to its own liquidity position as a result of suppliers not having access to liquidity. As of December 31, 2019, a 5 day reduction in trade payable days would result in a trade payables decrease by $750 million.

Earnings distribution

ArcelorMittal held 9.8 million shares in treasury as of December 31, 2019, as compared to 8.3 million shares as of December 31, 2018. As of December 31, 2019, the number of shares held by the Company in treasury represented approximately 0.96% of the Company's total issued share capital.

On January 31, 2018, the Company announced that the Board had agreed on a new dividend policy which was approved by the shareholders at the annual general meeting of shareholders in May 2018. Given the current de-leveraging focus, dividends began at $0.10/share in 2018 (paid from 2017 results). The Company intends to progressively increase the base dividend paid to its shareholders, and, on attainment of the net debt target, return a percentage of net cash provided by operating activities annually. The Company paid the base dividend for 2019 (paid from 2018 earnings) of $0.20 per share to the shareholders. On February 4, 2020, given the resilient cash flow and progress towards its net debt target, the Board proposes a base dividend of $0.30 per share for 2020 (in respect of 2019) which will be proposed to the shareholders at the AGM in May 2020.

Pension/OPEB liabilities

The defined benefit liabilities for employee benefits increased by $0.4 billion to $7.3 billion as of December 31, 2019, as compared to $6.9 billion as of December 31, 2018. The increase is mainly due to the increase in the defined benefit obligation due to lower discount rates, offset partly by increase in assets value and other actuarial gains. For additional information with respect to the Company's pension plan and OPEB liabilities, including a breakdown by region and by type of plan, see note 8.2 to the consolidated financial statements.

IFRS 16

The Company adopted IFRS 16 "Leases" as of January 1, 2019, using the modified retrospective transition approach with right-of-use assets measured at an amount equal to the lease liability recognized at January 1, 2019, adjusted by the amount of any prepaid or accrued lease payments relating to those leases. On January 1, 2019, the Company recognized additional lease liabilities (discounted at the incremental borrowing rates at that date) for an amount of $1,136 million (see note 7 to the consolidated financial statements).

Research and development, patents and licenses

For information on the Company's research and development policies, see "Business overview—Research and development" below for further details.

Sources and uses of cash

Years ended December 31, 2019, 2018 and 2017

The following table presents a summary of cash flow of ArcelorMittal:

Summary of cash flow		For the year ended December 31,	
(in $ millions)	2019	2018	2017
Net cash provided by operating activities	6,017	4,196	4,563
Net cash used in investing activities	(3,824)	(3,759)	(2,830)
Net cash provided by (used in) financing activities	514	(689)	(1,731)

Net cash provided by operating activities

For the year ended December 31, 2019, net cash provided by operating activities increased to $6.0 billion, as compared with $4.2 billion for the year ended December 31, 2018. The increase in net cash provided by operating activities was mainly due to an operating working capital release of $2.2 billion as compared to an operating working capital investment of $4.4 billion in 2018, including an inflow for inventories of $2.47 billion , an inflow for trade accounts receivables of $0.96 billion, partially offset by an outflow of trade accounts payables of $1.24 billion. The operating working capital release was driven by lower inventories and receivables, due in part to lower selling prices, particularly in the fourth quarter of 2019, as well as by raw material costs and improved collection of receivables.

For the year ended December 31, 2018, net cash provided by operating activities decreased to $4.2 billion, as compared with $4.6 billion for the year ended December 31, 2017. The decrease in net cash provided by operating activities was mainly due to an investment in operating working capital of $4.38 billion which represented an outflow for trade accounts receivables of $0.65 billion, an outflow for inventories of $4.65 billion and an inflow for trade accounts payables and other of $0.91 billion, partially offset by an increase in operating income driven by the increase in average steel selling prices offset by lower steel shipments. The operating working capital investment for the year ended December 31, 2018 largely reflected the price effect of improved market conditions which impacted operating working capital through higher inventories and higher trade receivables. The investment in operating working capital for the year ended December 31, 2018 reflected a lower than anticipated release of working capital in the fourth quarter of 2018 due to the weaker apparent demand conditions leading to an accumulation of metal stock and raw material volumes.

Net cash used in investing activities

Net cash used in investing activities was $3.8 billion for the year ended December 31, 2019 and 2018. Capital expenditures increased to $3.6 billion for the year ended December 31, 2019 as compared to $3.3 billion for the year ended December 31, 2018. Capital expenditures for the year ended December 31, 2019 were significantly below the initial guidance of $4.3 billion but marginally above the revised $3.5 billion guidance provided after the third quarter of 2019 and below the mid-year guidance of $3.8 billion as the Company adapted its capital expenditure plans to the weaker market conditions. Cash used in investing activities includes i) $0.8 billion net cash outflow for the acquisition of AMNS India and $83 million additional UG payments, ii) lease payments ($200 million) for the ArcelorMittal Italia acquisition and iii) the acquisition of Münker Metallprofile GmbH in Germany ($46 million) . These outflows were offset in part by i) proceeds from remedy asset sales for the ArcelorMittal Italia acquisition of $518 million (cash consideration of $694 million, net of cash disposed of $34 million, an escrow deposit of $125 million which was subsequently drawn and proceeds of $17 million paid to a joint venture of the Company), ii) the final installment of disposal proceeds from ArcelorMittal USA's 21% stake in the Empire Iron Mine Partnership for $44 million and iii) the sale of remaining 2.6% stake in Gerdau for $116 million. See “—Capital expenditure projects”.

Net cash used in investing activities was $3.8 billion for the year ended December 31, 2018 as compared to $2.8 billion for the year ended December 31, 2017. Capital expenditures increased to $3.3 billion for the year ended December 31, 2018 as compared to $2.8 billion for the year ended December 31, 2017. Capital expenditures for the year ended December 31, 2018 were lower than expected due to underspending in certain strategic projects and at ArcelorMittal Italia due to the acquisition only being completed in November 2018. Cash used in investing activities for the year ended December 31, 2018 included the acquisition of the Uttam Galva and KSS Petron debt for $1 billion in the context of the AMNS India bidding process, offset in part by the proceeds from the sale of Go Steel Frýdek Místek ($39 million), the second installment of proceeds of $44 million from the disposal of ArcelorMittal USA's 21% stake in the Empire Iron Mining Partnership, $220 million of sale proceeds following the disposal of the Company's 50% interest in Macsteel and $55 million relating to the release of restricted cash related to the mandatory convertible bond following contractual renegotiation.

ArcelorMittal's major capital expenditures in the year ended December 31, 2019 included the following projects: the ArcelorMittal Mexico new hot strip mill, the ArcelorMittal Italy environmental investment program, the new LF&CC 2&3 in ArcelorMittal Kryvyi Rih and the new walking beam furnaces at Burns Harbor, along with other ongoing projects.

ArcelorMittal's major capital expenditures in the year ended December 31, 2018 included the following projects: the Mexico hot strip mill, the new LF&CC 2&3 in ArcelorMittal Kryvyi Rih, the modernization of ArcelorMittal Dofasco's hot strip mill, the footprint optimization project at Indiana Harbor and the new walking beam furnaces at Burns Harbor, along with other ongoing projects. ArcelorMittal's major capital expenditures in the year ended December 31, 2017 included the following projects: the AM/NS Calvert slab yard expansion, ArcelorMittal Dofasco's galvalume line, ArcelorMittal Poland's HSM extension and HDG capacity increase along with other ongoing projects.

The Company maintains the ability to adapt its capital expenditures plan to the operating environment and now expects 2020 capital expenditures to be approximately $3.2 billion. See "Capital Expenditure projects" for more detail.

Net cash provided by financing activities

Net cash provided by financing activities was $0.5 billion for the year ended December 31, 2019, as compared to the net cash used in financing activities of $0.7 billion in 2018. In 2019, net cash provided by financing activities included an inflow of $1.3 billion net proceeds (proceeds of $6.4 billion offset by payments of $5.1 billion) for short and long-term debt, partially offset by dividends of $332 million, a $90 million outflow related to the share buyback program and $326 million net outflows from lease payments and other financing activities. The 2019 cash outflows for lease payments and other financing activities increased as a result of the first-time application of IFRS 16 effective from January 1, 2019, as the repayments of the principal portion of the operating leases are presented under financing activities (previously reported under operating activities). For further details related to capital markets, liability management transactions and debt repayments in 2019, see note 6.1.2 to the consolidated financial statements.

Net cash used in financing activities was $0.7 billion for the year ended December 31, 2018, as compared to $1.7 billion in 2017. In 2018, $0.2 billion net payments for short and long-term debt included mainly $0.6 billion of bonds repurchased pursuant to cash tender offers, $0.9 billion repayment at maturity of the euro denominated Floating Rate Notes due April 9, 2018 and the remaining amount of the euro denominated 4.5% Notes due March 29, 2018 partly offset by $1 billion drawing under the $7 billion term facility with respect to the UG and KSS Petron payments. Net cash used in financing activities for the year ended December 31, 2018 also included dividend payments of $220 million and $226 million outflow related to the share buyback program. Net cash used by financing activities for the year ended December 31, 2017 included net payments/ proceeds for short and long-term debt of $1.5 billion. Net cash used by financing activities for the year ended December 31, 2017 included $1.2 billion of bonds repurchased pursuant to cash tender offers, $0.6 billion repayment at maturity of the euro denominated 4.625% Notes, $0.6 billion used to early redeem the 6.125% Notes due June 1, 2018 and $1.0 billion used to early redeem the 9.85% Notes due June 1, 2019, offset in part by a new $0.4 billion Schuldschein loan, a $0.4 billion loan from the European Investment Bank, $0.3 billion drawdown on the 4.5 billion South African rand revolving borrowing base finance facility and $0.6 billion proceeds from the issuance of euro denominated 0.95% Notes due January 17, 2023.

Dividends paid during the year ended December 31, 2019 were $332 million, including $203 million paid to ArcelorMittal shareholders and $129 million paid to non-controlling shareholders in subsidiaries. Dividends paid during the year ended December 31, 2018 were $220 million, including $101 million paid to ArcelorMittal shareholders and $119 million paid to non-controlling shareholders in subsidiaries.

Equity

Equity attributable to the equity holders of the parent decreased to $38.5 billion at December 31, 2019, as compared to $42.1 billion at December 31, 2018, primarily due to the net loss attributable to the equity holders of the parent of $2.5 billion and $0.3 billion actuarial losses. See note 11 to ArcelorMittal's consolidated financial statements for the year ended December 31, 2019.

Equity attributable to the equity holders of the parent increased to $42.1 billion at December 31, 2018, as compared to $38.8 billion at December 31, 2017, primarily due to net income attributable to the equity holders of the parent of $5.1 billion and $0.6 billion actuarial gains partly offset by $2.2 billion foreign exchange losses. See note 10 to ArcelorMittal's consolidated financial statements for the year ended December 31, 2018.

Trend information

All of the statements in this "Trend Information" section are subject to and qualified by the information set forth under the "Cautionary Statement Regarding Forward-Looking Statements". See also "Key factors affecting results of operations".

Outlook

Based on the current economic outlook, ArcelorMittal expects an expansion in global ASC in 2020 by +1% to +2% (versus growth of +1.1% in 2019). Supply chain destocking constrained demand in ArcelorMittal's core markets,

particularly for flat products, and the Company estimates that World-ex China ASC declined by 0.8% in 2019. China had a better than expected year with ASC estimated to have increased by 3%. Whilst acknowledging the risks and uncertainties, ArcelorMittal believes that there are signs that the real demand slowdown is beginning to stabilize, and the supportive inventory environment means that the Company is more optimistic on the apparent demand outlook for 2020. This may be revised downwards due to the impact of the Coronavirus outside China. By region:

- In the U.S., ASC is expected to grow within a range of +0% to +1% in 2020 (versus an estimated -2% contraction in 2019), with stronger ASC in flat products offsetting an anticipated decline in ASC for long products.
- In Europe, ASC is expected to grow within a range of +1% to +2% in 2020 (versus over -4% estimated contraction in 2019); although automotive is expected to remain weak, the end of destocking is expected to support improved ASC for flat products, similarly the end of destocking should offset the impact of the slowdown in construction activity for long products ASC.
- In Brazil, ASC is expected to rebound in 2020 with growth expected in the range of +4% to +5% (versus estimated -2.6% contraction in 2019) following the pronounced destocking of flat products in 2019 and expected growth in construction activity.
- In the CIS, ASC growth in 2020 is expected to slow but remain positive within a range of +0% to +1% (versus +4% estimated growth in 2019).
- As a result, overall World ex-China ASC in 2020 is expected to grow within the range of +2% to +2.5% (versus estimated -0.8% contraction in 2019).
- In China, that in 2020 both GDP and steel demand growth are still likely to be weaker than what was expected prior to the Coronavirus outbreak (Steel demand now expected to grow only 0 to 1% in 2020, down from 1 to 2% previously expected).

The China and global ASC forecast reflects the Company's base case view of the impact of Coronavirus. Absent a degradation of the situation and/or a further extension of the holiday period, the Company believes the effect of the Coronavirus will likely have a short-term negative demand impact in China and to a lesser degree elsewhere. ArcelorMittal's current view is that the vast majority of the impact on the first quarter of 2020 demand is expected to be recovered throughout the remainder of the year and its perspective on the fundamentals of the Chinese steel market remain unchanged. However, the recent increase in cases outside China is worrying and increases the risk of a global pandemic and a much larger negative impact on global GDP. The Company is monitoring the situation closely and in particular in Italy, as should the virus spread more widely through Europe this will likely have a material impact on the Company's sales and profitability in 2020.

