



ArcelorMittal

Annual review 2016: Sustainable progress

Welcome to our integrated annual review. In 2016, we significantly strengthened our financial position and delivered materially improved results. We also looked to the longer-term, launching a five-year strategic plan, Action 2020, while further embedding sustainable development throughout our business to ensure long-term value creation for all stakeholders. 2016 was a year of sustainable progress for ArcelorMittal.

Lakshmi N Mittal
Chairman and CEO of ArcelorMittal

Message from our Chairman and CEO

Lakshmi N Mittal



\$6.3bn
2016 Ebitda

Dear stakeholders,

Welcome to ArcelorMittal's annual review. Last year we took our first step towards integrated reporting, combining our traditional annual review with our sustainable development report, to demonstrate not only the financial value we deliver but also the broader social and economic value a company of our size creates. We received encouraging feedback from stakeholders and I hope this year's review demonstrates further progress in this regard.

Ten years of industry leadership

2016 was a year of important progress for ArcelorMittal and it also saw us mark the ten-year anniversary of the company. Much of this decade has been tough for our industries, but it has also defined the spirit and culture of our company and showcased our resilience, our strength, our knowledge and our capability to respond swiftly. We have reshaped our asset base, we have improved our competitiveness, we have improved our safety performance, we have strengthened our balance sheet and we have invested in innovative products for the future. We have faced tough market conditions, but in many ways, we are a stronger company, better positioned for the future with world-class assets and a clear strategy that will enable us to outperform in all market conditions.

2016: A year of important progress

2016 saw us make further progress in this regard and I want to particularly highlight two actions which have supported the performance of the company and put us in a stronger position for the future. The first was the successful capital raise launched in February. The second was the launch of our new five-year strategic plan, Action 2020.

The US\$3 billion capital raise was received very positively by investors and, combined with the proceeds of asset sales and the generation of positive free cash flow, enabled us to significantly improve our net debt position. Net debt at the end of 2016 was US\$11.1 billion – US\$4.6 billion lower than the previous year and the lowest level since the creation of the company. Net income for the year was a healthy US\$1.8 billion.

Action 2020 contributed US\$0.9 billion to Ebitda in its first year, through the successful implementation of strategic initiatives across all our business segments. Along with improved market conditions and the introduction of trade tariffs in our core markets, this supported a 20% improvement in Ebitda for the year to US\$6.3 billion. Action 2020 is key to unlocking improved financial performance and delivering higher levels of Ebitda on a sustainable basis. The size and scale of our business makes this plan unique to ArcelorMittal, providing us with a genuine differentiator and competitive advantage. But size and scale by itself is not enough. We need to ensure that we lead in all areas, on cost performance, product quality, customer service and environmental performance. While Action 2020 is fundamentally focusing on three core areas – increasing volumes, structurally improving costs and increasing the proportion of higher-added value products we sell – the plan is ultimately about ensuring excellence in every aspect of our business. I am excited about its potential and am confident we will deliver on the full target of US\$3 billion of additional structural Ebitda and US\$2 billion dollars of annual free cash flow.

Outlook for 2017 is encouraging although macro-economic challenges remain

We therefore started 2017 in a much stronger position than at the beginning of 2016, supported by good momentum in our core markets. Although we have stopped giving annual guidance, this bodes well for 2017 performance. Apparent steel demand is expected to increase between 0.5 and 1.5% globally this year, with good levels of growth in our core markets. In the US, we expect demand growth of between 3 and 4%; in Europe demand will continue to be positive at between 0.5 and 1.5%, supported by the strength of the automotive end market; in Brazil we expect to see the economy starting to recover, albeit tentatively, supporting steel demand growth of between 3 and 4%.

Against this backdrop, a key priority for the year is to continue to implement Action 2020, and ensure we capture the full benefits of the plan. The entire organisation is now very well aligned to the plan and the targets, and leadership has been incentivised to deliver against a clear set of KPIs. I am confident we will deliver further progress in all segments across the year.

A second priority is to further deleverage, to ensure we are well positioned for all points of the cycle. In order to adapt to the downturn we had done an excellent job of reducing the cash requirements of the business to US\$4.5 billion. As steel is a highly capital intensive business, a significant portion of our cash requirements is capital expenditure. We limited this in 2016, with the majority of capital expenditure focused on maintaining our asset base. As market conditions improve we need to invest appropriately to ensure we capture market share, continue to lead the industry in innovation and further develop the range of high-added value steel we produce. Therefore, we have allocated an additional US\$0.5 billion of development

capital expenditure for 2017. The target is to keep the cash requirements of the business, excluding working capital, at or below US\$5 billion. In pursuit of improved credit ratios and ratings we will use surplus cash to reduce net debt.

While markets have improved and spreads are currently at a reasonably healthy level, we are cognisant of both the continued overcapacity that characterises the global steel industry and the geopolitical fragility caused by the waves of nationalist sentiment that is taking root in many countries.

On the topic of overcapacity, it is worth remembering that when ArcelorMittal was created China's steel capacity was 560 million tonnes; today it is 1.2 billion tonnes. Overcapacity in China is estimated at around 300 million tonnes, nearly one-fifth of global steel production. The encouraging news is that the Chinese government has recognised the harm this can cause for their own economy, as well as the steel industry globally, and now has a clear plan to address it, targeting capacity cuts of 150 million tonnes in their most recent five-year plan. The early signs are they are on target, but we should not expect this to be addressed overnight. This is why we continue to call for a comprehensive trade solution to address any unfair trade practices.

Trade was a hot topic throughout 2016 and is even more in the spotlight following the election of Donald Trump as President of the United States. Much has been written about the return of protectionism and the economic consequences of reversing on free trade. ArcelorMittal's position on trade is quite clear – we continue to believe in the benefits of globalisation, freedom of movement and global trade; it is the basis on which our company was built. We are therefore in favour of free trade, but it must be fair trade and the two are not necessarily always the same. International trade must take place in-line with internationally agreed WTO rules and regulations, otherwise the result is countries exporting their overcapacity, and the problems that accompany overcapacity, as exemplified by China.

We have been very active in working with our trade associations worldwide in calling for urgent attention to this matter, because it is critical to the health and sustainability of our industry. Considerable progress was made in 2016, with a significant trade policy reaction on both sides of the Atlantic to the dumping of steel; but there is still more to be done. This is why we welcome the approach of the Trump administration to take all the necessary steps to appropriately defend US manufacturing and ensure it can continue to thrive and flourish. In comparison Europe is still too slow to respond and we are disappointed by the recent decision not to implement provisional measures for hot rolled coil from five countries, despite injury being clearly proven. The steel industry creates considerable social and economic value for economies and plays an important role in the manufacturing supply chain – this needs to be fully appreciated.

The perceived negative consequences of globalisation are of course one of the main reasons for the recent geopolitical disturbances the world has experienced, notably in the UK and the US. When I wrote to you last year neither the Brexit vote nor the US election had taken place. The outcome of these two votes was a wake-up call to the world, and global leaders now need to do a much better job in balancing the net positives of globalisation with the domestic needs of

their own voters. While the potential global economic implications of these two events remain unclear, what is apparent is that political uncertainty remains high. With several important general elections in European countries occurring in the near future, the risk of continuing geopolitical surprise and subsequent economic volatility remains high.

This is why we must continue to be rigorously focused on delivering against our own priorities. In addition to achieving our financial targets and making further progress with Action 2020, we have two other key priorities for 2017. The first is to improve safety performance; the second is to ensure we are well positioned for long-term success.

Safety has been the top priority for our company since our creation. It is why the first of our ten sustainable development outcomes is to ensure safe, healthy, quality working lives for our people. Our target is zero fatalities and zero injuries. We have made great progress over the past ten years with safety – reducing the lost-time injury frequency rate (LTIFR) by 70%. There are areas of real safety excellence within our business; there wasn't a single fatality in either of our North or South American businesses, while our Brazil segment nearly halved its LTIFR to 0.37, the lowest level in the group. This gives me great optimism, and the belief that our journey to zero is possible. We have worked hard to make sure we have the right safety processes and procedures in place. What we must focus on – with absolute vigilance – is that they are steadfastly adhered to and a safety-first culture permeates the entire organisation. The Take Care campaign launched last year in Europe is an example of how we are achieving this.

Preparing for long-term success

Key to success is the implementation of our strategy; the development of a high-performing organisation, the need to understand and innovate for long-term customer needs; and to ensure we adapt appropriately to changing social and environmental trends. Perhaps the most important aspect of ensuring long-term success is satisfying our customers. We have seen a huge change in customer demands' in recent years and this will continue. This relates not only to products, but also to increasing expectations on sustainability credentials.