The Company expects certain cash needs of the business (consisting of capital expenditures, cash paid for interest, cash paid for taxes, pensions and certain other cash payments but excluding operating working capital movements) to total $4.5 billion in 2020 versus $5.0 billion in 2019. The Company maintains the ability to adapt its capital expenditure plans to the operating environment and now expects 2020 capital expenditures to be $3.2 billion (down from $3.6 billion in 2019). Net interest expense in 2020 is expected to be $0.5 billion (versus $0.6 billion in 2019) while cash payments for taxes, pensions and other cash payments are expected to be stable at $0.8 billion (versus 2019).

The Company released $2.2 billion in operating working capital in 2019 (versus an operating working capital investment of $4.4 billion in 2018). Whilst the Company does not at this stage want to give a firm target or specific guidance for operating working capital needs in 2020 (due to the fact that it is so dependent on operating conditions towards the end of the year), should market conditions remain at current levels then there is the potential to reduce working capital by a further $1 billion.

As previously announced in the first half of 2019, and in line with the Company's ongoing efforts to optimize its asset portfolio, it identified opportunities to unlock $2 billion of value from the portfolio over the next 2 years. The Company has made good progress to date and has achieved ~$0.6 billion, including the sale of its stake in Gerdau ($0.1 billion) and the sale of a 50% stake in Global Chartering Ltd which is expected to reduce net debt in total by $0.5 billion ($0.4 billion in the fourth quarter of 2019 and $0.1 billion early 2020). ArcelorMittal remains engaged in active discussions with interested parties on several additional opportunities.

Given the ongoing focus on delivering the $1 billion of identified cost improvement plans in order to fully achieve the Action 2020 targets, the potential for an approximate $1 billion operating working capital release assuming market

conditions remain at current levels, together with further progress on portfolio optimization efforts, the Company is optimistic that it can achieve its $7.0 billion net debt objectives by year end 2020 which would provide strong foundations for improved shareholder returns going forward.

ArcelorMittal intends to progressively increase the base dividend paid to its shareholders, and, given the resilient cash flow and progress towards its net debt target, the Board proposes a base dividend of $0.30 per share for 2020 (in respect of 2019) which will be proposed to the shareholders at the AGM in May 2020.

Disclosures about market risk

ArcelorMittal is exposed to a number of different market risks arising from its normal business activities. Market risk is the possibility that changes in raw materials prices, foreign currency exchange rates, interest rates, base metal prices (zinc, nickel, aluminum and tin) and energy prices (oil, natural gas and power) will adversely affect the value of ArcelorMittal's financial assets, liabilities or expected future cash flows.

The fair value information presented below is based on the information available to management as of the date of the consolidated statements of financial position. Although ArcelorMittal is not aware of any factors that would significantly affect the estimated fair value amounts, such amounts have not been comprehensively revalued for purposes of this annual report since that date, and therefore, the current estimates of fair value may differ significantly from the amounts presented. The estimated fair values of certain financial instruments have been determined using available market information or other valuation methodologies that require considerable judgment in interpreting market data and developing estimates.

See note 6 to ArcelorMittal's consolidated financial statements for quantitative information about risks relating to financial instruments, including financial instruments entered into pursuant to the Company's risk management policies.

Risk management

ArcelorMittal has implemented strict policies and procedures to manage and monitor financial market risks. Organizationally, supervisory functions are separated from operational functions, with proper segregation of duties. Financial market activities are overseen by the President and CFO, the Corporate Finance and Tax Committee and the CEO Office.

All financial market risks are managed in accordance with the Treasury and Financial Risk Management Policy. These risks are managed centrally through Group Treasury by a group specializing in foreign exchange, interest rate, commodity, internal and external funding and cash and liquidity management.

All financial market hedges are governed by ArcelorMittal's Treasury and Financial Risk Management Policy, which includes a delegated authority and approval framework, sets the boundaries for all hedge activities and dictates the required approvals for all Treasury activities. Hedging activity and limits are monitored on an ongoing basis. ArcelorMittal enters into transactions with numerous counterparties, mainly banks and financial institutions, as well as brokers, major energy producers and consumers.

As part of its financial risk management activities, ArcelorMittal uses derivative instruments to manage its exposure to changes in interest rates, foreign exchange rates and commodities prices. These instruments are principally interest rate, currency and commodity swaps, spots and forwards. ArcelorMittal may also use futures and options contracts.

Counterparty risk

ArcelorMittal has established detailed counterparty limits to mitigate the risk of default by its counterparties. The limits restrict the exposure ArcelorMittal may have to any single counterparty. Counterparty limits are calculated taking into account a range of factors that govern the approval of all counterparties. The factors include an assessment of the counterparty's financial soundness and its ratings by the major rating agencies, which must be of a high quality. Counterparty limits are monitored on a periodic basis.

All counterparties and their respective limits require the prior approval of the Corporate Finance and Tax Committee. Standard agreements, such as those published by the International Swaps and Derivatives Association, Inc. (ISDA) are negotiated with all ArcelorMittal trading counterparties.

Currency exposure

ArcelorMittal seeks to manage each of its entities' exposure to its operating currency. For currency exposure generated by activities, the conversion and hedging of revenues and costs in foreign currencies is typically performed using currency transactions on the spot market and forward market. For some of its business segments, ArcelorMittal hedges future cash flows.

Because a substantial portion of ArcelorMittal's assets, liabilities, sales and earnings are denominated in currencies other than the U.S. dollar (its reporting currency), ArcelorMittal has exposure to fluctuations in the values of these currencies relative to the U.S. dollar. These currency fluctuations, especially the fluctuation of the value of the U.S. dollar relative to the euro, the Canadian dollar, Brazilian real, South African rand, Argentine peso, Kazakh

tenge, Indian rupee, Polish zloty and Ukrainian hryvnia, as well as fluctuations in the currencies of the other countries in which ArcelorMittal has significant operations and/or sales, could have a material impact on its results of operations.

ArcelorMittal faces transaction risk, where its businesses generate sales in one currency but incur costs relating to that revenue in a different currency. For example, ArcelorMittal's non-U.S. subsidiaries may purchase raw materials, including iron ore and coking coal, in U.S. dollars, but may sell finished steel products in other currencies. Consequently, an appreciation of the U.S. dollar will increase the cost of raw materials, thereby negatively impacting the Company's operating margins, unless the Company is able to pass along the higher cost in the form of higher selling prices.

ArcelorMittal faces foreign currency translation risk, which arises when ArcelorMittal translates the financial statements of its subsidiaries, denominated in currencies other than the U.S. dollar for inclusion in ArcelorMittal's consolidated financial statements.

The tables below illustrate the impact of an appreciation and a depreciation of the U.S. dollar of 10% against the euro, on the conversion of the net debt of ArcelorMittal into U.S. dollars as of December 31, 2019 and December 31, 2018. The impact on net debt denominated in a currency different than the euro, is computed based on historical data of how such currency would move against the U.S. dollar when the U.S. dollar appreciates/depreciates 10% against the euro. A positive sign means an increase in the net debt.

Currency	Impact on net debt translation of a 10% appreciation of the U.S. dollar against the euro	Impact on net debt translation of a 10% depreciation of the U.S. dollar against the euro
In 2019	in $ equivalent (in millions)	in $ equivalent (in millions)
Argentine peso	9	(19)
Brazilian real	(3)	6
Euro	(522)	522
Polish Zloty	(21)	27
South African rand	8	(12)
Ukrainian hryvinia	26	(12)
Other	6	(7)

Currency	Impact on net debt translation of a 10% appreciation of the U.S. dollar against the euro	Impact on net debt translation of a 10% depreciation of the U.S. dollar against the euro
In 2018	in $ equivalent (in millions)	in $ equivalent (in millions)
Argentine peso	7	(23)
Canadian dollar	(9)	10
Euro	(564)	564
Indian rupee	33	(42)
South African rand	25	(38)
Swiss franc	(12)	14
Other	10	(8)

Derivative instruments

ArcelorMittal uses derivative instruments to manage its exposure to movements in interest rates, foreign exchange rates and commodity prices. Changes in the fair value of derivative instruments are recognized in the consolidated statements of operations or in equity according to nature and effectiveness of the hedge.

Derivatives used are non-exchange-traded derivatives such as over-the-counter swaps, options and forward contracts.

For the Company's tabular presentation of information related to its market risk sensitive instruments, please see note 6 to the consolidated financial statements.

Interest rate sensitivity

Cash balances, which are primarily composed of euros and U.S. dollars, are managed according to the short term (up to one year) guidelines established by senior management on the basis of a daily interest rate benchmark, primarily through short-term currency swaps, without modifying the currency exposure.

Interest rate risk on debt

ArcelorMittal's policy consists of incurring debt at fixed and floating interest rates, primarily in U.S. dollars and euros according to general corporate needs. Interest rate and

currency swaps are utilized to manage the currency and/or interest rate exposure of the debt.

For the Company's tabular presentation of the fair values of its short and long term debt, please see note 6 to the consolidated financial statements.

Commodity price risk

ArcelorMittal utilizes a number of exchange-traded commodities in the steel-making process. In certain instances, ArcelorMittal is the leading consumer worldwide of certain commodities. In some businesses and in certain situations, ArcelorMittal is able to pass this exposure on to its customers. The residual exposures are managed as appropriate.

Financial instruments related to commodities (base metals, energy, freight and emission rights) are utilized to manage ArcelorMittal's exposure to price fluctuations.

Hedges in the form of swaps and options are utilized to manage the exposure to commodity price fluctuations.

For the Company's tabular presentation of information related to its market risk sensitive instruments, please see note 6 to the consolidated financial statements.

In respect of non-exchange traded commodities, ArcelorMittal is exposed to volatility in the prices of raw materials such as iron ore (which is generally correlated with steel prices with a time lag) and coking coal. This exposure is almost entirely managed through long-term contracts, however some hedging of iron ore exposures is made through derivative contracts. For a more detailed discussion of ArcelorMittal's iron ore and coking coal purchases, see "Raw materials".

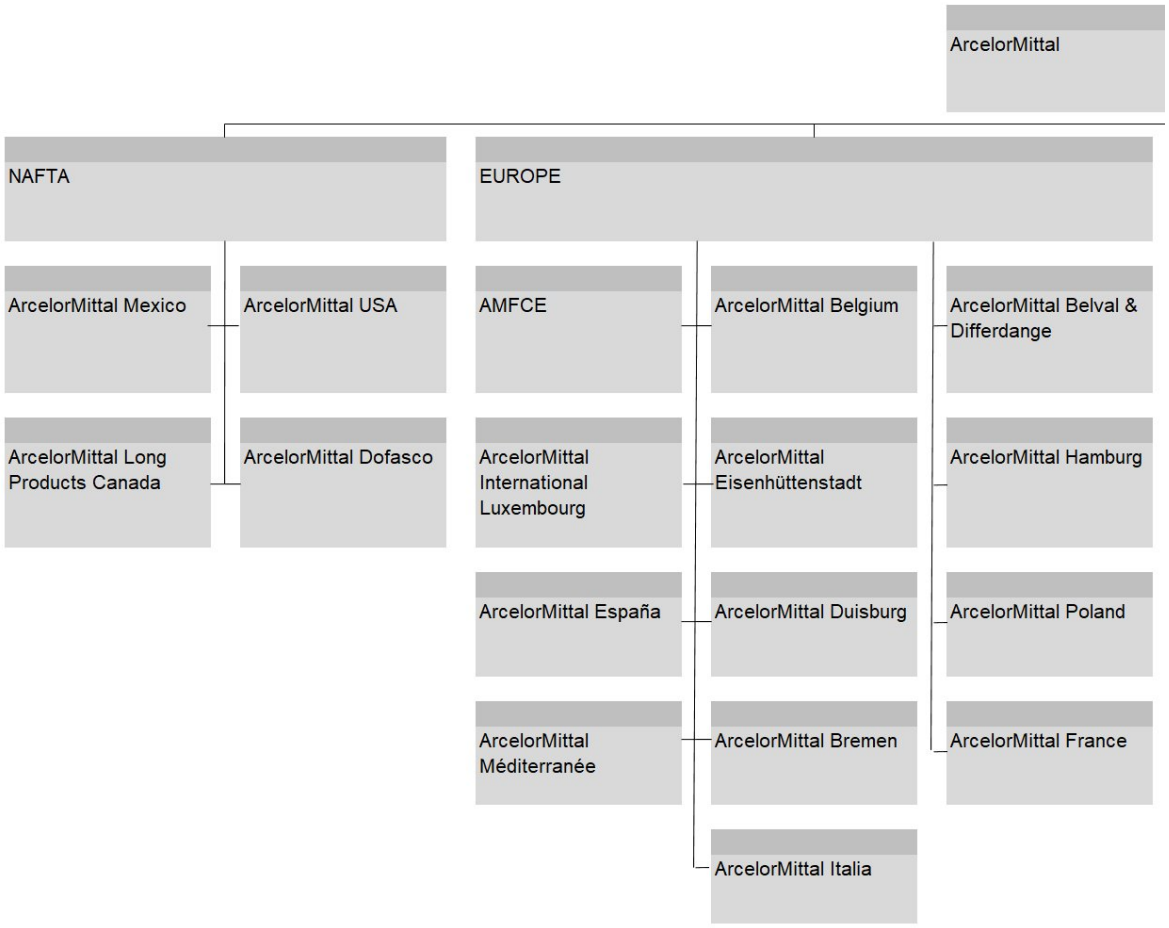
Group organizational structure

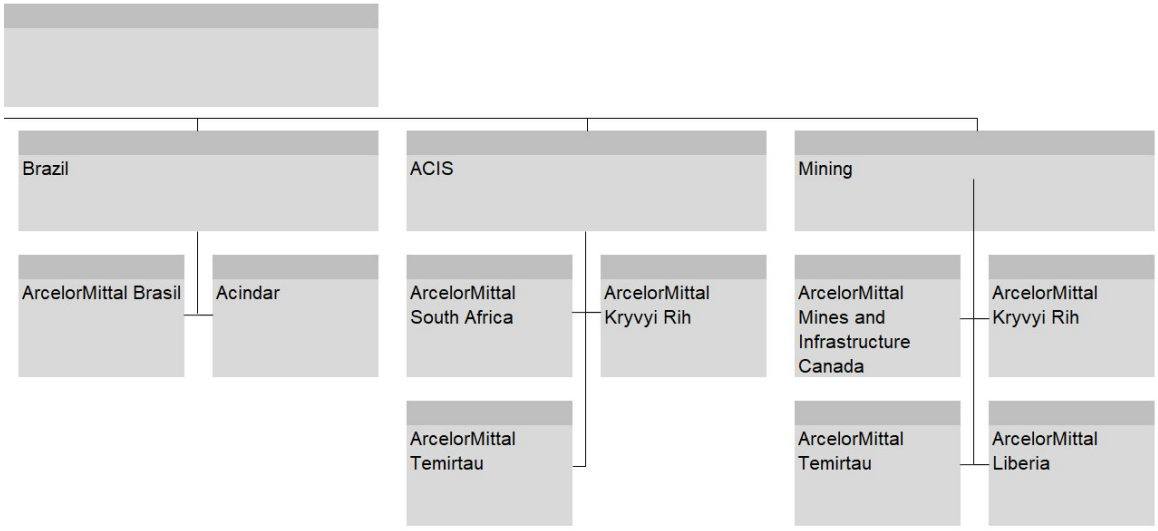
The following table identifies each significant operating subsidiary of ArcelorMittal, including the country of incorporation. Please refer to note 2.2.1 of the consolidated financial statements for the ownership percentages of these subsidiaries. Unless otherwise stated, the subsidiaries as listed have share capital consisting solely of ordinary shares, which are held directly or indirectly by the Company and the proportion of ownership interests held equals to the voting rights held by the Company.

Name of Subsidiary	Abbreviation	Country
NAFTA		
ArcelorMittal Dofasco G.P.	ArcelorMittal Dofasco	Canada
ArcelorMittal México S.A. de C.V.	ArcelorMittal Mexico	Mexico
ArcelorMittal USA LLC	ArcelorMittal USA	USA
ArcelorMittal Long Products Canada G.P.	ArcelorMittal Long Products Canada	Canada
Brazil and neighboring countries ("Brazil")		
ArcelorMittal Brasil S.A.	ArcelorMittal Brasil	Brazil
Acindar Industria Argentina de Aceros S.A.	Acindar	Argentina
Europe		
ArcelorMittal France S.A.S.[1]	ArcelorMittal France	France
ArcelorMittal Belgium N.V.	ArcelorMittal Belgium	Belgium
ArcelorMittal España S.A.	ArcelorMittal España	Spain
ArcelorMittal Flat Carbon Europe S.A.	AMFCE	Luxembourg
ArcelorMittal Poland S.A.	ArcelorMittal Poland	Poland
ArcelorMittal Eisenhüttenstadt GmbH	ArcelorMittal Eisenhüttenstadt	Germany
ArcelorMittal Bremen GmbH	ArcelorMittal Bremen	Germany
ArcelorMittal Méditerranée S.A.S.	ArcelorMittal Méditerranée	France
ArcelorMittal Belval & Differdange S.A.	ArcelorMittal Belval & Differdange	Luxembourg
ArcelorMittal Hamburg GmbH	ArcelorMittal Hamburg	Germany
ArcelorMittal Duisburg GmbH	ArcelorMittal Duisburg	Germany
ArcelorMittal International Luxembourg S.A.	ArcelorMittal International Luxembourg	Luxembourg
ArcelorMittal Italia S.p.A.	ArcelorMittal Italia	Italy
Africa and Commonwealth of Independent States ("ACIS")		
ArcelorMittal South Africa Ltd.	ArcelorMittal South Africa	South Africa
JSC ArcelorMittal Temirtau	ArcelorMittal Temirtau	Kazakhstan
PJSC ArcelorMittal Kryvyi Rih	ArcelorMittal Kryvyi Rih	Ukraine
Mining		
ArcelorMittal Mining Canada G.P. and ArcelorMittal Infrastructure Canada G.P.	ArcelorMittal Mines and Infrastructure Canada ("AMMC")	Canada
ArcelorMittal Liberia Ltd	ArcelorMittal Liberia	Liberia
JSC ArcelorMittal Temirtau	ArcelorMittal Temirtau	Kazakhstan
PJSC ArcelorMittal Kryvyi Rih	ArcelorMittal Kryvyi Rih	Ukraine

1. On July 1, 2019, ArcelorMittal Atlantique et Lorraine S.A.S. was merged into ArcelorMittal France S.A.S.

ArcelorMittal is a holding company with no business operations of its own. All of ArcelorMittal's significant operating subsidiaries are indirectly owned by ArcelorMittal through intermediate holding companies. The following chart represents the operational structure of the Company, including ArcelorMittal's significant operating subsidiaries and not its legal or ownership structure.


ArcelorMittal
NAFTA
EUROPE
ArcelorMittal Mexico
ArcelorMittal USA
ArcelorMittal Long Products Canada
ArcelorMittal Dofasco
AMFCE
ArcelorMittal International Luxembourg
ArcelorMittal España
ArcelorMittal Méditerranée
ArcelorMittal Belgium
ArcelorMittal Eisenhüttenstadt
ArcelorMittal Duisburg
ArcelorMittal Bremen
ArcelorMittal Italia
ArcelorMittal Belval & Differdange
ArcelorMittal Hamburg
ArcelorMittal Poland
ArcelorMittal France


Brazil
ACIS
Mining
ArcelorMittal Brasil
Acindar
ArcelorMittal South Africa
ArcelorMittal Kryvyi Rih
ArcelorMittal Temirtau
ArcelorMittal Mines and Infrastructure Canada
ArcelorMittal Kryvyi Rih
ArcelorMittal Temirtau
ArcelorMittal Liberia

Key transactions and events in 2019

ArcelorMittal's principal investments, acquisitions and disposals, and other key events that occurred during the year ended December 31, 2019 are summarized below.

ArcelorMittal Italia acquisition and subsequent events

On November 1, 2018, ArcelorMittal announced that AM InvestCo completed the first part of the acquisition of ArcelorMittal Italia (formerly Ilva) through a lease and subsequent conditional obligation to purchase agreement after having been granted merger clearance by the European Commission ("EC") on May 7, 2018 on the basis of the Company's committed divestment package (see below) and its fulfillment of all of the conditions precedent in ArcelorMittal's contract with the commissioners in the extraordinary administration insolvency procedures of the business units subject to the lease (the "Commissioners"). ArcelorMittal Italia's Taranto plant is Europe's largest single steel site and only integrated steelmaker in Italy. ArcelorMittal Italia also has significant steel finishing capacity in Taranto, Novi Ligure and Genova. AM InvestCo undertook the acquisition subject to certain conditions precedent to be satisfied by August 2023. The contractual purchase price amounted to €1.8 billion ($2.1 billion) subject to certain adjustments, with annual leasing costs of €180 million ($206 million) due in quarterly installments which qualify as down payments against the purchase price. The lease is for a minimum lease period of four years. The acquisition included industrial capital expenditure commitments of approximately €1.3 billion ($1.4 billion) over a seven-year period focused on blast furnaces including €0.2 billion revamping of blast furnace #5 intending to bring steel production to 8 million tonnes by 2024, steel shops and finishing lines and environmental capital expenditure commitments of approximately €0.8 billion ($0.9 billion) including €0.3 billion for stock pile coverage, €0.2 billion for reduction of emissions at coke ovens and €0.2 billion in waste water treatment. The acquisition also provided for environmental remediation obligations of approximately €0.3 billion ($0.4 billion), the latter of which would be funded with funds seized by the Italian Government from the former shareholder.

According to the legal framework in force at November 1, 2018 (for a period up to August 2023), the Commissioners and AM InvestCo were granted protection from possible criminal liability related to environmental, health and safety and workplace security issues at ArcelorMittal Italia's Taranto plant, pending the timely implementation of the environmental investment program set forth in a Prime Minister's Decree. In September 2017 and then August 2018, the Italian State Solicitor-General issued an opinion confirming that the term of the protection coincided with the term of this environmental plan, namely to August 23, 2023. However, on November 2, 2019, the Italian Parliament ratified a law decree previously enacted by the Italian government, which effective November 3, 2019, removed the legal protection necessary for AM InvestCo to implement its environmental plan without the risk of criminal liability.

On November 4, 2019, after such law decree became effective, AM InvestCo sent to the Commissioners a notice to withdraw from, or terminate the lease. In addition, among other serious occurrences independent of AM InvestCo's will, the decisions issued by the criminal court of Taranto binding the Commissioners to complete certain prescriptions by December 12, 2019, a term the Commissioners themselves deemed impossible to meet, failing which blast furnace #2 would be shut down, also contributed to a situation of legal and operational uncertainty that further significantly impaired the ability to carry out the necessary operations at ArcelorMittal Italia and operate the Taranto plant. While the Taranto court of appeals reversed the criminal court's order on January 7, 2020 therefore allowing blast furnace #2 to remain open, any potential shutdown would make it impossible for AM InvestCo to implement its industrial plan, operate the Taranto plant and, generally, continue to implement the commitments described above. In its November 4, 2019 notice of withdrawal and termination, AM InvestCo asked the Commissioners to take responsibility for ArcelorMittal Italia's operations and employees within 30 days from the receipt of such notice. On November 15, 2019, the Commissioners filed suit in a Civil Court in Milan seeking an injunction to prevent AM InvestCo's withdrawal from, and termination of, the lease and require AM InvestCo to stop the implementation of its plan to suspend the operations and to continue the maintenance and operation of the leased business units. The Commissioners also requested that the court require AM InvestCo to pay €1 billion in the event that it fails to comply with an adverse decision on the Commissioners' application for interim injunctions. Moreover, following a complaint filed by the Commissioners, in mid-November 2019 prosecutors in Milan and Taranto opened investigations into potential violations of numerous criminal laws. The hearing to discuss the Commissioners' application for interim measures was originally set for November 27, 2019, pending which AM InvestCo suspended the implementation of its plan to suspend the operations at ArcelorMittal Italia. Following announcements on November 22, 2019 and November 23, 2019, respectively, by the Italian Prime Minister's office and AM InvestCo that meetings had been held between the parties to discuss potential solutions for the plants and that discussions would continue with the aim of reaching an agreement as soon as possible to support sustainable steel-making in Taranto, at the hearing the court granted the requested by the Commissioners and AM InvestCo for postponement (to December 20, 2019) in order to allow the development of ongoing negotiations, provided that AM InvestCo assure the maintenance of the normal functioning of the plants and guarantee production continuity pending such negotiations. On December 20, 2019, ArcelorMittal

announced that AM InvestCo had signed a non-binding agreement with the Commissioners that forms a basis to continue negotiations on a new industrial plan for ArcelorMittal Italia, including discussions on a substantial equity investment by a government-controlled entity. The new industrial plan would contemplate investments in green technology, including through a new company funded by public and private investors. In light thereof, the Civil Court of Milan granted the parties' request to further postpone the hearing until February 7, 2020, and on such date (given ongoing negotiations) granted a further request to postpone until March 6, 2020. AM InvestCo has incurred losses since its consolidation of ArcelorMittal Italia in November 2018. ArcelorMittal expects to continue to consolidate ArcelorMittal Italia unless and until the control of the assets is transferred to the Commissioners or other changes in its power over the relevant activities or exposure to variable returns occur.

ArcelorMittal Italia acquisition related divestments

On June 30, 2019, ArcelorMittal completed the sale to Liberty House Group ("Liberty") of several steelmaking assets that form the divestment package the Company agreed with the European Commission ("EC") during its merger control investigation into the Company's acquisition of ArcelorMittal Italia. Assets included within the divestment package are: ArcelorMittal Ostrava (Czech Republic), ArcelorMittal Galati (Romania), ArcelorMittal Skopje (Macedonia), ArcelorMittal Piombino (Italy), ArcelorMittal Dudelange (Luxembourg) and several finishing lines at ArcelorMittal Liège (Belgium). The total net consideration (consisting of amounts payable upon closing and subsequently in part contingent upon certain criteria, net of €110 million placed in escrow) for the assets payable to ArcelorMittal was €740 million subject to customary closing adjustments. Of this total amount, €610 million was received on June 28, 2019. At closing, the Company deposited €110 million in escrow that were subsequently withdrawn during the second half of 2019 and used by Liberty for certain capital expenditure projects to satisfy commitments given in the EC approval process. See note 2.3 to the consolidated financial statements for further details.