On the product side I am very proud of the way our organisation has responded to this challenge. Our steels for the automotive sector are a good example. We have long been the world's leading steel supplier to the automotive sector and we strengthened this position in 2016 by further improving our already best-in-class suite of automotive solutions, announcing new grades of advanced high-strength steels that will help our automotive customers to further reduce weight – and hence improve fuel efficiency – without compromising on safety.

Our customers' expectations in terms of sustainability standards are also becoming more rigorous. In particular they are becoming increasingly focused on the sustainability and transparency of the supply chain. We are playing a leading role in developing two new multi-stakeholder sustainability standards, ResponsibleSteel™ and IRMA (the Initiative for Responsible Mining Assurance). By showing such leadership, we hope to strengthen our position as our customers' supplier of choice.

Ensuring we adapt appropriately to environmental and social trends is an extension of the work we are doing on developing these standards. Our 10 sustainable development outcomes were

designed to ensure we manage and stay ahead of expectations in this regard, and also demonstrate our understanding that long-term success lies not only in creating shareholder value but also in actively contributing to society's needs.

On many – and particularly our contribution to sustainable lifestyles and sustainable infrastructure – we have a very positive story to tell. The biggest challenge remains carbon, but we have some very interesting initiatives under development, such as our partnership with LanzaTech to capture waste gases from the steel-making process and transform them into bio-ethanol. I am convinced that steel can make an important contribution to climate change, but I am concerned about some of the legislation that is being implemented, particularly in Europe. The Emissions Trading System does not fully take into account the realities of the global steel market, specifically that it is a globally traded material. The result is that European producers will be disadvantaged versus global competitors in markets with less stringent carbon legislation. Countries and regions should focus on reducing the carbon content of not just what they produce but also what they consume. This is how to effectively reduce global emissions. We will continue to play our part in moving towards a lower carbon economy, but this does not mean supporting legislation we believe is flawed in its design.

Continuing the momentum

In conclusion, I am proud of the progress the organisation made in 2016 and am confident we will continue to build on this progress in 2017. This of course is ultimately only possible thanks to our nearly 200,000 employees across the world, who play a vital role in ensuring we deliver safe, sustainable steel to our valued customer base worldwide. I would like to thank them and also our executive management team for their dedication and commitment and of course my fellow Board Directors for their much valued wisdom and counsel. Special mentions go to Wilbur Ross, who resigned earlier this year to take up the position of Commerce Secretary in the new US Administration, Narayanan Vaghul and Lewis Kaden, who will both stand down from the Board following our upcoming AGM. Wilbur's wit and keen business acumen will be missed, but I wish him every success in his new position and have no doubt he will have a positive impact, while Narayanan and Lewis have both been long-standing members of our Board, contributing significant value during their tenures.

Lakshmi N. Mittal

Chairman and chief executive

How did your Action 2020 plan progress in its first year?

Aditya Mittal

CEO ArcelorMittal Europe and Group CFO



1.8x

Net debt to Ebitda ratio

Dear stakeholders,

At the start of 2016 we set ourselves two financial priorities for the year: to deliver positive free cash flow and to improve our financial strength by reducing net debt. We successfully achieved both priorities, while also generating a healthy net profit of US\$1.8 billion. 2016 was a very encouraging year of strategic progress for ArcelorMittal.

Global steel market dynamics at the start of 2016 were very different from the much-improved conditions in which we operate today. Steel spreads – the difference between the basket of raw materials used to make steel, and the steel selling price – fell rapidly in the second half of 2015 and remained at very low levels, compared to historic norms, at the beginning of last year. We felt that global steel spreads, which were driven by the very low export price of Chinese steel, were unsustainably low, so the improvement we saw throughout 2016 was both welcome and expected.

Although we don't expect to see a return to the levels we witnessed in the second half of 2015 and the early part of 2016, until the steel overcapacity situation that exists in China is fully addressed, the risk of a volatile operating environment remains. Therefore, our focus for 2016 was to initiate and implement actions that would ensure ArcelorMittal can thrive in any market environment.

This meant a focus on two areas: firstly, strengthening our balance sheet, and secondly, launching a new five-year strategic plan, Action 2020, designed to structurally improve the earnings capabilities of the group and enhance our ability to generate free cash flow.

The key metric we refer to when assessing our balance sheet strength is our net debt to Ebitda

ratio. At the end of 2015 this ratio was 3x, well within our banking covenants but not at a level that we were satisfied with, particularly given the uncertain operating environment at the start of last year. As all our shareholders will be aware, we addressed this issue by launching a US\$3 billion capital raise in February 2016, which was significantly oversubscribed and closed in April 2016. This, alongside asset sales of US\$1.4 billion and positive free cash flow during the year enabled us to reduce net debt by US\$4.6 billion to US\$11.1 billion, which represents a healthy net debt to Ebitda ratio of 1.8x.

The proceeds of the capital raise and asset sales were primarily used to repay or pre-pay several of our corporate bonds. This has materially improved our debt maturity profile with an average debt maturity today of seven years. We now have one of the strongest balance sheets in the sector and a very solid platform on which to further improve our financial performance.

Having reviewed the financial progress made in 2016 our Board of Directors, despite being pleased with what has been achieved so far, wants to see further progress, especially with respect to achieving credit metrics consistent with an investment grade rating. As such, deleveraging remains the priority for surplus cash flow and the Board therefore decided against paying a dividend from 2016 earnings.

Our free cash flow performance of US\$0.3 billion in 2016 was pleasing. This was achieved despite a US\$1 billion investment in working capital in 2016 because of the improved market conditions, and US\$0.4 billion of premiums incurred from the various bond buybacks we carried out last year.

Further improving the level of free cash flow will support further debt reduction, and enable the Board to invest behind growth opportunities presented by the better market environment. We continue to manage the annual cash needs of the group very carefully, and hence the level of Ebitda required to be free cash flow breakeven. We have, however, indicated our annual cash requirements will increase by US\$0.5 billion this year due to increased investment in development CAPEX in order to take advantage of improved market dynamics.

While this cash focus will continue, the real driver behind increasing the level of free cash flow we generate is our **Action 2020** strategic plan that was launched last year. It is designed to deliver an additional US\$3 billion of structural Ebitda improvement and annualised free cash flow in excess of US\$2 billion, by 2020.

Action 2020 got off to an excellent start and played an integral role in our improved financial performance in 2016, delivering US\$0.9 billion of Ebitda to the group total of US\$6.3 billion. There was a solid contribution from all segments: in **NAFTA**, our footprint optimisation is nearly complete and the ramp-up of activity at AM/NS Calvert, our state-of-the-art downstream finishing facility, is progressing well; in **Europe**, the Transformation Plan is on-track, we have centralised a number of functions to deliver efficiency improvements and are improving the productivity and reliability of our asset base; in **Brazil**, our Value Plan is similarly delivering efficiency gains and structural cost improvements; in **ACIS**, our CIS operations are benefitting from a more competitive cost base resulting from currency devaluations while also improving operational performance, with record quarterly production achieved during the year; and finally,

our **Mining** division delivered a 10% reduction in iron ore unit cash costs, following the 20% achieved in 2015.

There are three broad elements to Action 2020, structural cost improvement, volume improvement and increasing the proportion of higher added-value (HAV) products we sell. While we are not splitting out the level of Ebitda generated through Action 2020 into these three areas, the bulk of savings delivered in 2016 was through cost improvement. Therefore, our focus for this year turns to delivering improvement in the other two areas. On the volume side, we are forecasting apparent steel consumption growth in our core US and European markets this year, while a return to growth is also forecast for Brazil and CIS, albeit from a very low base. I believe we are well placed to capture our share of market growth, but it is imperative that we ensure we minimise operational disruptions at all our assets and rigorously focus on ensuring we operate at optimal levels. On the product mix side we must better leverage our world-leading product portfolio and ensure we reap the benefit of the additional growth capital expenditure we have allocated for 2017 to increase the proportion of HAV, higher margin products we sell.

We made a lot of encouraging progress in 2016, but if we are to achieve our long-term targets, and generate the returns for all stakeholders that I believe this business is capable of, there is much still to do. I have no doubt about our ability to deliver. Looking at our plans, and our capabilities, we are in a strong position – strategically, operationally and financially – and are thus extremely well poised as our markets recover and our plans deliver.

Aditya Mittal

CEO ArcelorMittal Europe and Group CFO



Our business

114

million tonnes of
crude steel capacity

With annual achievable production capacity of approximately 114 million tonnes of crude steel, and some 200,000 employees across 60 countries, ArcelorMittal is the world's leading steel and mining company.