AMNS India

On December 16, 2019, ArcelorMittal announced the completion of its acquisition of AMNS India through, the Luxembourg based joint venture it established with NSC, which following the acquisition owns and operates AMNS India. ArcelorMittal holds 60% of the joint venture, with NSC holding 40%. The acquisition occurred following the Indian Supreme Court's ruling on November 15, 2019 approving the Company's Resolution Plan and resolving the appeals brought by creditors following the National Company Law Tribunal's initial approval on March 8, 2019 and the National Company Law Appellate Tribunal's further ruling on July 4, 2019.

AMNS India is an integrated flat steel producer, and the largest steel company in western India. It has a crude steel capacity of 9.6 million tonnes per year. AMNS India's main steel manufacturing facility is located at Hazira, Gujarat in Western India. It also has:

- Two iron ore beneficiation plants close to the mines in Kirandul and Dabuna, with slurry pipelines that then transport the beneficiated iron ore slurry to the pellet plants in the Kirandul-Vizag and Dabuna-Paradeep systems;
- a downstream facility in Pune (including a pickling line, a cold rolling mill, a galvanizing mill, a color coating mill and a batch annealing plant); and
- seven service centers in the industrial clusters of Hazira, Bhuj, Indore, Bahadurgarh, Chennai, Kolkata and Pune. It has a complete range of flat rolled steel products, including value added products, and significant iron ore pellet capacity with two main pellet plant systems in Kirandul-Vizag and Dabuna-Paradeep, which have the potential for expansion. Its facilities are located close to ports with deep draft for movement of raw materials and finished goods.

In terms of iron ore pellet capacity, the Kirandul-Vizag system has 8 million tonnes of annual pellet capacity; and the Dabuna-Paradeep system has 6 million tonnes of annual pellet capacity, which is in the process of being expanded to a new capacity level of 12 million tonnes. This expansion would bring pellet capacity above AMNS India's own requirements and provide the opportunity to improve operating income by fully utilizing such pellet capacity. AMNS India's assets do not include certain assets that are ancillary to the steel plant, such as a slurry pipeline, power plants, port facilities and certain mines. The joint venture partners are assessing various options to secure the availability of such assets, including additional acquisitions and participation in ongoing auctions, such as for the Odisha mines, where the joint venture acquired the Thakurani working block in February 2020.

The Resolution Plan which was approved for the acquisition of AMNS India included an upfront payment of 42,785 crore Indian rupees ($6.0 billion) towards AMNS India's debt resolution including working capital payment, with a further 8,000 crore Indian rupees ($1.1 billion) of capital injection into AMNS India to support operational improvement, increase production levels and deliver enhanced levels of profitability. In December 2019, ArcelorMittal and NSC financed the joint venture for the acquisition of AMNS India through a combination of partnership equity of $2,253 million (of which $1,362 million for ArcelorMittal) and debt of $3,679 million, including $2,204 million drawn by AMNS Luxembourg (and guaranteed by the Company) under the bridge financing, which was outstanding on December 31,

2019, and a $1,475 million via a shareholder loan from NSC. On February 10, 2020, in order to complete the $840 million follow-on equity funding of AMNS India, NSC provided a $325 million shareholder loan and an additional $475 million was drawn under the bridge financing by AMNS Luxembourg (and guaranteed by the Company). The outstanding amount under the bridge financing as of such date was $3,046 million. See note 2.4.1 to the consolidated financial statements. In connection with the execution of the Resolution Plan, the Company had provided a $0.6 billion performance guarantee, which was terminated on December 31, 2019.

In connection with the acquisition of AMNS India, the hedging programs that ArcelorMittal had entered into, including non deliverable forwards and non deliverable options for a nominal amount of $5.9 billion in order to hedge the volatility between the Indian rupee and U.S. dollar, resulted in cash proceeds of $360 million which were contributed into the joint venture thus decreasing the acquisition cost of AMNS India (see note 2.4.1 and note 6.3 to the consolidated financial statements).

In 2018, the Company had also been required to pay 7,469 crore Indian rupees (approximately $1 billion) to the financial creditors of Uttam Galva ("the UG payments") and KSS Petron in order that the Resolution Plan would be eligible for consideration by ESIL's Committee of Creditors ("CoC"). ArcelorMittal had previously been a shareholder of Uttam Galva and HSBC Trustee (C. I.) Limited, as trustee of trusts of which Mr. Lakshmi N. Mittal, Mrs. Usha Mittal and their children are the beneficiaries, had previously been a shareholder of KSS Petron. At the time of such payment, neither had any interest in such companies and, in particular, the trusts and their beneficiaries did not have any liability to KSS Petron or its creditors or other stakeholders and hence did not benefit from such payment. In the context of the creation of the AMNS India joint venture, the Company transferred the UG payments to the joint venture. ArcelorMittal and NSC financed such payments through a combination of equity contributions into the joint venture of $288 million and debt of $597 million, including $367 million drawn by the joint venture on the $7 billion term facility agreement and a $230 shareholder loan from NSC. The payments related to KSS Petron have not been transferred.

The Resolution Plan also includes a capital expenditure plan of 18,697 crore Indian rupees (approximately $2.6 billion) to be implemented in two stages over six years. The first stage involves investments to increase the production of finished steel goods sustainably to 6.5 million tonnes per annum and includes completion of ongoing capital expenditure projects with respect to a coke oven, second sinter plant, third line CSP caster, Paradeep pellet plant and Dabuna beneficiation plant. The first stage will also include investment in maintenance to restore current assets, the implementation of an environmental management plan and the implementation of ArcelorMittal's best practices on raw material sourcing, plant operations, sales and product mix (in particular through greater sophistication of the quality and markets of the steel produced with a focus on developing sales to the automotive industry), people management and health & safety. The second stage will involve investments to increase the production of finished steel goods from 6.5 million tonnes per annum to 8.5 million tonnes per annum by the end of 2024, including asset reconfiguration and the addition of a coke oven, blast furnace and basic oven furnace.

There is also a long-term aspiration to increase finished steel shipments to between 12 and 15 million tonnes tonnes through the addition of new iron and steelmaking assets, so that AMNS India can play an active role and fully benefit from the anticipated growth in the Indian steel industry.

AMNS India is expected to reinvest cash flows from operations to finance its turnaraound and growth plans.

The joint venture agreement entered into between the ArcelorMittal and NSC includes detailed provisions regarding AMNS India's governance and the roles and responsibilities of ArcelorMittal and NSC as joint venture partners for the operation of the business and the implementation of the Resolution Plan. Pursuant to this agreement, the AMNS India business shall be managed by a board of directors consisting of six directors, three of which will be appointed by ArcelorMittal and three appointed by NSC. It also provides for provisions related to the selection of the management team by the joint venture partners. Aditya Mittal, President and CFO of ArcelorMittal, has been appointed as the chairman of the board of AMNS India and Dilip Oommen has been appointed its CEO.

AMNS India is accounted for under the equity method as from the acquisition date. See note 2.4.1 to the consolidated financial statements for further details.

Other events in 2019

During 2019, ArcelorMittal completed several debt financing and repayment transactions. See "Liquidity and capital resources—Financings" and note 6.1.2 to the consolidated financial statements for a summary of the transactions.

On May 6, 2019, ArcelorMittal announced its intention to temporarily idle production at its steelmaking facilities in Kraków, Poland, reduce production in Asturias and Spain. In addition, the planned increase of shipments at ArcelorMittal Italia to a six million tonne annual run-rate was slowed down following a decision to optimize cost and quality over volume in this environment. Together, these actions resulted in a temporary annualized production reduction of around three million tonnes. On May 29, 2019, the Company announced its decision to take additional steps to adjust its European production levels to further align its production to the current market demand by a further 1.2 million tonnes to

take total annualized productions cuts to 4.2 million tonnes in the second half of 2019. As a result, it:

- Reduced primary steelmaking production at its facilities in Dunkirk, France and Eisenhüttenstadt, Germany;
- Reduced primary steelmaking production at its facility in Bremen, Germany in the fourth quarter of 2019, where a planned blast furnace stoppage for repair works were extended; and
- Extended the stoppage planned in the fourth quarter of 2019 to repair a blast furnace at its plant in Asturias, Spain.

These actions were taken in light of difficult operating conditions in Europe with a combination of weakening demand, rising imports, high energy costs and rising carbon costs. Such conditions, along with high iron ore prices, have persisted since the Company's announcement of these measures.

On July 16, 2019, the Company sold its 30 million shares, representing a stake of 2.6% of preferred shares, held in its investment Gerdau, an equity instrument at fair value through other comprehensive income, for $116 million. See note 2.5 to the consolidated financial statements.

In recent periods, the performance of ArcelorMittal South Africa has been challenged by increased electricity, port and rail regulated costs, and uncompetitive raw material sourcing as well as the ongoing weak economic backdrop in South Africa. ArcelorMittal South Africa has undertaken an intensive review of its business focused on cash preservation and cost reduction through an expanded Business Transformation Program. At the same time, a strategic asset footprint review was launched to establish an asset base with an enduring competitive advantage to ensure the long-term sustainability of ArcelorMittal South Africa. Following this review, a large-scale employee reorganization (over 1000 employees) has been finalized with an additional repricing and rescoping of sub-contractor services expected by the end of the first quarter of 2020. During the first phase of the asset review, it has been agreed to orderly and commercially wind-down the Saldanha Works. The process is progressing according to plan and is anticipated to be largely completed by the end of the first quarter of 2020. The second phase of the Asset Review commenced in November 2019, focusing on Newcastle Works and certain of the long steel products rolling facilities in Pretoria and Vereeniging. The objective of this phase of the review is to sustainably improve these operations' structural cost position and service offerings. The closure of significant long steel product plants is not anticipated in the near future, and notably, primary steel making operations will continue in the short-term at Newcastle Works, although it will now be focused on primarily serving the domestic and Africa Overland markets. Significant organizational configuration opportunities have been identified to improve both operational effectiveness and controllable cost competitiveness of not only the long steel product business, but that of ArcelorMittal South Africa overall.

On December 23, 2019, ArcelorMittal announced that it signed a share purchase agreement with DryLog Ltd ("DryLog") for the sale of a controlling 50% stake in Global Chartering Limited ("Global Chartering"), its wholly owned shipping business, and subsequently formed a 50:50 shipping joint venture with DryLog. Accordingly, ArcelorMittal's remaining 50% interest is accounted for under the equity method. Global Chartering operates 28 dry cargo vessels, which range from Supramax to Cape Size, 25 of which are on long-term leases and have been transferred into the joint venture, with the remaining 3 being owned outright. The joint venture will benefit from the combination of the two businesses respective knowledge and expertise, and ArcelorMittal's extensive annual cargo commitments, a portion of which will be handled exclusively by this joint venture. It will also benefit from DryLog's ability to optimize transport solutions and its technical and commercial vessel management expertise. These factors are expected to enable the joint venture to grow its operations and become a significant player in the international shipping industry. The transaction decreases ArcelorMittal's net debt by $0.5 billion, with a decrease in debt of $0.4 billion at December 31, 2019 (resulting from a derecognition of lease liabilities in this amount) and a further $0.1 billion decrease in early 2020 (following the completion of a sale-and-lease back of the 3 vessels owned by Global Chartering) and is part of ArcelorMittal's commitment to unlock up to $2 billion of value from its asset portfolio by mid-year 2021. The transaction closed on December 31, 2019. See note 2.3 to the consolidated financial statements for further information.

Recent developments

On February 27, 2020, the Mayor of Taranto adopted an order addressed to ArcelorMittal Italia and Ilva related to certain emissions events that appear to have occurred in August 2019 and February 22 and 23, 2020 and that allegedly concern the Taranto plant. The order requires ArcelorMittal Italia to identify the responsible installations within 30 days, to eliminate any anomalies at such installations causing such emission events within 60 days or, if necessary, to shut down certain installations related to such emissions events. The Mayor of Taranto also alleges that it did not receive adequate responses from the Italian Ministry of the Environment with respect to such emissions events. ArcelorMittal Italia considers the order to be unfounded and will appeal it. Following the order, the Ministry of the Environment requested additional information from the Mayor of Taranto about the events (including the

type of emissions and how the events can be connected to the Taranto plant) and has also requested information from certain other industrial companies in Taranto, as to any anomalies, accidents or events that may have occurred on February 22 and 23, 2020. ArcelorMittal Italia is preparing its responses to the request for information from the Ministry of the Environment, which will also be provided to the Mayor of Taranto.

Research and development. The Company's Global Research and Development ("R&D") division provides the technical foundation for the sustainability and commercial success of the Company by stimulating innovative thinking and the continuous improvement of products and processes.

ArcelorMittal believes it possesses leading R&D capabilities among steel producers and is committed to maintaining and extending this advantage by anticipating and responding to major technological, sustainability and social trends, while also making a significant contribution towards achieving the Company's 10 Sustainable Development Outcomes (see "*—Sustainable Development*" below).

To support this commitment, the Company operates 11 research sites around the world, and in 2019, ArcelorMittal's R&D expense was $301 million.

Among its R&D initiatives, ArcelorMittal has developed expertise in Lifecycle Analysis ("LCA"), which analyzes the environmental impact of products during their production, use and disposal. In 2019, the Company undertook a total of 27 LCA studies related to steel products and the processes used to produce them, all guided by ISO standard 14040-44.

The Company's expertise in LCA is an important asset in all of its global markets. For example, LCA is a requirement of Environmental Product Declarations ("EPD") for construction products in Europe, and contributes to increasing the Company's competitiveness in the construction sector. The Company's EPDs are reviewed by third parties and validated by the "Institut Bauen und Umwelt", the Institute of Construction and Environment, and are made available via ArcelorMittal Europe's Constructalia website. The Company is also leading the development of a methodological framework for EPDs in Brazil, where it published its first EPD in 2019.

ArcelorMittal also participates in the Worldsteel LCA expert group and the SOVAMAT initiative (SOcial VAlue of MATerials), an international network of experts on the social and environmental impacts of materials. It is a member of the CIRAIG International Lifecycle Chair, the international reference center for the lifecycle of products, processes and services, and is active in particular in their circular economy working group. It is also a member of the Roundtable for Product Social Metrics.

The Company has developed a Sustainable Innovation ("SI") tool with the ultimate goal to enable researchers to evaluate the contribution of all new products to sustainable development. In 2019, the SI tool has been reviewed by third parties and an interface for industry products has been developed.

ArcelorMittal's R&D strategy focuses on six main pillars:

Maintaining the competitiveness of the Company's steel among its unique automotive customer base. R&D continually drives innovation that enables the Company's strategic focus on higher-added-value products. A key focus is products designed to meet the complex and changing needs of the automotive industry.

ArcelorMittal has developed its S-in motion® range of solutions, which showcase the benefits of Advanced High Strength Steel ("AHSS") grades and manufacturing processes that help automotive customers meet demanding new targets for fuel economy, and thereby drive improvements in CO_2 emissions.

In 2020, ArcelorMittal will celebrate the 10^{th} year anniversary of S-in Motion®. This concept has proven to adapt to the evolving needs of the automotive market, with its most recent developments in 2019 including a catalog of solutions for the booming electrified vehicles market. The Company's S-in Motion® projects for Hybrid vehicles, Battery Electric Vehicles ("BEVs") and battery packs are now available for roll out to customers.

The results of the ArcelorMittal S-in motion® BEV study completed in 2019 on a Sports Utility Vehicle demonstrate why steel is expected to remain the dominant auto body metal for the growing electrified vehicle market. Steel will allow original equipment manufacturers to achieve the goals of creating more light weight vehicles with increased driving ranges in a more cost-effective manner. More than ever, steel is the material of choice for automotive customers as it combines the ability to meet stringent expectations for passenger safety with the best price on the market.

With total life cycle emissions of BEVs expected to decrease compared to internal combustion engine vehicles, BEVs' embedded carbon from metal production and its end-of-life impacts will become increasingly relevant. A comprehensive LCA study encompassing the vehicle's production and end-of-life phases has been made on the company's S-in motion® BEV. It concludes that while light-weighting still improves BEVs' life cycle performance, gains in powertrain efficiency will have much greater benefits. The most sensitive aspects of BEVs' life cycle are the environmental footprint of battery production and that of the electricity grid. Current battery production impacts are greater than those of steel body production. For BEVs to reach legislated CO2 targets, the electricity grid needs to be decarbonized much more quickly. Between 2000 and 2015,

the grid decarbonized at a rate of 2%. For large cars to meet CO2 targets, progress will need to triple between 2020 and 2035.

Creating a robust and diverse portfolio of niche non-automotive steel products to serve customers across multiple sectors. Customers in many sectors share the automotive industry's demand for innovative products and processes. The Company aims to deliver similar breakthrough advances in these sectors by creating differentiated products and unique engineering solutions, all designed to ensure that steel is the customer's material of choice.

ArcelorMittal is developing innovative solutions for the energy segment, both renewable and conventional. It has innovated steel for wind turbines, and its patented anti-corrosion steel coating Magnelis® is used extensively in framing solutions for photovoltaic modules. The Company's pioneering technology for electrical steels also benefits this market.

Packaging is, in the Company's view, another important opportunity. ArcelorMittal continues to respond to the need to meet evolving health and safety regulations, to achieve lightweight, cost-saving design, and to develop new functionalities. A major opportunity is also presented by the increasing pressure to reduce packaging made of plastics, as society becomes less and less accepting of packaging that is not in line with sustainable development objectives. With its ability to be recycled and to eliminate hazardous elements, steel is well-positioned to extend its applications in packaging and replace an increasing volume of plastic packaging.

In 2019, R&D launched 11 new products and solutions to accelerate sustainable lifestyles, while also progressing further on 16 such product development programs.

The R&D division also launched 31 products and solutions this year to support sustainable construction, infrastructure and energy generation, while also progressing further on 17 such product development programs.

Fully capitalizing on the capacity of Steligence® - a holistic platform for environmentally-friendly, cost-effective construction - to create higher-added-value products and solutions for the construction market. Construction is one of the key sectors for ArcelorMittal. The Company's R&D effort is focused on providing higher-added-value products that meet customer needs, including their sustainable development objectives.

In 2018, ArcelorMittal launched Steligence® to highlight the innovations the Company's steel has to offer in the design and performance of a building, and to support its customers in their use of its products. Steligence® adds value through its holistic approach of helping specialist architectural and engineering disciplines meet the increasing demand for sustainability, flexibility, creativity and cost in high-performance building design by harnessing the credentials of steel through its potential for recyclability and the reduction of materials used.

A key concept within Steligence® is to make buildings easier to assemble and dismantle. As a result, buildings become quicker to construct, leading to significant efficiencies and cost savings while also creating the potential for re-use. This reflects ArcelorMittal's wider interest in modularization and the potential re-use of steel components - a field it is discussing with customers and in its LCA assessments. The approach is demonstrated in the Company's planned new Luxembourg headquarters, which has been designed so that nearly all the steel components can be dismantled and re-used in a new building without the need for recycling.

Developing breakthrough process innovations to deliver cost reduction, sustainability benefits to meet current and emerging environmental challenges, and new product development. The creation of unique processes creates value for the Company and its stakeholders by: enhancing the performance of operations through cost efficiency and improved product quality; promoting process-driven product development; and enabling environmental improvements, including carbon reductions and improvements in air, land and water. Process improvements contribute decisively to the future of the Company, both helping to preserve its license to operate and ensuring its financial sustainability through important management gains.

By-products and circular economy. Work in this area includes the re-use of slag as a valuable product for many applications, which reduces waste while avoiding the ecosystem disruption that can result from the extraction of other materials such as natural stone or sand. For example, the Company is making innovative re-use of slag in the following applications: ballast in offshore wind turbine foundations to replace natural ballast; a construction material for building protection walls to reduce noise and dust; a fertilizer source for agriculture; and the potential re-use of slag from furnaces in water filtration and greenhouse gas capture. Other circular economy initiatives include: working on the use of mining tailings as a secondary raw material, either by finding marketable solutions or generating valuable products to be used in-house; and improving the quality of the scrap the Company uses, as well as exploring automated sorting processes for treating scrap.

Improvement in air, land, water. Work in this area includes research in technology for cleaning fumes from stacks, reducing dust diffusive emissions, cleaning water discharges, and solving water scarcity issues.

In 2019, the research on cleaning fumes was extended to investigate a holistic combination of technologies for

multipollutant abatement (of dust, SOx, NOx and dioxins) with great success, and significant progress was made on developing improved pleated bags for boosting filters efficiency. Technology on desalination has been implemented at Tubarao, leading to an international award for the most innovative desalination project in 2019 by International Desalination Association. Also in 2019, an industrial demonstrator for waste water from Blast Furnace treatment was launched at Asturias, along with an innovative technology to reduce dust emissions in the chutes transfer with very high efficiency that was validated.

Reductions of carbon emissions and energy use. ArcelorMittal's global R&D division also continues to research processes to support carbon neutrality and energy efficiency. In 2019, significant progress was made in the concept development and engineering of a full H_2 MIDREX direct reduction process, and of a pilot plant in Hamburg for cold electrolysis of iron, which will be operational in 2022. Assessment through simulation and experiments of several CO2 reduction technologies has led to the creation of breakthrough projects that should allow the substantial reduction of blast furnace route CO2 emissions. Meanwhile, the roll-out of in-house developed solutions, such as smart oxygen sensors and innovative combustion control strategies, is enabling incremental reductions in energy and CO2 emissions.

The Company's Jet Vapor Deposition ("JVD") technology is an example of process-driven product development, which enables advanced steels for industry. The Company introduced its unique JVD line to create a new generation of coated products with improved quality and enhanced functionality (Jetgal® for automotive applications and Jetskin® for industrial applications).

Mining process improvements. Global R&D has developed the capabilities to upgrade and digitalize its systems using satellites, drones, wireless sensors and robots to feed a geographic information system for detailed monitoring of tailings dams, which forms part of the Company's mining circular economy initiative. In the future, this will be extended to both plants and wildlife, thus helping the Company respond to increasing expectations from stakeholders looking for reassurance that biodiversity hotspots are not negatively impacted by the Company's mining operations.

Fully capitalizing on opportunities from the digital economy. ArcelorMittal envisages itself as a fully digital enterprise where everything is connected. ArcelorMittal invested early and significantly in automation systems, and for decades the Company has been a pioneer in the introduction and use of artificial neural networks. ArcelorMittal is currently fully committed to a total digital transformation, including significant advances in a number of fields and relies on the secure and reliable performance of its digital technology platforms, information technology systems, continuously updating its security measures to avoid data breaches or data theft (see also "Risks related to the global economy and the mining and steel industry"). The Company is focusing its efforts on:

- Global platforms (Big Data, IIoT, Deep Learning developments);
- Manufacturing digitalization (Production, Quality and Maintenance); and
- Business digitalization (Procurement, Commercial, Supply Chain, Strategy, Finance).

The Company's global standard platform for Big Data storage and analytics (ARTHUR) and IIoT (DASHIELL) avoids the use of a mosaic of technologies and facilitates the global sharing and rapid implementation of Artificial Intelligence ("AI") models with proven results among all units. This approach makes the Company's size a key advantage.

In its digital strategy, the Company makes use of solutions that are directly acquired in the market, solutions that are co-developed with technology suppliers, and solutions that are fully developed internally to take advantage of the rich knowledge interfaces the Company has (process, product, AI). This combination leads to performance superiority.

The main driver for digitalization at ArcelorMittal is competitive advantage, with new technologies and especially cutting-edge AI and mathematical optimization tools contributing to ensure:

- The best product quality, through better prediction using advanced analytics made possible through Big Data and distributed computing. This means production issues can be detected before they happen, enabling adjustments to be made to production parameters to avoid them.
- Maximizing equipment operational time and avoiding unplanned stoppages via predictive maintenance. The Company is already seeing positive results in several production units in Brazil, Spain and Belgium, and is deploying this solution across the Company.
- Cost efficiency in production and logistics. For example, R&D has developed a unique, breakthrough technology for line scheduling - inspired by studying and mimicking the movements in ant colonies - that has significantly improved productivity. In addition, the deployment of automated stockyards, linked to line scheduling and transport devices such as autonomous cranes, means less stock is needed and lead times are cut, yielding two major supply chain benefits.

While the implementation of large-scale digital and industry 4.0 projects is challenging in a company of ArcelorMittal's size, once implemented these projects bring major benefits

and value because of the Company's scale and complexity. The global standard platforms strategy has contributed significantly to this initiative.

ArcelorMittal is also working with leading universities in the USA, Canada, Spain, the UK, Germany, Belgium and France to capture the best scientific expertise and fully industrialize new ideas and emerging academic theories. The Company also establishes partnerships with start-up companies, working on fields such as Big Data analytics, predictive maintenance, supercomputing and manufacturing intelligence. ArcelorMittal's approach is to work with a broad range of entities, thus maximizing the knowledge transference into its teams, avoiding black-boxes, and increasing its development capabilities. This has led to the development of new algorithms using Big Data technologies that can solve problems in ways that were not possible before, mainly due to limitations in the manipulation of large volumes of data.

Seizing the potential of additive manufacturing. ArcelorMittal sees significant potential in additive manufacturing and 3D printing. For example, within the Company's operations, it will be possible to 'print' spare parts when predictive analytics show that equipment needs replacing, thus reducing disruptions. As 3D technology matures, it will have an increasing impact on the way the Company and its customers do business. ArcelorMittal's R&D teams are exploring opportunities and partnering in this field.

Sustainable development

ArcelorMittal recognizes the important contribution its products and processes make to Sustainable Development ("SD") and aims to ensure that its steels are the material of choice in the transition towards a circular and low-carbon economy. This means preparing for and responding to the most significant long-term environmental and social trends that are transforming the context in which the Company operates. These include sector-focused decarbonization ambitions aligned with the Paris Agreement, the transformation of society towards a circular economy and the growing demand from customers for adherence to sustainability standards from their entire supply chains, from mine sites to delivery of products.