We have an industrial presence in 19 countries, we are the leader in all major global steel markets including automotive, construction, household appliances and packaging, have leading research and development and technology, sizeable captive supplies of raw materials and outstanding distribution networks.

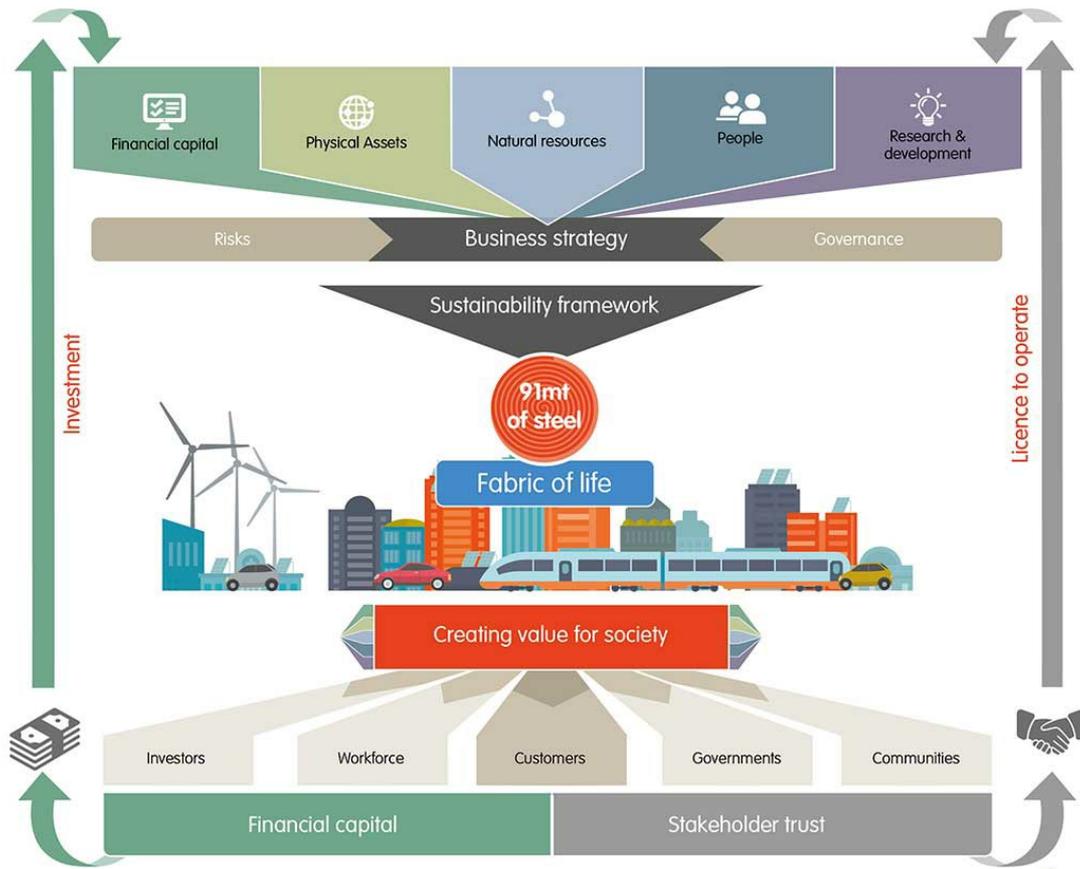
Our core philosophy is to produce safe, sustainable steel. In so doing, our top priority is safety and our goal is to be the world's safest steel and mining company.

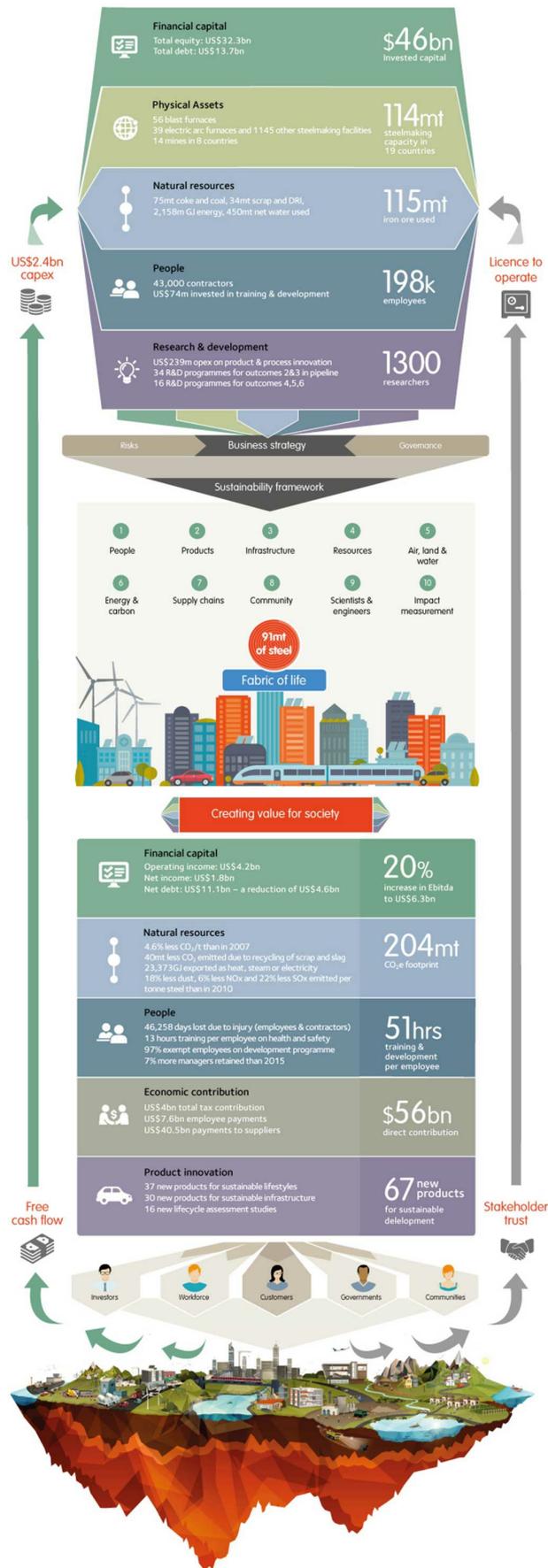
And we are committed to our promise of 'transforming tomorrow'. Guiding us in this are our values of sustainability, quality and leadership.

Our value creation model

Below our value creation model shows the critical resources we rely on in order to produce steel, and create value for our stakeholders. It highlights the importance of our workforce, of natural resources and our capacity to innovate, for example, in producing 90 million tonnes of steel each year, and at the same time creating different forms of value for society. These forms of value are of course intimately related. As we develop more integrated thinking within the company, we will be better able to demonstrate how these forms of value relate to each other. This is the rationale behind integrated reporting.

The model is interactive – click to discover more about how we are 'creating value for society', and to link with relevant parts of this Annual Review.







Business strategy

\$3bn

2020 Ebitda
improvement target

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, we have adapted our footprint to the new demand realities, intensified our efforts to control costs and repositioned our operations to outperform our competitors.

Against this backdrop, our strategy is to leverage four distinctive attributes that will enable us to capture leading positions in the most attractive areas of the steel industry value chain, from mining at one end to distribution and first-stage processing at the other:

- Global scale and scope
- Unmatched technical capabilities
- Diverse portfolio of steel and related businesses, particularly mining
- Financial capability

Three themes

Steel

We look to expand our leadership role in attractive markets and segments by leveraging our technical capabilities and global scale and scope. These are critical differentiators for sophisticated customers that value the distinctive technical and service capabilities we offer. Such customers are typically found in the automotive, energy, infrastructure and a number of smaller markets where ArcelorMittal is a market leader. In addition, we are present in, and will further develop, attractive steel businesses that benefit from favourable market structures or geographies. In developing attractive steel businesses, ArcelorMittal's goal is to be the supplier of choice by anticipating customers' requirements and exceeding their expectations. We will invest to develop and grow these businesses and enhance our ability to serve our customers. Given the current environment, that investment will be highly disciplined. Commodity steel markets will inevitably remain an important part of ArcelorMittal's steel portfolio. Here, a lean cost structure should limit the downside in weak markets while allowing us to capture the upside in strong markets.