The Company's SD framework, launched in 2015, sets out the 10 SD outcomes it needs to achieve in order to protect and grow long-term value for its stakeholders. These outcomes are aligned with, and aim to contribute to, many of the United Nation's Sustainable Development Goals ("SDGs"). Details of the relationship between the 10 SD outcomes and the SDGs are included in the reporting index to ArcelorMittal's Integrated Annual Review 2018, which is available on the Company's website. The outcomes provide the basis for engaging the Company's workforce on SD issues, and support the development, management and reporting of sustainability across its operations.

ArcelorMittal's 10 SD Outcomes:	
1	Safe, healthy, quality working lives for ArcelorMittal's people
2	Products that accelerate more sustainable lifestyles
3	Products that create sustainable infrastructure
4	Efficient use of resources and high recycling rates
5	Trusted user of air, land and water
6	Responsible energy user that helps create a lower-carbon future
7	Supply chains that ArcelorMittal's customers trust
8	Active and welcomed member of the community
9	A pipeline of talented scientists and engineers for tomorrow
10	ArcelorMittal's contribution to society measured, shared and valued

To drive its goal of inventing smarter steels for a better world, the Company recognizes the value in creating an integrated marketing offer that combines many aspects of these 10 SD outcomes. These include being the supplier of choice for innovative products while maintaining steel and mine sites that operate to standards that meet and exceed the sustainability expectations of customers and investors. This is at the heart of the Company's approach to SD.

ArcelorMittal listens carefully to stakeholders, both locally and globally, and recognizes a trend of rising expectations among stakeholders regarding local community issues as well as the global transition toward a circular economy and the steel industry's critical role within it. The Company assesses stakeholder trust to be a key value driver, and accordingly adopts a Board-led strategic approach to deepening trust through stakeholder engagement.

Integration of SD into the business is therefore essential for ArcelorMittal to achieve long-term value for its shareholders and other stakeholders while maintaining a profitable market share. Over the last four years since the Company launched the 10 SD outcomes in 2015, it has been integrating them into the business, beginning at the site level by explaining the need for integrating SD into planning and reporting of results. In 2018, the Company's Board of Directors established the Appointments, Remuneration & Corporate Governance and Sustainability Committee of the Board (the "ARCGS"), an expansion of the previous Appointments, Remuneration & Corporate Governance Committee, which monitors the performance of corporate functions and business segments against the 10 SD outcomes pursuant to the five management themes discussed below. This integration of SD was fully embedded in 2019 with the implementation of theme dashboards and quarterly reporting from local sites to the board-level.

The ARCGS organizes its governance of SD through five management themes, which helps deepen the Company's strategic approach towards each one.

The themes (and the relevant SD outcomes to which they relate) are:

Management Theme		Relevant SD Outcome
1	Safety	1
2	Climate change	6
3	Customer reassurance	7
4	Environment	4, 5
5	Social	1, 8, 9, 10

The ARCGS's oversight underpins the Company's strategy to ensure that both corporate functions and business segments contribute to achieving the 10 SD outcomes with the following elements:

- Each business segment, acting on its understanding of SD trends and through its engagement with stakeholders, develops a plan in pursuit of the 10 SD outcomes as a priority, with a set of key performance indicators ("KPIs") established against which they must report quarterly to the ARCGS committee;
- Corporate functions lead on key areas including: progress towards low-carbon steelmaking, innovating steel solutions and steelmaking technologies with a positive SD impact, and developing a 'mine to metal' chain of assurance against multi-stakeholder environmental and social standards; and
- A robust articulation of the Company's approach and progress through clear narrative and transparent, third-party assured reporting.

The Company is committed to transparency as evidenced by the comprehensive SD disclosures made in the Integrated Annual Review and Factbook each year, and by the publication of its first stand-alone Climate Action Report in May 2019, which serves as the Company's response to the recommendations of the Task Force on Climate-related Financial Disclosures ("TCFD").

The Company now sees the need to go beyond transparency and invest in stakeholder dialogue by leading collaborative conversations with stakeholders on climate action and multi-stakeholder standard setting processes and certification for both steel sites and mines (see "Management Theme #3: Customer reassurance" below).

The Company's management of SD is summarized along the five management themes in the following pages.

Management Theme #1: Safety

ArcelorMittal's employees are essential to its ambition to build a high-performing organization. The Company wants all its employees to be safe and healthy, committed to ArcelorMittal's success and to act with integrity in everything they do. ArcelorMittal aims to build an inclusive culture in which diversity is valued, and every individual is respected and their potential developed. Safety is the number one priority.

Safety

The Company-wide safety program, "Journey to Zero", was introduced in 2007. It aims to achieve zero fatalities and severe lost-time injuries by creating a culture of shared vigilance in which risks and hazards are understood and monitored, best practices are shared, and appropriate action is taken at every level. The Company's remuneration policy links 10% of the bonuses of its leadership - from managers to the CEO - to safety KPIs (i.e., fatalities, LTIFR (defined below), PSIF (defined below)) in the business where he or she works, where relevant. The Company works with trade unions to drive safety improvements through a global partnership, which includes joint local Health and Safety Committees at every production unit and a Global Health and Safety Committee ("GHSC") which is made up of representatives from both the trade union IndustriALL and union members from ArcelorMittal, together with senior ArcelorMittal managers. This is supported internally by the ArcelorMittal Health and Safety Council.

It is with deep regret that the Company reported 21 fatalities during 2019, including 12 in steel and 9 in mining operations. Any fatality is a cause of great distress to families, friends, ArcelorMittal's leadership and the entire workforce. The Company's leadership is driving a campaign to ensure that a culture of vigilance and mutual accountability, in which every individual takes responsibility for their own actions, and the actions of those around them, prevails everywhere it operates. ArcelorMittal recognizes that, more than improving its performance against LTIFR (as defined below), it must work harder to ensure that its safety culture prevents fatalities and serious incidents. During the year, the Company implemented the following measures:

- The Safety Leadership program in CIS (Ukraine and Kazakhstan), training the top 100 managers and creating the key platform from which to roll out Take Care! training in the region. This program aims at developing the skills of middle and upper management to influence people's safety behavior and improve the safety culture within their teams. It has been successfully implemented over the past three years across ArcelorMittal's European operations and long operations in Latin America, where it entered into phase two in 2019;
- Strengthened health and safety policy on working at heights;

- Improved detection, recording, and understanding of hazards and risks through PSIFs in order to prevent severe incidents;
- Improved safety leadership practices, supported by the continuation of the Target 21 Safety Leadership Program, where managers undertake safety training through 21 days of 5-minute e-learning sessions ;
- Improved communications internally across the workforce using social media techniques; and
- Sharing lessons within the steel industry through the Company's participation in the Worldsteel Association.

The lost-time injury frequency rate ("LTIFR") for the Company, defined as the number of injuries per million hours worked that result in employees or contractors taking time off work, was at 0.75 (1.21 including ArcelorMittal Italia) in 2019 compared with 0.69 in 2018 (0.73 including ArcelorMittal Italia for the last two months of 2018). The industry average was 0.84 incidents per million hours worked in 2018, according to the Worldsteel Association. For comparison, ArcelorMittal recorded an LTIFR of 3.1 incidents per million hours worked in 2007, the year after the Company's formation. The table below shows the LTIFR by segment for the years ended December 31, 2019 and 2018:

	For the year ended December 31,	
Lost time injury frequency rate	2019	2018
Mining	0.97	0.61
NAFTA	0.58	0.53
Brazil	0.36	0.36
Europe	1.00*	0.93*
ACIS	0.69	0.61
Total Steel	0.73*	0.70*
Total (Steel and Mining)	0.75*	0.69*
ArcelorMittal Italia	11.13	8.20
Total (Steel and Mining) including ArcelorMittal Italia	1.21	0.73

*Data does not include the LTIFR for Ilva (subsequently renamed ArcelorMittal Italia) which was acquired on November 1, 2018.

Improving workers' ability to monitor and analyze potential severe injuries and fatalities ("PSIF"s) is also a key focus, as it provides a deeper understanding of how safety incidents can arise and therefore be avoided. Results show that sites with no fatalities proactively detect and manage twice as many PSIFs as sites that have one or more. The volume of proactive PSIFs logged across the Company has increased more than five times since 2016, and more than 3,500 situations have been proactively detected and addressed this year, a 29% increase in 2019 as compared to 2018. In addition, the Company is specifically focusing on improving the quality of its analysis and actions, including by sharing best practices across the Company, which has been further facilitated this year through the use of the intra-organization, social networking online tool Yammer.

PSIF is now a KPI for the Company and, alongside fatalities and LTIFR, is reported monthly to leadership as part of the governance process. Health and safety is reviewed by the GHSC and overseen by the ARCGS, which meets quarterly. When a fatality occurs, all levels of management are informed of the circumstances and the incident is subject to a comprehensive review process. The Company supports sites where fatalities have occurred to ensure stronger alignment between Group-level safety strategy and site-level implementation.

Health

ArcelorMittal takes a proactive approach to the health of employees and communities by partnering with local stakeholders on initiatives which raise the level of discourse on environmental matters and their effects on health from stakeholder sentiment to more empirical and technical debates necessary to find a solution to this complex issue.

For example, ArcelorMittal Tubarão signed a cooperation agreement in 2018 worth R$3.9 million with the State of Espírito Santo Federal University (UFES) to support their study to identify the relationship between pollutants and asthma cases in Vitoria, Brazil. For the next three years, 20 engineering and health specialists from UFES in Vitoria, will develop an unprecedented study in Brazil through which they will identify which pollutants, from particulate matters and gases, most influence the intensifying of asthma symptoms in children and adolescents with a goal to generate knowledge and information to guide other regulatory agencies in establishing maximum pollution limits tolerable for the population, thus helping to determine prevention policies based on qualitative data. This is significant because ArcelorMittal Tubarão is supporting research methods using primary data, genetics testing and air quality testing in subjects' homes and will build trust with its stakeholders by demonstrating it takes air pollution seriously.

Management Theme #2: Climate change

ArcelorMittal is committed to the objectives of the Paris Agreement and to keeping the global temperature increase to well below 2°C. The Company's ambition is to be carbon neutral in Europe by 2050 and to significantly reduce its carbon emissions globally. In 2019, in response to growing investor and customer expectations, and to align with and exceed the recommendations of the TCFD, the Company published its first Climate Action Report. To achieve this goal, the Company is building a strategic roadmap linked to the evolution of public policy and developments in low-emissions steelmaking technologies. A target to 2030 will be launched in 2020, replacing the Company's current target of

an 8% carbon footprint reduction by 2020, against a 2007 baseline.

Subsequently, in December 2019 ArcelorMittal Europe announced a CO2 roadmap to reduce emissions by 30% by 2030. The target is in line with an ambition announced in May last year, to be carbon neutral in Europe by 2050.

The Company sees the low-carbon transition as presenting significant opportunities as steel will remain a vital material in the application of new industrial technologies and the transition of the energy, transport and packaging industries, and the future construction sector. ArcelorMittal develops innovative products and processes that help its customers reduce their carbon footprint in all these sectors, including S-in motion® for automotive, Steligence® for the built environment, and glass-granulated blast furnace slag as a low carbon alternative for use in place of Portland cement.

The Company views steel as having many advantages in a decarbonizing world in which demand for materials will continue to grow. Steel is 100% recyclable without quality loss, and in many applications, it is a lower-carbon alternative over its lifecycle than other materials such as aluminum and concrete. However, modeling shows that global stocks of scrap will be insufficient to meet global demand for steel from secondary, recycled sources for many decades to come, so the world will continue to rely on primary steelmaking for decades to come. Existing iron and steelmaking processes are carbon intensive, and therefore the route to decarbonizing steel will be through developing new low-emissions technologies. The Company has identified three pathways to achieving this:

- Clean power used as the energy source for hydrogen-based ironmaking and, in the longer term, for direct electrolysis ironmaking, and also as a contributor to other low-emissions technologies. The Company is building a demonstration plant in Hamburg, called H2Hamburg, which will reduce iron ore with hydrogen. It is also collaborating with 11 partners on a project called Siderwin to build a three-meter industrial cell which will test iron ore reduction via electrolysis in Maizières, France.
- Circular carbon energy sources, including bio-based and plastic wastes from municipal and industrial sources and agricultural and forestry residues. Through a process called Torero, ArcelorMittal will reduce iron ore with waste carbon rather than fossil fuel coal in a demonstration plant in Ghent, Belgium. Meanwhile, the Company's campus in Dunkirk, France is piloting the IGAR (Injection de Gaz Réformé) project which reforms carbon from the blast furnace, converting it into a synthetic gas to reduce iron ore.
- Fossil fuels with carbon capture and storage ("CCS") enabling the continued use of existing iron and steelmaking processes while transforming them to a low-emissions pathway. The Carbon2Value process captures fossil fuel carbon for storage or re-use. The Group's Carbalyst® project, in partnership with LanzaTech, will capture carbon gas and recycle it into chemicals. Pilot plants for both technologies are under construction at the Company's plant in Ghent, Belgium. Investment in Carbalyst® started in 2018 and is expected to be completed in 2021. the technology will capture approximately 15% of available waste gases at the demonstration plant and convert them into 80 million litres of ethanol annually.

These pathways could all lead to low-emissions steelmaking. However, they pose significant challenges in terms of new technology, expanded clean energy infrastructure and infrastructure for the transport and storage of CO_2. All three also lead to structurally higher costs of steelmaking and therefore, for them to become a reality, significant policy support is required.

Through its innovative low-emissions steelmaking program (which is a multi-year budget covering the Company's low-carbon development and demonstration program with partners, aimed at building industrial pilots and demonstrations and is additional to its annual R&D expenditure), ArcelorMittal is actively testing technologies across each of these three pathways, and developing a broad portfolio of breakthrough low-carbon steelmaking processes. The Company believes that these initiatives present significant opportunities for the decarbonization of steelmaking provided the correct regulatory and investment environment exists.

In the medium term, ArcelorMittal is developing an emissions reduction roadmap to support a new global 2030 carbon target alongside its European target. However, ArcelorMittal has also identified that its most substantial climate-related risk stems from a policy environment that does not enable the industry to cover the higher structural costs that new low-emissions technologies bring.

The Company's most significant policy work is on the need for a global framework to create a level playing field and avoid the risk of carbon leakage. For example, carbon border adjustments would ensure that steelmakers bearing the structurally higher capital and operating costs of low-emissions technology could compete with imports from steelmakers with higher emissions. The Company is advocating a green border adjustment in the new European Green Deal so that Phase 4 of the EU Emissions Trading Scheme (ETS), which requires a substantial reduction in the carbon intensity of European steel, does not result in carbon emissions being effectively exported from the EU to steelmakers with higher emissions in regions where carbon regulations are less stringent.

ArcelorMittal is also actively engaging in analyzes, with customers, investors, policymakers and global think tanks, on what policy mechanisms could be created to make low-emissions steelmaking more competitive. For example, the Company has been collaborating with the Energy Transitions Commission's Mission Possible initiative on pursuing net-zero carbon emissions from harder-to-abate sectors, and with the Science-Based Targets initiative ("SBTi") on the steel sector decarbonization approach. ArcelorMittal has also been driving multi-stakeholder efforts through ResponsibleSteel™ to develop standards on greenhouse gas emissions ("GHG") for steel.

Other global policy recommendations are:

- **Access to abundant and affordable clean energy**. Policies giving the steel industry access to abundant and affordable renewable electricity will be key to scaling up the clean power pathway. For acceleration of the circular carbon pathway, the steel industry requires priority access to biomass and waste.
- **Facilitating necessary energy infrastructure**. In addition to abundant renewable electricity, policies to support investments in hydrogen infrastructure will be needed to advance large-scale hydrogen-based processes. Similarly, for the fossil fuels with CCS pathway, policies are also important to enable and accelerate the development of carbon transport and storage infrastructure and services.
- **Access to sustainable finance for low-emissions steelmaking**. The scale of the challenge requires an acceleration of technology development and roll out. Breakthrough steelmaking technologies need to be identified as a key priority area for public funding.
- **Accelerate transition to a circular economy**. Materials policy should divert waste streams from landfill and incineration. It should focus on driving recycling and reuse of all waste streams and incentivize the use of waste streams as inputs in manufacturing processes. It should reward products for their reusability and recyclability.

In addition to new technologies and policy work, ArcelorMittal's low emissions strategy focuses on energy efficiency in its existing steelmaking operations across the globe, and on expanding opportunities for further steel production using end-of-life scrap. Each year, the Company's Investment Allocation Committee ("IAC") approves a number of capital investments that will bring significant energy and carbon efficiency improvements, enabling the Company to meet its medium-term emissions reduction targets. In 2019, the ArcelorMittal's IAC has allocated a total of $711 million to 25 projects with energy and/or carbon benefits to be spent in the next years.

For the third consecutive year, ArcelorMittal has won the Steelie Award for excellence in sustainability in recognition of the Company's publication of the steel sector's first Climate Action report. Announced at the Worldsteel Association's annual meeting in Monterrey, Mexico, the award distinguishes the Company's industry leadership on sustainability amid the growing pressure steel companies are facing to outline their approach to reducing carbon emissions.

Management Theme #3: Customer reassurance

The Company envisions the momentum behind supply chain accountability continuing to grow, with a particular focus on mined raw materials. Consumer-facing brands want to demonstrate responsible sourcing, and customers are joining together to demand, and validate, higher standards in their supply chains, driven by their own due diligence processes. This is expressed through growing demand from the Company's customers for reassurance on environmental and social standards. As a result, ArcelorMittal regards supply chain certification and reassurance as a vital commercial opportunity to forge closer links with customers and believes that taking a leading role in multi-stakeholder engagement is one of the most effective ways to achieve results. It is working with peers in the steel and mining industries, and with other stakeholders, to advance the development of new third-party standards.

To establish a single, global standard for the entire 'mine-to-metal' steel value chain, and in response to the strong trend of rising assurance expectations from customers, ArcelorMittal has been playing a leading role in developing ResponsibleSteel™ since 2015. ResponsibleSteel™ is the steel industry's only global multi-stakeholder certification initiative, which has 40 members including steel producers, mining companies, NGOs, steel-consuming customers, financial institutions, and industry bodies. It enables steel producers to prove their production processes and products meet rigorously defined standards across a broad range of social, environmental and ethical criteria. It also improves responsible sourcing of the raw materials used in steelmaking and reduces supply-chain risk.

In November 2019, following a robust accreditation process, ResponsibleSteel™ launched its first site certification standard. The standard presents 12 principles underpinned by over 50 criteria and over 200 auditable requirements, addressing: health and safety, human rights, local communities, biodiversity and GHG among other sustainability and assurance issues. In 2020, a full product certification standard will follow, which will also cover the mining of raw materials before they arrive on site, and the full chain of custody from mine to site to final customer.

ArcelorMittal has carried out readiness assessments against the ResponsibleSteel™ site standard across nearly all its

European flat products production sites with positive results. It is currently working on a site assessment and verification plan and is on track to seek certification for its European Flat sites next year. ArcelorMittal believes that its leading role in the development of ResponsibleSteel™, and its commitment to achieve certification in 2020, will enable the Company to improve customer relations, increase market share among customers already seeking certification, and create demand for certified products.

ArcelorMittal also plays a leading role in the wider movement towards establishing social and environmental standards for mining that stakeholders recognize and value. As a member of the IRMA (the Initiative for Responsible Mining Assurance) steering committee, ArcelorMittal participates in the multi-stakeholder expert panels shaping its standards. Another example is its commitment to the Mining Association of Canada's Towards Sustainable Mining initiative at its mines in Canada, which helps the Company to monitor and improve performance and customer reassurance.

The Company is also a member of a multi-stakeholder collaboration on sustainable tin production in Indonesia, the Tin Working Group.

The Company engages directly on responsible supply chain issues with customers from the automotive, rail and other sectors, including construction, household goods and packaging, as well as with initiatives used by customers to share their processes for assessing supply chain risk, such as DRIVE Sustainability, Electronic Industry Citizen Coalition, Railsponsible, EcoVadis and the Green Building Council.

Alongside these multi-stakeholder, customer-focused initiatives, the Company is committed to driving standards in its own supply chain. Since 2011, the Company's Code for Responsible Sourcing has set out minimum standards for its suppliers and described how it will work with suppliers to achieve them. In 2018, the Company continued to ask all new global suppliers to sign the Code and surveyed key suppliers for their implementation of the Code. At the same time, it reinforced its risk mapping analyses, with particular reference to its raw material suppliers. This process aims to identify social and environmental areas of concern, and the key hotspots for further due diligence; the Company is developing action plans where these are needed. It also identifies those suppliers which have the potential to take part in certification schemes in the future.

Overall, the Company is shaping its supplier process to be better aligned to the Organization for Economic Co-operation and Development ("OECD") guidelines on due diligence on supply chains, in particular for conflict minerals, which reflect continued concern that some conflicts around the world are being financed by the trade in minerals such as tin, tantalum, tungsten and gold. From a portfolio of more than 2,000 steel products, only a very limited number of ArcelorMittal products contain tin and tungsten, which are necessary for the functionality or production of certain products.

Management Theme #4: Environment

Behind the SDGs to which ArcelorMittal is committed, is a vision of progress that leaves no-one behind. The Company therefore focuses on making steel in ways that work for society, without creating harmful carbon footprints (as discussed in "*Management Theme #2:* Climate Change" above), or other negative environmental impacts. The Company aims to meet stakeholders' expectations around the use of shared resources, particularly natural capital in the form of air, land and water. Operating transparently and responsibly in these areas is essential for retaining stakeholders' trust.

The Company continues to make significant environmental investments, and in 2019, ArcelorMittal's IAC has approved a total of 38 projects with environmental benefits totalling $692 million.

Some of the challenges affecting air, land and water are global in nature, and ArcelorMittal engages in multi-stakeholder forums aimed at addressing them. Where the issues and the means of addressing them are local, country managers engage with stakeholders at every level, including site-by-site. Before developing any new mine or steel plant, the Company carries out detailed environmental impact assessments, and establishes an environmental management plan. At all existing production sites, it monitors air, water, energy and residue data, and publishes data annually in its Integrated Annual Review and country level sustainability reports, of which 12 were published in 2019.

The Company monitors regulatory developments and aims to be fully compliant with regulatory standards. The Company also aims to listen to concerns wherever they are raised, and to respond appropriately, including by acknowledging where its standards have fallen short. In 2019, the Company's focus on responding to environmental issues was centered on addressing air quality concerns, managing tailing storage facilities and tailings transition plans, improving land use and biodiversity and responsible water use, as further discussed below.

Addressing air quality concerns

In 2019, the Company's investments in environmental improvements included 16 projects to improve air quality. ArcelorMittal understands that air quality is among the most salient issues for the communities around its operations. It is also a continuing focus for regulators, and the Company's goal is to comply fully with regulatory standards. Although the specific sources of pollutants, particularly in urban and industrial areas, are not always identifiable, the Company

aims to listen to concerns wherever they are raised, and to respond appropriately. The Company also continues to make significant environmental investments that address air quality.

In 2019, the following sites raised particular air quality concerns, which were addressed by the Company:

Fos-sur-Mer (France)

In Fos-sur-Mer (France), ArcelorMittal acknowledges stakeholder concerns and historic regulatory non-compliance around emissions from the coke plant. Between 2012 and 2017, the Company invested €100 million in the site, and succeeded in reducing dust emissions by 50%, dioxins by 70%, and sulphur dioxide by 50%. After a further investment of €130 million in the coke plant over 2012-2018, and substantive work completed in 2019, the coke ovens are now compliant. Investment will continue with an additional €100 million by 2023 to reduce environmental impact by a further 30%. Moreover, on public health issues, ArcelorMittal supports scientific studies to establish an accurate measure of air quality, its sources and its implications for health.

Krivyi Rih (Ukraine)

The Company is also responding to concerns raised by local stakeholders in Ukraine and Kazakhstan. In Ukraine, over 14 years of operating in Krivyi Rih, the Company has invested $4.4 billion (2006-2018) in production processes which resulted not only in improving the Company's competitiveness but also reduced environmental footprint: waste water discharge was reduced by 81% and dust emissions by 48%.

ArcelorMittal Kryvyi Rih's strategy to further reduce their environmental impact from dust covers all the main types of production - mining, coke, steelmaking, rolling and sintering. The latter is of key importance, since it accounts for about 75% of the plant's total dust emissions. The Company is planning to build a pellet plant to replace the sinter plant at the steel production site and sinter plant number 1 at the mining production site, as well as modernizing sinter plant number 2 at the mining production site. As a result of these investments, dust emissions will be reduced by about 79% within the sinter plant area and 43% across the whole site between 2018 and 2024.

In addition, to further reduce emissions, ArcelorMittal Kryvyi Rih applied an innovative method of repairing coke oven batteries. The method is based on ceramic welding of deep cracks with subsequent injection of powder mixtures to seal small cracks in the refractory brickwork of coke ovens. Such method to reduce dust emissions is already being used in Europe, but is being implemented for the first time in Ukraine. The Company is also planning construction of two continuous casting machines and the new rolling mill which will further reduce the environmental footprint of the operations.

Kazakhstan

In Kazakhstan, where emissions and their impact on air quality is the most pressing concern for local communities, ArcelorMittal has built a comprehensive environmental plan with local stakeholders. As part of this plan, in 2018, the Company announced a $198 million environmental investment program. The projects in its scope will result in a series of incremental performance improvements throughout the investment plan's implementation period to 2025. The program is focused on removing dust from a range of facilities including the lime plant, the coke shop and related processes, the sinter plant, the steel shop, blast furnace 2 and its associated storage area.

ArcelorMittal Italia

ArcelorMittal Italia, has undertaken an ambitious environmental engineering project at its Taranto site: creating the world's largest suite of primary raw materials coverage yards. Work on the iron ore yard coverage was completed in late 2019 and it will play a key role in reducing diffused dust dispersion towards the city, particularly in the Tamburi district. The coke yard coverage is expected to be completed in May 2020.

Another key milestone will be the coverage of the coal yard. Each structure is made up of six arches which collectively use around 22,000 tonnes of steel pipes produced by ArcelorMittal. With a height of 77 meters, the equivalent of an 18-floor building, and a length of 476 meters and a width of 254 meters, equal to around 17 professional-sized football pitches. The ongoing work and the scope of the environmental plan is subject to ongoing negotiations with the Commissioners for a new industrial plan for ArcelorMittal Italia. For further information, see "Key transactions and events in 2019—ArcelorMittal Italia acquisition".