Mining

ArcelorMittal is working to continue to create value from our world-class mining business. Mining forms part of the steel value chain but typically enjoys a number of structural advantages, such as a steeper cost curve. Our strategy is to create value from our most significant assets, through selective expansion/debottlenecking, by controlling cost and capital expenditure, and by supplying products that are highly valued by steel producers. ArcelorMittal's financial capability allowed us to continue to invest in key mining assets (notably ArcelorMittal Mines Canada), while the diversity of our steel and mining portfolio enables the mining business to optimise the value of its products in the steelmaking process. Our mining business aspires to be the supplier of choice for a balanced mix of both internal and external customers, while at the same time providing a natural hedge against market volatility for our steel operations.

All operations

ArcelorMittal strives to achieve best-in-class competitiveness. Operational excellence, including health and safety, the number one priority, is at the core of our strategy in both steel and mining. We steadily optimise our asset base to ensure we are achieving high operating rates at our best assets. Our technical capabilities and the diversity of our portfolio of businesses underpin a strong commitment to institutional learning and continuous improvement through measures such as benchmarking and best-practice sharing. Innovation in products and processes also plays an important role while supporting overall competitiveness.

Five key strategic enablers

Critical to implementing this strategy are five key enablers:

1

A clear license to operate

Many of ArcelorMittal's businesses are located in regions that are in the early stages of economic development. Practically all are resource-intensive. We recognise that we have an obligation to act responsibly towards all stakeholders. ArcelorMittal's commitment to sustainability is outlined in the Sustainable Development section. Sustainability is a core value that underlies ArcelorMittal's efforts to be both the world's safest steel and mining company and a responsible environmental steward.

2

A strong balance sheet

Our balance sheet currently constrains our flexibility for funding organic growth or transformative acquisitions. While good progress has been made in recent years to reduce debt, achieving a sustainable medium-term net debt level remains a critical objective.

3

A decentralised organisational structure

ArcelorMittal's scale and scope are defining characteristics that give us a competitive advantage. They also introduce complexity and the risks of inefficiency, bureaucracy and diffuse accountability. To manage these risks, we favour a structure in which the responsibility for profit and loss is focused on business units aligned with markets.

4

Active portfolio management

Throughout our history, we have sought to grow and strengthen the business through acquisition. That remains the case. The acquisition of existing assets and businesses is typically seen as a more attractive growth path than greenfield investment. But we are also willing to dispose of businesses that cannot meet our performance standards or that have more value to others.

5

The best talent

ArcelorMittal's success will depend on the quality of our people, and our ability to engage, motivate and reward them. As explained in outcomes 1 and 9, we are committed to investing in our people and ensuring a strong leadership pipeline. We will continue to improve our processes to attract, develop and retain the best talent.

Action 2020 Plan

On February 5, 2016, we announced our Action 2020 plan, which represents a strategic roadmap for each of ArcelorMittal's main business segments. The Action 2020 plan is over and above our ongoing management gains plan and seeks to deliver real structural improvements unique to our business. The Action 2020 plan targets to improve our operating income by US\$3 billion, absent any recovery in steel spreads and raw materials prices from the levels at the beginning of 2016.



Some of the key segment initiatives included in the Action 2020 plan are:

- Europe: We plan to continue our successful asset optimisation as an ongoing transformation plan, involving continued optimisation, and the clustering of finishing sites to remove substantial overhead, centralise activities (including procurement) and improve logistics and service. Together with expected higher added value (HAV) mix and volume gains, this targets delivering a US\$1 billion improvement in operating income over the period.
- NAFTA: The downstream footprint optimisation in the US has commenced and targets yielding a minimum of US\$250 million improvement in operating income. We intend to continue to ramp-up AM/NS Calvert to full capacity during 2016 and 2017 and this is

anticipated to deliver a minimum of US\$250 million operating income improvement. Other projects are expected to boost the HAV mix and generate further improvement.

- Brazil: We plan to execute our value plan and target an improvement in sales mix including a recovery of a share of higher margin domestic volumes and improved HAV mix by the end of 2020.
- ACIS: We plan to continue our strategic focus on operational excellence to deliver volumes that will leverage the new competitive cost base we have in the CIS (following competitive devaluation) and execute on the improved competitiveness plan in South Africa.

Sustainable development

We are committed to leading the way in which the world views steel, and to championing steel's role in creating high quality, sustainable lifestyles for people...

Our 10 outcomes

Our 10 sustainable development outcomes are designed to describe in simple language the business we need to become if we are to address our material issues in a way that brings the optimal value to all stakeholders. This approach is underpinned by a commitment to transparent good governance.

<p>Safe, healthy, quality working lives for our people</p> 	<p>Products that accelerate more sustainable lifestyles</p> 	<p>Products that create sustainable infrastructure</p> 	<p>Efficient use of resources and high recycling rates</p> 
<p>Trusted user of air, land and water</p> 	<p>Responsible energy user that helps create a lower-carbon future</p> 	<p>Supply chains that our customers trust</p> 	<p>Active and welcomed member of the community</p> 
<p>A pipeline of talented scientists and engineers for tomorrow</p> 	<p>Our contribution to society measured, shared and valued</p> 		

Our sustainable development framework

The 10 outcomes form the basis of our framework. This aims to shape a consistent approach to social and environmental trends across our operations, and to optimise the value we can gain from this long-term perspective, while giving each part of the business the flexibility to make the 10 outcomes relevant to their local circumstances.

A leadership agenda across the business

Each of our 10 outcomes has a sponsor at senior management level who champions the outcome, provides direction and brings together key people to guide us on how to achieve it. Our sponsors work with experts from across the company to tackle strategic issues for each outcome. For example, Carl de Maré, sponsor for **outcome 4**, convenes an expert hub made up of technical, R&D, sustainability and market-oriented specialists, who together have reviewed site-level performance, and are designing core objectives for the outcome. And in November 2016, Greg Ludkovsky, sponsor for outcomes **2** and **3**, announced a new **Sustainability Innovation tool** that would enable all new R&D projects to be filtered against criteria driven by the 10 outcomes.

Understanding stakeholder expectations

Assessing the expectations of our stakeholders is a key part of this framework at site and country level, and at regional and global levels too. This means not only talking to our stakeholders, but listening, learning and responding as well. This is essential, and we have seen important value created when we have understood and responded to our stakeholders' expectations – and, when we have failed to manage expectations, our business has suffered disruptions. Every two years, we undertake a Speak Up! survey of employees and, in individual countries, we've commissioned external 'reputation surveys' consulting a range of stakeholders.

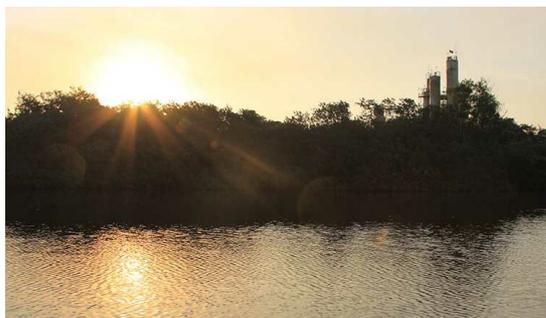
Site-based assessments for world-class standards

Our stakeholder-centric approach is a key component of our site-based assessment process structured around the 10 outcomes. During 2016, we completed a dashboard assessment seven of the outcomes, which has enabled us to map the issues that could cause disruptions to, or create opportunities for, our business, and assess the maturity and progress of our operations against each outcome. Together, these dashboards enable us to spot trends in the business, and enable sites and countries to share best practice and exchange any lessons learned. These assessments are an important means of preparing each of our sites to be ready for certification against ResponsibleSteel™, the emerging global multi-stakeholder-driven standard.

Seizing the value chain opportunity through certification

We are driving the development of ResponsibleSteel™, a global certification standard for steel.

[Read more](#)



Stakeholder relations

Find out more about how we engage with our stakeholders.

[Read more](#)

Stakeholder expectations on climate change

In 2016, we listened extensively to stakeholders on the expectations they have of ArcelorMittal on climate change.

[Read more](#)





20-F Risk factors

[Read more](#) ▶

Good risk management is about having the right measures and systems in place to recognise, manage and mitigate our risks, in light of our responsibilities to all of our stakeholders. Here we list the key risks and uncertainties to our business, our financial condition, the results of operations, our reputation or prospects. For full details, [download](#) the risk section from our 20-F.

Global economy and the mining and steel industry

- Excess capacity, oversupply and destocking cycles in the steel industry and in the iron ore mining industry have in the past, are currently and may continue in the future to weigh on the profitability of steel producers, including ArcelorMittal.
- Protracted low steel and iron ore prices, and further decreases in steel and iron ore prices, would have an adverse effect on ArcelorMittal's results of operations.
- Volatility in the supply and prices of raw materials, energy and transportation, and volatility in steel prices or mismatches between steel prices and raw material prices could adversely affect ArcelorMittal's results of operations.
- ArcelorMittal's business and results are substantially affected by regional and global macroeconomic conditions. Recessions or prolonged periods of weak growth in the global economy or the economies of ArcelorMittal's key selling markets have in the past had and in the future would be likely to have a material adverse effect on the mining and steel industries and on ArcelorMittal's business, results of operations and financial condition.

Competition

- Developments in the competitive environment in the steel industry could have an adverse effect on ArcelorMittal's competitive position and hence its business, financial condition, results of operations or prospects.
- Unfair trade practices in ArcelorMittal's home markets could negatively affect steel prices and reduce ArcelorMittal's profitability, while trade restrictions could limit ArcelorMittal's access to key export markets.
- Competition from other materials could reduce market prices and demand for steel products and thereby reduce ArcelorMittal's cash flows and profitability.

Regulation

- ArcelorMittal is subject to regulatory and compliance risks, which may expose it to investigations by governmental authorities, litigation and fines, in relation, among other things, to its pricing and marketing practices or other antitrust matters. The resolution of such matters could negatively affect the Company's profitability and cash flows in a particular period or harm its reputation.
- ArcelorMittal's business is subject to an extensive, complex and evolving regulatory framework and its governance and compliance processes may fail to prevent regulatory penalties and reputational harm, whether at operating subsidiaries, joint ventures or associates.
- ArcelorMittal is subject to strict environmental laws and regulations that could give rise to a significant increase in costs and liabilities.
- 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.
- ArcelorMittal is subject to stringent health and safety laws and regulations that give rise to significant costs and could give rise to significant liabilities.

Finance

- 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.
- ArcelorMittal's level of profitability and cash flow currently is and, depending on market and operating conditions, may in the future be, substantially affected by its ability to reduce costs and improve operating efficiency.
- ArcelorMittal is a holding company that depends on the earnings and cash flows of its operating subsidiaries, which may not be sufficient to meet future operational needs or for shareholder distributions and lossmaking subsidiaries may drain cash flow necessary for such needs or distributions.
- Changes in assumptions underlying the carrying value of certain assets, including as a result of adverse market conditions, could result in the impairment of such assets, including intangible assets such as goodwill.
- The Company's investment projects may add to its financing requirements and adversely affect its cash flows and results of operations.
- ArcelorMittal's results of operations could be affected by fluctuations in foreign exchange rates, particularly the euro to U.S. dollar exchange rate, as well as by exchange controls imposed by governmental authorities in the countries where it operates.

Taxation

- ArcelorMittal's ability to fully utilise its recognised deferred tax assets depends on its profitability and future cash flows.

- The income tax liability of ArcelorMittal may substantially increase if the tax laws and regulations in countries in which it operates change or become subject to adverse interpretations or inconsistent enforcement.

Mining

- ArcelorMittal's mining operations are subject to risks associated with mining activities.
- ArcelorMittal's reserve estimates may materially differ from mineral quantities that it may be able to actually recover; ArcelorMittal's estimates of mine life may prove inaccurate; and market price fluctuations and changes in operating and capital costs may render certain ore reserves uneconomical to mine.
- Drilling and production risks could adversely affect the mining process.
- ArcelorMittal faces rising extraction costs over time as reserves deplete.
- ArcelorMittal has incurred and may incur in the future operating costs when production capacity is idled or increased costs to resume production at idled facilities.
- ArcelorMittal's greenfield and brownfield investment projects are inherently subject to financing, execution and completion risks.

Joint ventures

- ArcelorMittal faces risks associated with its investments in joint ventures and associates.

Personnel

- A Mittal family trust has the ability to exercise significant influence over the outcome of shareholder votes.
- The loss or diminution of the services of the Chairman of the Board of Directors and Chief Executive Officer of ArcelorMittal could have an adverse effect on its business and prospects.

Pensions

- Underfunding of pension and other post-retirement benefit plans at some of ArcelorMittal's operating subsidiaries could require the Company to make substantial cash contributions to pension plans or to pay for employee healthcare, which may reduce the cash available for ArcelorMittal's business.

Employment

- ArcelorMittal could experience labour disputes that may disrupt its operations and its relationships with its customers and its ability to rationalise operations and reduce labour costs in certain markets may be limited in practice or encounter implementation difficulties.

Emerging markets

- ArcelorMittal is subject to economic policy, political, social and legal risks and uncertainties in the emerging markets in which it operates or proposes to operate, and these uncertainties

may have a material adverse effect on ArcelorMittal's business, financial condition, results of operations or prospects.

Operational disruption

- Disruptions to ArcelorMittal's manufacturing processes could adversely affect its operations, customer service levels and financial results.
- Natural disasters or severe weather conditions could damage ArcelorMittal's production facilities or adversely affect its operations.

Insurance

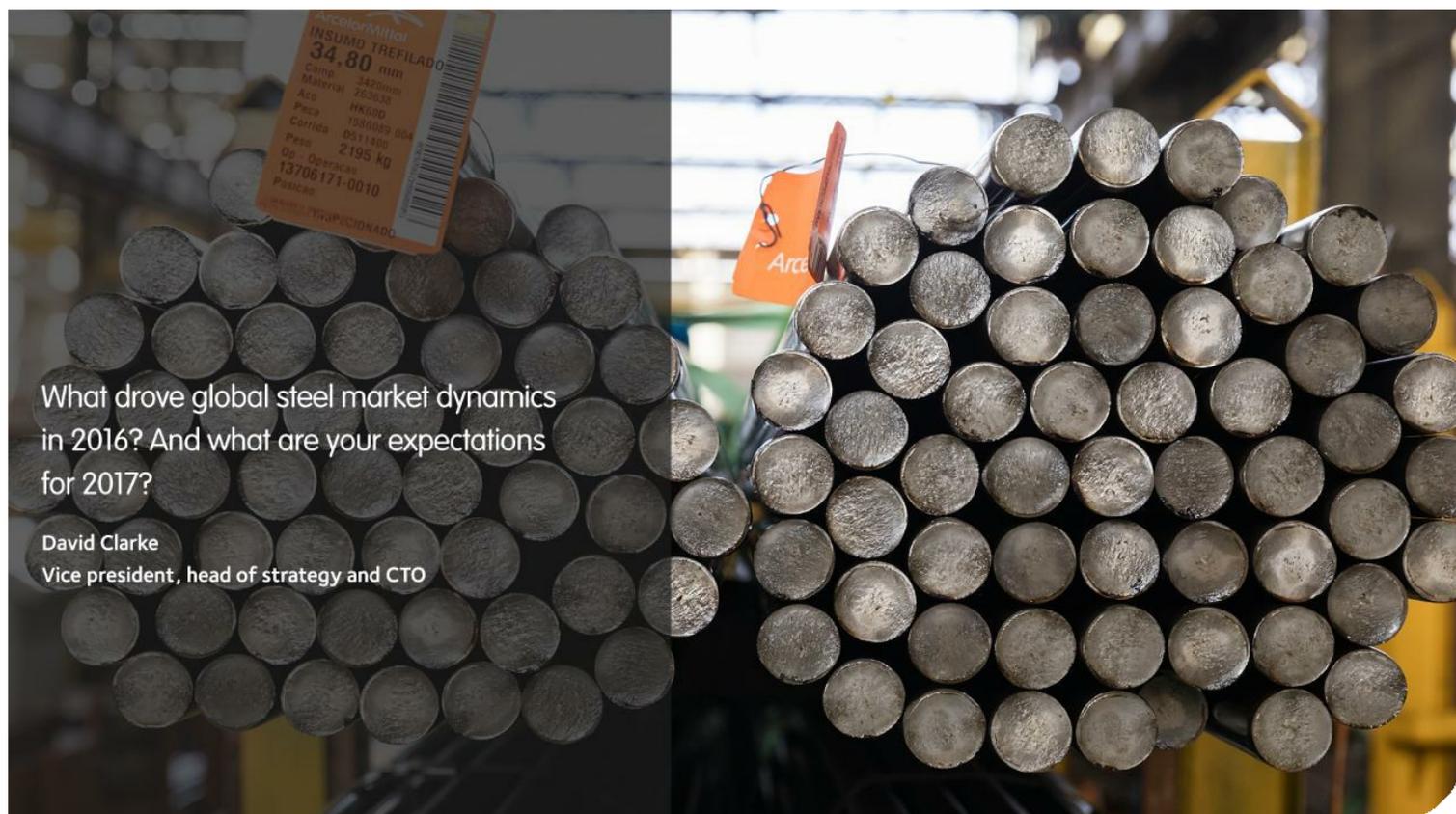
- ArcelorMittal's insurance policies provide limited coverage, potentially leaving it uninsured against some business risks.
- Product liability claims could have a significant adverse financial impact on ArcelorMittal.