Managing tailings storage facilities

The stability of tailings dams is a risk that every mining company faces and managing them carefully to ensure they are structurally sound is a vital aspect of ArcelorMittal's responsibility as a mining company. The tragedy of the Vale-owned Feijão dam failure prompted all mining companies to examine the monitoring systems at their tailings storage facilities ("TSFs"). ArcelorMittal has 24 TSFs, which include dry stack and in-pit disposal, of which 19 are active, 5 are dormant.

The Company employs a strong governance model based on the Mining Association of Canada's ("MAC") guidelines for TSFs. Its global tailings stewardship program employs three types of audits: in-house at site level, in-house at corporate level and an entirely independent audit, which are benchmarked against international guidelines of Australian

National Committee on Large Dams ("ANCOLD"), MAC and Canadian Dam Association ("CDA").

ArcelorMittal's Serra Azul mine's tailings has been dormant since 2012 and the Company had commenced reclamation to re-process tailings through the concentrator in January 2019. In February 2019, following stress tests on the Serra Azul dam model safety factors, the Company decided to evacuate the local community downstream of the dam as a precaution, enabling the Company to carry out further testing and safely implement any mitigation measures.

Mining operations were simultaneously suspended but were recommenced on March 18, 2019. Following an update of the theoretical dam break analysis, and adopting the most conservative assumptions, the potential area of impact has been expanded, in order to keep a greater margin of safety. In response, ArcelorMittal relocated 23 families from two communities to temporary homes as a precautionary measure. Monthly emergency payments have been made to the relocated families as well as to people who lost access to their land - in total 149 families have been directly impacted. For safety reasons, access to the evacuated area continues to be restricted and controlled according to guidance from local authorities.

ArcelorMittal is employing continuous 24/7 monitoring of the tailings storage facility via radar, accelerometers, piezometers and imaging, and is currently reviewing its approach to safely deconstructing the Serra Azul TSF.

The Company is working on potential application of non-wet or reduced moisture tailings disposal methodologies such as thickened, paste, dry stack and in-pit tailings options where appropriate. This approach is already in use in Mexico, Brazil and Quebec iron ore mines.

Improving land use and biodiversity

ArcelorMittal aims to practice good land use management, and to protect biodiversity in the environments where it operates, including through partnerships with local environmental organizations and others to improve and research local biodiversity.

Mining is a key focus both in terms of responsible land management and biodiversity.

In Liberia, the Company operates a Biodiversity Conservation Program ("BCP") to address the damage caused by agriculture and mining.

ArcelorMittal's Liberian mines are set in Nimba County, surrounded by both mountain and lowland rainforest. ArcelorMittal's mining area consists of approximately 51,000 hectares in Nimba County, representing less than 1% of the total forest. The Nimba Mountains are renowned for their biodiversity but have been damaged by agricultural practices and overhunting.

Launched in 2011, the BCP is the Company's approach to developing sustainable forest management throughout the area. Through the BCP, the Company is partnering with authorities and communities to create a healthy ecosystem and sustainable livelihoods across the region. The Company spent almost $2 million on the BCP program in the last three years and its achievements include training 1,000 farmers in conservation agriculture, retraining 50 hunters as front-line conservationists and replanting trees in Tokedeh and Gangra.

The impact of the Company's steelmaking activities on biodiversity can be less apparent than mining, given that most steel operations are located in urban areas. Nonetheless, ArcelorMittal runs a range of programs aimed at protecting and enhancing ecosystems. For example, ArcelorMittal Tubarão has implemented a green belt around the plant, housing about 2.6 million trees and shrubs and eight different permanent preservation areas, with lagoons, swamps, mangroves, and beaches. In partnership with the Capixaba Institute for Research, Technical Assistance and Rural Extension (Incaper), ArcelorMittal Tubarão is currently conducting research to improve the diversity of flora and fauna in its green project. Another example is ArcelorMittal Mediterranee which works with the bureau d'étude écologique Eco-Med to manage close to 450 hectares of protected natural spaces within its Fos-sur-Mer site.

Responsible water use

Water is a vital resource to the Company and its stakeholders, and ArcelorMittal aims to be responsible both in the amount of water it consumes, and in the quality of the water discharged by its sites into the environment. Its work in the area is aligned to the UN's SDG 6 (Clean water and sanitation), with particular reference to the target 6.3 on water recycling, target 6.4 on water efficiency, and target 6.5 on water management.

The Company's net water use in steelmaking, defined as the difference between the water it withdraws and the water discharged, is measured, monitored and managed at each site by a dedicated team. In general, steel plants treat and recycle the same intake of water repeatedly, losing water only through evaporation. Water withdrawn from groundwater sources makes up less than 1% of the Company's water intake. Water treatment facilities play a vital role in managing the Company's emissions to water, and in improving the water efficiency of its operations.

Unlike reducing carbon emissions, which is a global challenge, water use is a more localized issue. Where freshwater is scarce, or when there is a drought, the Company works with local municipal and water authorities to explore the best sources for water, including seawater, rainwater and wastewater from water treatment plants. When issues occur, ArcelorMittal aims to act swiftly and co-operatively with local authorities.

In August 2019, ArcelorMittal Burns Harbor experienced a failure at the pump station for the blast furnace process water recycle system, which is believed to have contributed to the reported excess of Ammonia-N and cyanide at two outfalls and impacted aquatic wildlife near those outfalls. ArcelorMittal Burns Harbor has continued daily sampling for cyanide and ammonia and other regulated pollutants. The results are provided to the state regulatory authority responsible for water issues. The Company believes the circumstances leading up to the station failure were unique and it continues to investigate the station failure and related water concerns in coordination with regulatory authorities to understand what happened and to implement measures designed to prevent recurrence.

ArcelorMittal Burns Harbor has two permits which impose monitoring requirements and establish certain limits for pollutants regulated under those permits. Any surpassing of limits or other violations of permit requirements are reported to the state water authority. While any instance of non-compliance is concerning, the Company does not believe that the reported non-compliance with the permit requirements in any way reflect systemic issues. Any instances of non-compliance are investigated, and appropriate actions are taken in response. Governmental authorities are tasked with responding to non-compliance with permits in the way they deem appropriate in response to the reported information. For further information, see note 9.3 to the consolidated financial statements.

Recognizing the importance of water within our business and our communities, the Company continued its leadership role in Sustain Our Great Lakes ("SOGL") in 2019, a public-private partnership with the National Fish and Wildlife Foundation ("NFWF"), U.S. EPA, U.S. Fish and Wildlife Service, U.S.D.A. Forest Service, the National Oceanic and Atmospheric Administration, and U.S.D.A. Natural Resources Conservation Service. SOGL's mission is to restore and protect fish, wildlife and habitat throughout the basin by leveraging funding, building conservation capacity and focusing partners and their resources on key ecological issues. Since 2006, the program has awarded 337 grants totaling nearly $81 million, which when combined with $93.5 million in grantee match, has resulted in a total conservation investment of more than $174.5 million in the region.

The Company seeks to improve water use and the quality of effluent discharge at its mine sites and conducts regular water quality monitoring as standard at all operations. Run-off from the Company's mining operations is treated either chemically or through sediment control dams and tested before being released into surface water bodies or reused elsewhere at the mine. Where possible, water is reused for processing, for example, as part of the cooling process during pellet production. At AMMC, a multi-year holistic water management project aimed at controlling the surface effluents on the waste rock piles and to achieve compliance with federal regulations is ongoing. This consists of the construction of collector ditches on the perimeter of the waste rock piles and the installation of temporary and permanent water treatment units in Mont Wright and Fire-Lake.

ArcelorMittal Brasil has one of the highest rates of water recirculation amongst Brazilian steelmakers, of approximately 98%. Between 2015 and 2017, ArcelorMittal Mineração Serra Azul managed to reduce its water intake by more than 50%, from efficiencies in both the mining and processing stages. The plant's water resource management from ArcelorMittal Mineração Serra Azul provides high rates of water recirculation in the iron ore beneficiation process. In 2019, the index was 88.5%.

Management Theme #5: Social

ArcelorMittal wants communities to recognize it as a good neighbor, that actively engages with local stakeholders to make a positive contribution in terms of creating economic and social value through employment, procurement, taxation and sustainable development initiatives and through strong risk management and respect for human rights. To do this, the Company understands it must take a partnership approach, listening to the concerns of stakeholders at the site, country and segment levels, to give them the confidence that ArcelorMittal will address the impacts it has on them and their environment. ArcelorMittal wants to be a pro-active partner in local socio-economic development; one which is trusted to have an open dialogue and find constructive solutions when challenges arise. This approach is an essential part of the Company's integrated approach to managing risks and impacts, and thus maintaining the Company's social license to operate.

Direct management of community issues, monitoring of local risks and opportunities and how these are being addressed is led by local operations. In 2019, community dashboards were established with the ARCGS Committee to oversee the significance of a site's risks and opportunities.

The aim is to use the dashboards to improve performance at sites identified as being at risk, in particular those consider to be high risk. For all sites that are considered 'high risk', a deeper dive is performed by the corporate responsibility team, usually with site visits, to understand the underlying factors behind the site's situation. This root cause analysis is used to identify trends and patterns in the factors behind poor community relations. A similar but less in-depth approach is taken with 'medium risk' sites.

In addition, in 2019, the Company continued to increase its corporate oversight of local sites' stakeholder engagement plans and grievance-handling mechanisms, developing a new standard for ArcelorMittal community procedures to be implemented at all sites. This standard sets the minimum requirements for planning, implementation, monitoring and

evaluation of community engagement and development activities. It is defined by four priorities:

- Understanding local communities by conducting social context analyses of local impacts and opportunities, human rights and associated impacts, and trends linked to the local risk profile;
- Comprehensive planning of human rights assessments, stakeholder engagement, mechanisms to manage community complaints and grievances, and community investment strategies;
- Effective implementation of development activities through strong leadership, appropriate resource, timely engagement, and robust governance; and
- Consistent monitoring and evaluation of performance through community perception surveys, analysis of grievances, and annual independent verification of data and social performance.

The Company also analyzes broader trends across its global portfolio in relation to community issues enabling it to make sure best practices are shared between sites. Examples of how the Company works to share best practices for community engagement include the Company's quarterly Community Liaison Committee in Avilés, Spain and its multi-stakeholder forum in Poland which follows the AA1000 Stakeholder Engagement Standard (2015) methodology. The Company also continues to foster collaborative relations, bringing sites' corporate responsibility teams across the group together through webinars and internal seminars. In February 2019, ArcelorMittal corporate responsibility representatives from over 18 countries met in Milan, Italy for a three-day knowledge management program to network, discuss current issues and learn from one another.

Alongside responding to communities' needs and concerns, the Company's community investment strategy focuses on developing skills in STEM (science, technology, engineering and mathematics). This reflects the important role scientists and engineers will play in building a sustainable future for society at large, for the steel industry and for the Company. The strategy is delivered in many ways: from providing teaching aids and technological support, through inviting students to steel plants, to the Company's long-term partnerships with leading academic organizations around the world.

Sustainable Development Governance

The Company's commitment to integrity is enshrined in its code of business conduct and is supported by a comprehensive framework of policies in areas such as human rights, anti-corruption, and insider dealing. These reflect the principles and concepts of the UN Global Compact, the OECD Guidelines on Multinational Enterprises and UN Sustainable Development Goal 16 ("Peace, justice and strong institutions"). See also " Directors, senior management and employees and Board practices/corporate governance".

Listening, learning, respect and transparency are key to the integrity of the Company's leadership and governance, which helps ensure ArcelorMittal operates effectively and ethically in all parts of the world.

ArcelorMittal considers its relationships with its various stakeholders to be vital to its success. Conducted in the right way, these relationships help the Company know how best to respond to challenges, to anticipate future problems, and to earn trust. ArcelorMittal's operations in each country are encouraged to assess their stakeholders' expectations and concerns, in order to inform their approach to the 10 SD outcomes and 5 management themes. Working with customers, suppliers, unions and others can also contribute to UN SDG 17 (Partnership for the goals).

Fully integrating SD into the business is essential to reach the Company's aim of achieving long-term value for its shareholders and other stakeholders, while maintaining a profitable market share. As discussed above, ArcelorMittal introduced a sustainable development framework including 10 SD outcomes in 2015 and the ARCGS oversees the Company's progress towards these outcomes, as well as the Company's overarching strategy towards SD according to the five management themes described above. The Company's approach to meeting its SD targets includes:

- ***Key Performance Indicators.*** A set of KPIs for every business segment to report against, overseen by the ARCGS;
- ***SD-focused Business Plans.*** An expectation that SD is integrated into each business segment plan, acting on the relevant SD issues material to its business;
- ***SD-focused Corporate Initiatives.*** Corporate initiatives on SD for the benefit of the Group, which include, for example, accelerating progress towards low-carbon steelmaking; innovating steel solutions for a positive SD impact; and developing a 'mine to metal' chain of assurances measured against multi-stakeholder environmental and social standards; and
- ***SD-focused Reporting.*** A robust articulation of the Company's approach and progress through clear narrative and transparent, third-party assured reporting. In 2018, climate change was identified as one of the themes to be overseen by the ARCGS, which then nominated senior officers to take responsibility for its low-carbon transition strategy, its carbon performance, and its work on advocating for the introduction of carbon-related government policies.