Litigation

- ArcelorMittal is currently and in the future may be subject to legal proceedings, the resolution of which could negatively affect the Company's profitability and cash flows in a particular period.
- U.S. investors may have difficulty enforcing civil liabilities against ArcelorMittal and its directors and senior management.

Cyber security

- ArcelorMittal's reputation and business could be materially harmed as a result of data breaches, data theft, unauthorised access or successful hacking.



What drove global steel market dynamics in 2016? And what are your expectations for 2017?

David Clarke

Vice president, head of strategy and CTO

2.2%

2016 global GDP growth

Growth slowing, expectations rising

Global GDP growth in 2016 was estimated at 2.2%, the lowest since the 2008 economic crisis, with political uncertainty contributing to a difficult year for much of the world economy. Growth slowed in our two biggest markets, Europe and the US, while growth in China is estimated to have slightly decelerated to 6.7%. Brazil and Russia suffered a second year of recession. Nonetheless, 2016 ended with steel demand and production both growing, and steel spreads returned to comparatively healthy levels after the unsustainably low prices experienced during the latter half of 2015 and early part of 2016.

Long-term stakeholder trends, such as increasing customer interest in both more sustainable products and supply chain assurance, continued to gather momentum. The question of how business as a whole, and steel in particular, can contribute to a lower-carbon future was a priority for policy makers, business leaders and wider society. Growing expectations that businesses should record and transparently report their non-financial performance were reflected in new or expanded reporting requirements.



[Read more](#) about the steel market and stakeholder context in each of our business segments.



[Read more](#) about how we report non-financial performance in outcome 10: Our contribution to society measured, shared and valued.



[Read more](#) about how we're addressing the carbon challenge in outcome 6: Responsible energy user that helps create a lower-carbon future.

1%

2016 global ASC

Steel demand 2016

Global apparent steel consumption returned to growth in 2016, rising 1% after a year of decline in 2015. It fell in the first quarter of 2016, before building gradual momentum and then accelerating in the fourth quarter of the year.

Regional differences saw demand in China grow against general expectations by between 1% to 1.5%, in the EU by almost 2%, in Asia (excluding China) by 4%, and in the Middle East by 3%. These offset a small decline in NAFTA caused by continued destocking and a significant fall in energy pipe demand, a 4% fall in CIS, and a larger 11% decline in Latin America, with Brazil declining 12.5% to 13.5%.

The overall picture at the start of 2017 is one of accelerating demand.

Steel production and pricing 2016

Steel output continued to decline in most major steel-producing regions during the first half of 2016, but the second half of 2016 saw steel production volumes grow year-on-year in both China (3.7%) and the world excluding China (2.9%) as underlying demand improved and destocking waned. Overall, global production grew 0.8% year-on-year.

Steel spreads – the difference between the basket of raw materials (iron ore, coal and scrap) used to make steel, and steel selling prices – were at unsustainably low levels at the start of 2016, with international steel prices being affected by the very low domestic and export price of Chinese steel. Spreads improved throughout the year, in-line with our expectations, and are at reasonably healthy levels as we entered 2017.

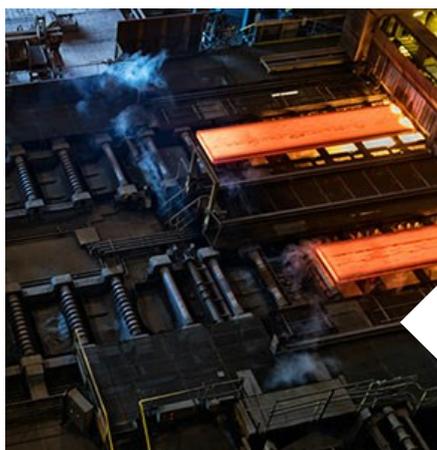
International trade action and demand dynamics in China

The recent history of the steel market has been dominated by fluctuations in Chinese domestic steel demand, a trend that continued in 2016.

As a result of weaker real estate, construction and machinery production in China, declining domestic demand led to Chinese steel exports more than doubling between 2012 and 2015. This increase in Chinese exports was greater than the growth in world steel demand over the same period, and had a dramatic effect on steel prices and therefore production outside China.

Chinese exports continued to be at elevated levels, exceeding 100 million tonnes for the second successive year, as the Chinese steel industry continued to be characterized by significant overcapacity and low utilisation rates. Trade action against unfairly priced imports, particularly in the US and Europe, did however provide an element of support to steel spreads in 2016. Nonetheless, the dynamics of Chinese steel production and export are likely to continue to be a material influence on market conditions in the future.

109m
tonnes Chinese
exports



Carbon pricing and emissions trading

In 2016, stakeholders including investors, customers and consumers increased their expectation for companies to be transparent about the carbon they emit, how their products and supply chain perform, and their future carbon strategy.

This was part of a wider trend which continued the momentum of the Paris Agreement, adopted in December 2015, which included a commitment from each participating country to set an emissions reduction target. In 2016 the EU was developing more ambitious targets for Phase 4 of the Emissions Trading Scheme (ETS), which runs from 2021 to 2030; new regulatory initiatives came into force in Kazakhstan and Quebec, Canada; and new instruments were under development in China, Brazil, Mexico and South Africa. In the US, the Environmental Protection Agency took steps towards implementing a comprehensive greenhouse gas policy, though the future of this is now uncertain.

Within Europe, both leaders and workers across the steel industry, including from ArcelorMittal, raised concerns about the proposed changes to the ETS, because it would have no effect on CO₂ emissions from the global steel industry while damaging the competitiveness of European steel and leading to increased imports from producers not subject to any carbon scheme.

Sustainability expectations

Stakeholder interest in the contribution of the private sector to a sustainable future has matured in the past two years. In order to ensure nine billion people can lead quality lives from the resources of just one planet, governments, business leaders and civil society are increasingly expected to work together constructively and creatively for mutual benefit. The multi-stakeholder collaboration behind the Paris agreement and the UN Sustainable Development Goals in 2015 was echoed by the speed with which governments ratified the Paris agreement in 2016. There is no doubt that the trend in the private sector to voluntarily adopt long-term sustainability strategies and targets is gathering momentum.

Transparency in reporting

Two other trends continue to grow. The drive for transparency is enshrined in the EU Directive on non-financial reporting and in a more focused way in the EU Transparency Act. As non-financial reporting becomes the norm, the International Integrated Reporting Council, which ArcelorMittal joined at the end of 2016, neared the end of its pilot phase. Integrated reporting is the emerging proposition as a means of embedding sustainable development thinking into the way companies do business.

Sustainability themed legislation

At the same time, there is a continuing trend of sustainability-themed legislative change that continues to build stakeholder expectations of company directors to act responsibly to uphold international standards. This is increasingly driving large companies to implement systems of due diligence, to ensure not only that they fulfil their direct responsibilities but those of their suppliers as well.

Customer demand for sustainability standards

In reflection of this trend, expectations among our customers of sustainability standards in the steel industry and its raw materials supply chain continued to grow in 2016. In September, for example, some of the biggest names in the European automotive industry joined forces to form the European Automotive Working Group on Supply Chain Sustainability; more generally, steel customers are being driven by their own sustainability ambitions, their assessment of risk, and their regulatory environment to seek assurance on social, ethical and environmental issues. Consumer interest in these issues is also growing.





About this review

This annual review is for all our stakeholders, and continues our journey, begun last year, towards integrated reporting. It brings together key elements of our financial reporting with reporting against our 10 sustainable development (SD) outcomes, drawing on elements of integrated reporting indicated by the International Integrated Reporting Council.

International integrated Reporting framework

“ With this Annual Review we take our second step towards integrated reporting, evidencing our approach to the creation of optimal long-term value for all our stakeholders. This year we endeavor to report in closer alignment with the guiding principles and content elements of the International Integrated Reporting framework this year as outlined in our [Reporting index](#). The report, and in particular the Beyond 2020 theme, draws heavily on presentations I have made to employees and external stakeholders over the year. Both myself and the chief finance officer have reviewed the contents of the report and believe we are well on our way to integrated reporting. ”

Lakshmi Mittal

Chairman and chief executive officer

GRI

We continue to report against the Global Reporting Initiative's G4 guidelines across our reporting landscape – including this Annual Review, our ongoing online narrative reporting, and our local sustainability reports – and you can find details in our [reporting index](#). We consider many aspects within the G4 guidelines to be material to stakeholders in certain countries, and most meaningfully reported within our [country sustainable development reports](#), which are also produced in line with the GRI guidelines. See our [Reporting index page](#).

UN Global Compact

“ We have supported the United Nations Global Compact since 2008. This Annual Review serves as our Communication on Progress of our implementation of the ten UN Global Compact principles. ”

Lakshmi Mittal

Chairman and chief executive officer

Assurance

This is the eighth year that our sustainable development reporting has received [independent assurance](#).

Reporting format

We believe that online reporting is the most practical and efficient way to communicate with the widest number of stakeholders. We provide this website for those who wish to browse online, and we have a pdf download function for each page or section for those who prefer to download, print and read the review offline.

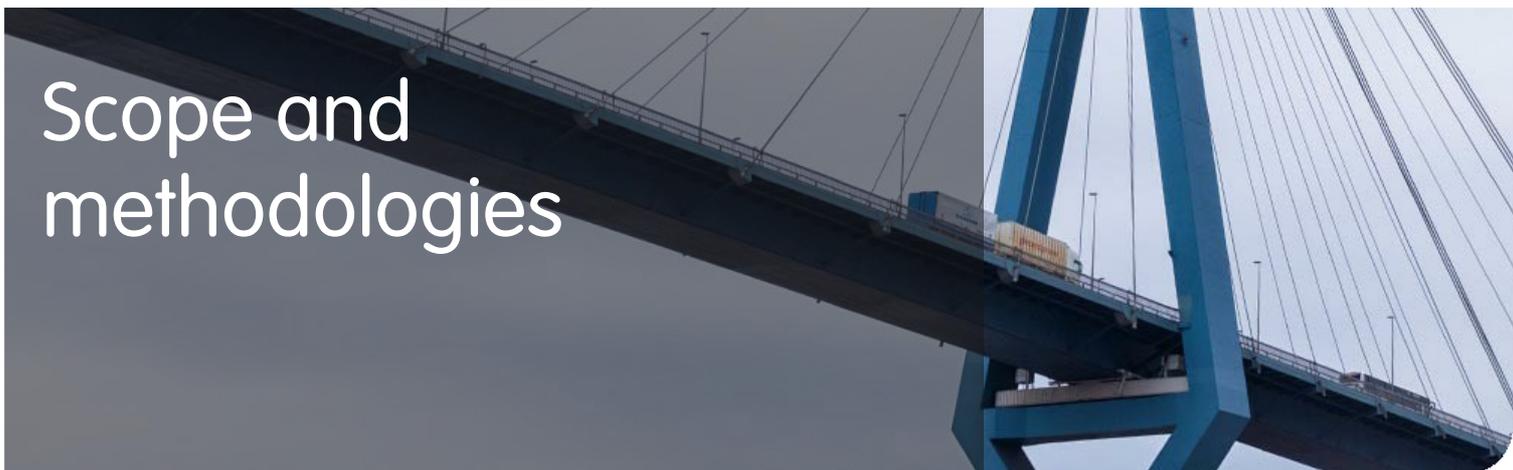
Country reporting against the 10 outcomes

We have for some time aimed to ensure we report to stakeholders meaningfully on the issues that matter to them and to us and to this end we published 17 country sustainable development reports in 2015.

Part of delivering on this ambition is for our local operations to align these reports with best practice, against GRI G4 as well as the 10 outcomes, and 74% used the GRI G4 guidelines in 2016. These reports can be accessed on our main [website](#). All these SD reports included a leadership message on sustainable development from the chief executive or highest official(s) and, where they are demonstrating best practice, highlight a case study of their achievements. This will evolve over time to include local sustainable development performance data.

For further information please see also:

- [Scope, boundaries and methodologies](#)
- [Assurance statement](#)
- [Reporting index \(GRI, IIRC\)](#)



Scope and methodologies

This annual review covers ArcelorMittal and its significant operating subsidiaries, excluding joint ventures and associates where we do not have operating control, except for those noted below. A list of these subsidiaries, joint ventures and associates can be found in note 2.3 within our Form 20-F filed with the US Securities and Exchange Commission.

All data is reported for the period from 1 January to 31 December 2016. Our reporting cycle is annual, and the previous annual review and sustainable development report were published in April 2016.

Financial data – basis of presentation

Financial information has been extracted from the consolidated financial statements. The consolidated financial statements have been prepared on a historical cost basis, except for available-for-sale financial assets, derivative financial instruments, biological assets and certain assets and liabilities held for sale, which are measured at fair value less cost to sell, inventories, which are measured at the lower of net realisable value or cost and the financial statements of the Company's Venezuelan operations, for which hyperinflationary accounting is applied (see note 2.2.2 of our Form 20-F). The consolidated financial statements have been prepared in accordance with International Financial Reporting Standards (IFRS) as issued by the International Accounting Standards Board (IASB) and as adopted by the European Union and are presented in US dollars with all amounts rounded to the nearest million, except for share and per share data.

Non-financial data – Basis of reporting

The non-financial indicators against which we report are defined in the company reporting methodologies, referred to as the **Basis of Reporting**.

In accordance with GRI G4, the boundary of each material aspect has been stated in the **reporting index** accompanying this report, referring to the stage in the value chain for which it is material.

The boundary of operations that our non-financial data covers is dependent on the materiality of the aspect concerned. For example, our health and safety data reflects all our sites, whereas data on our environmental emissions covers only our industrial operations, since we believe this is where our material impacts lie. More details on the boundary for each outcome are provided in our **reporting index** and in our basis of reporting document.

Changes to scope and boundaries in 2016

Our 2016 performance data excludes any sites from our organisational perimeter from the date on which they were idled.

We continue to report against the same GRI indicators as in 2016, with the following amendments. Metrics that have changed since we reported on in 2015 are as follows:

- Industrial operations certified to ISO 14001 (mining) – new for the first time in 2016.
- Community investment – under review and so subsequently excluded in 2016.
- Direct economic contributions (GRI-EC1) – in 2016 we reviewed our reporting of tax data, and this is presented in outcome 10. Definitions are outlined in our [Basis of reporting](#). Further details of our royalties will appear in a separate 'EITI' report on payments to government due to our extractive industry activities, to be published by June 2017.

Forward-looking statements

This review may contain forward-looking statements that represent the expectations, beliefs, plans and objectives of ArcelorMittal's management regarding its financial and operational performance in 2016 and beyond, and assumptions or judgements based on such performance. Future performance expectations are forward-looking and accordingly involve estimates, assumptions, judgements and uncertainties. A number of factors may cause actual results or outcomes to differ materially from the expectations of our management. These risk factors are set out in the [risk section](#), with further details in the Form [20-F](#), filed each fiscal year with the US Securities and Exchange Commission.



Assurance statement

We believe that independent assurance leads to quality and process improvements, and reassures readers and ArcelorMittal's management that the information we publish is accurate and material, and therefore contributes to building trust and credibility with key stakeholders.

In 2016 we asked our group auditors, Deloitte Audit, to provide limited assurance on the following sustainability performance indicators, in accordance with the International Auditing and Assurance Standards Board's International Standard on Assurance Engagements – Revised (ISAE3000 Revised):

- CO₂e emissions per tonne of steel
- CO₂e emissions (steel)
- Primary energy consumption (steel)

For the past seven years, we have sought external assurance on our lost-time injury frequency rate and incorporated feedback from our assurers to strengthen our systems over this time.

Deloitte Audit provides an independent third-party [assurance statement](#). This assurance covers the specified data as contained in the [Factbook](#) and the SD performance page of our [website](#).

Page not found

You've come to a page of the ArcelorMittal website that doesn't currently exist.

If you entered a web address please check it was correct. Or maybe you followed a link to a page that we've removed.

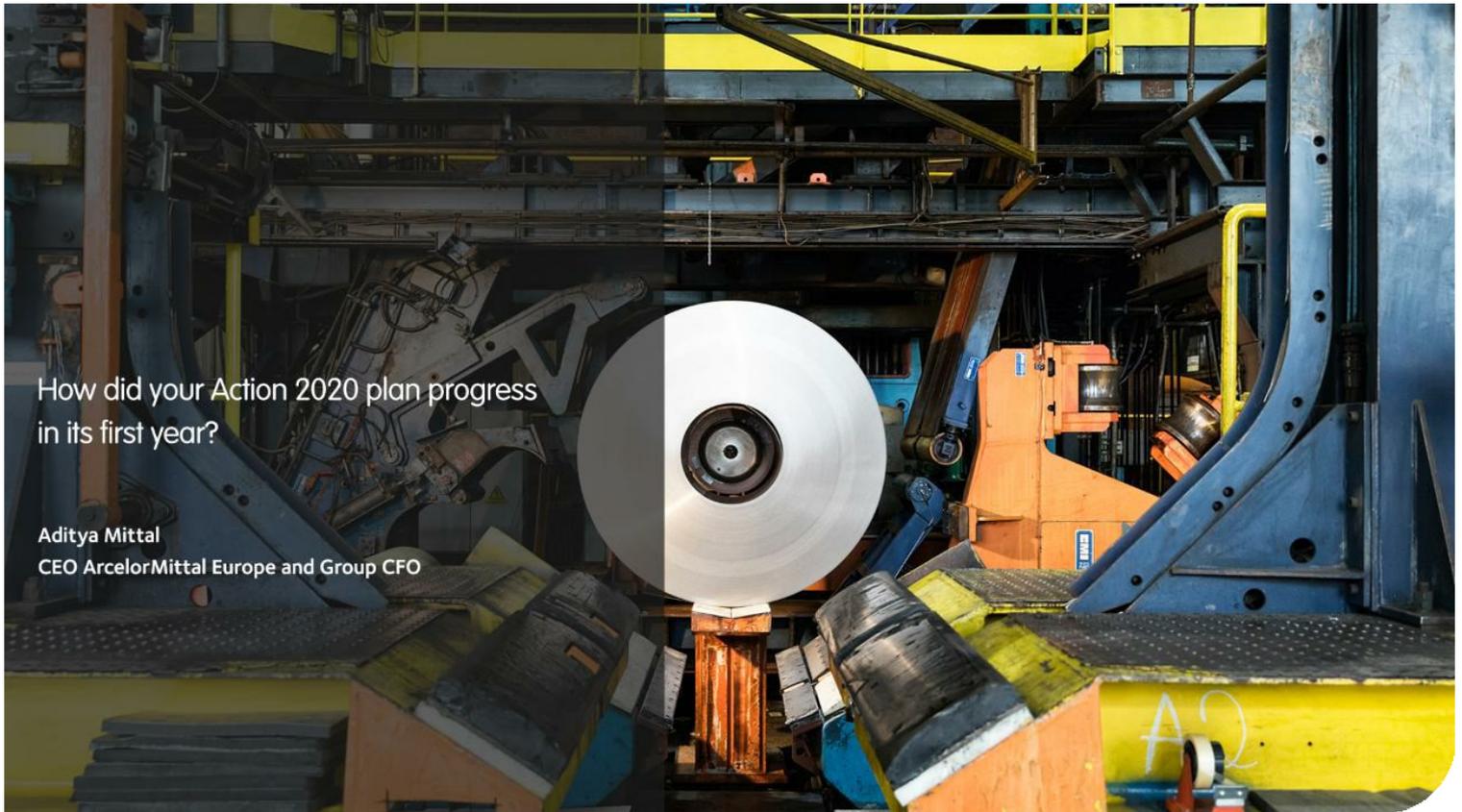
Suggestions

To find what you're looking for you might try:

- The [site map](#)
- Search the website using the search box above
- The [home page](#)

If you still can't find what you're looking for, please [contact us](#) and we'll see how we can help.

Click [here](#) to go to the home page OR you will be automatically redirected to the home page in: **30** seconds



How did your Action 2020 plan progress in its first year?

Aditya Mittal
CEO ArcelorMittal Europe and Group CFO

2016 Action 2020 Ebitda contribution

US\$0.9bn

Europe

\$263m 29%

Drivers	Progress
Transformation program	Procurement, reliability and productivity savings on track Centralisation of key processes underway Portfolio optimised (closure of Zumarraga, partial shut down of Sestao and Zaragoza sale)

NAFTA

\$164m 18%

Drivers	Progress
Ramp-up of Calvert, improved value added mix	US footprint optimization largely complete
US footprint optimization	Calvert utilisation rate 79%
	Portfolio optimized (Sale of LaPlace and Vinton)

Brazil

\$100m 11%

Drivers	Progress
Brazil value plan	A number of structural cost improvement programmes underway

ACIS

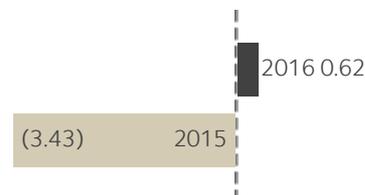
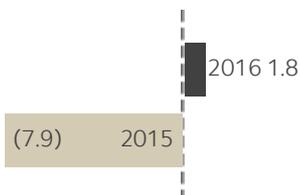
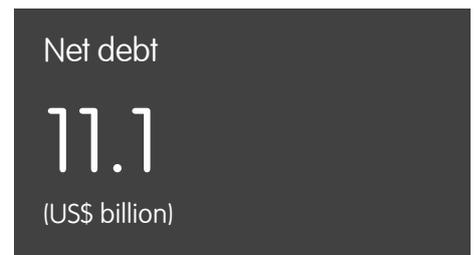
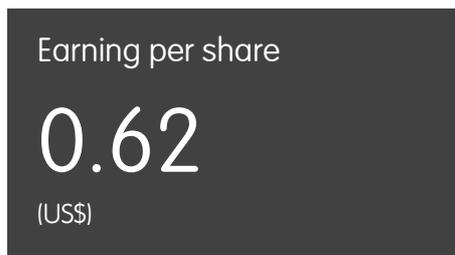
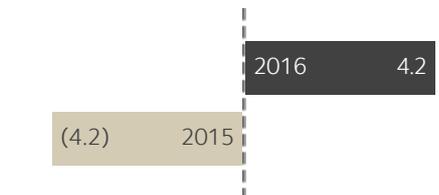
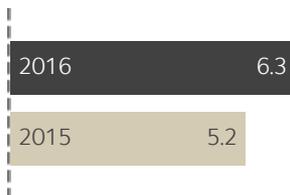
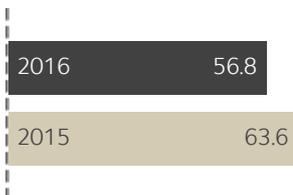
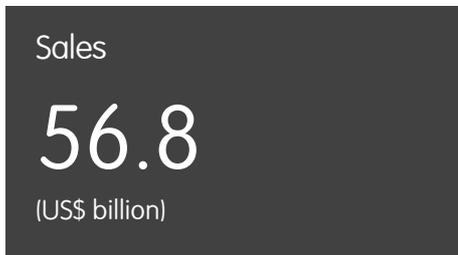
\$260m 29%

Drivers	Progress
New coke battery and PCI usage in CIS	Capturing benefits of currency devaluation and good operational performance in CIS
New iron ore supply agreement and tariffs in South Africa	Quarterly production records achieved in the CIS (Combined Ukraine and Kazakhstan production up +6.7% YoY)

Mining

\$120m 13%

Drivers	Progress
10% reduction in average unit iron ore cash costs	10% YoY reduction achieved



Steel shipments

83.9

(million tonnes)



Crude steel production

90.8

(liquid steel in metric tonnes)



Own iron ore production

55.2

(million tonnes)



Coal production

6.3

(million tonnes)



Lost time injury frequency rate (steel and mining)

0.82

(incidents per million hours worked)



Dust emissions

0.67

(kg per tonne of steel)



CO₂e emissions (steel and mining)

204

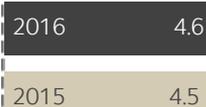
(million tonnes)



% reduction in CO₂ per tonne of steel since 2007

4.6%

(2020 target: 8%)



CO₂ emissions avoided through recycling of scrap and slag

40

(million tonnes)



R&D investment

239

(US\$ million)

2016 239

2015 227

Direct economic contribution
to society

56.2

(US\$ billion)

2016 56.2

2015 63.3

10th anniversary highlights

January

ArcelorMittal recognised by VBDO for sustainability work in new study 'Benchmark of Circular Business Practices'

February

Launch of Action 2020 which targets structural Ebitda improvement of US\$3.0 billion and annual free cash flow in excess of US\$2.0 billion, by 2020

March

GM and Ford give high honours to ArcelorMittal

April

World's first floating wind farm will use our steel

May

Our steel used in world's largest cruise ship

June

We become a member of construction sustainability institute IBU

July

ArcelorMittal France announces winners of inaugural innovator's award

August

10th anniversary of ArcelorMittal

September

Another year of rail deliveries secured with Deutsche Bahn

October

ArcelorMittal launches Orange Book to support innovative steel design

November

Launch of new low-carbon technology partnership initiative for steel, cement and chemicals industries with Evonik, LafargeHolcim and Solvay

December

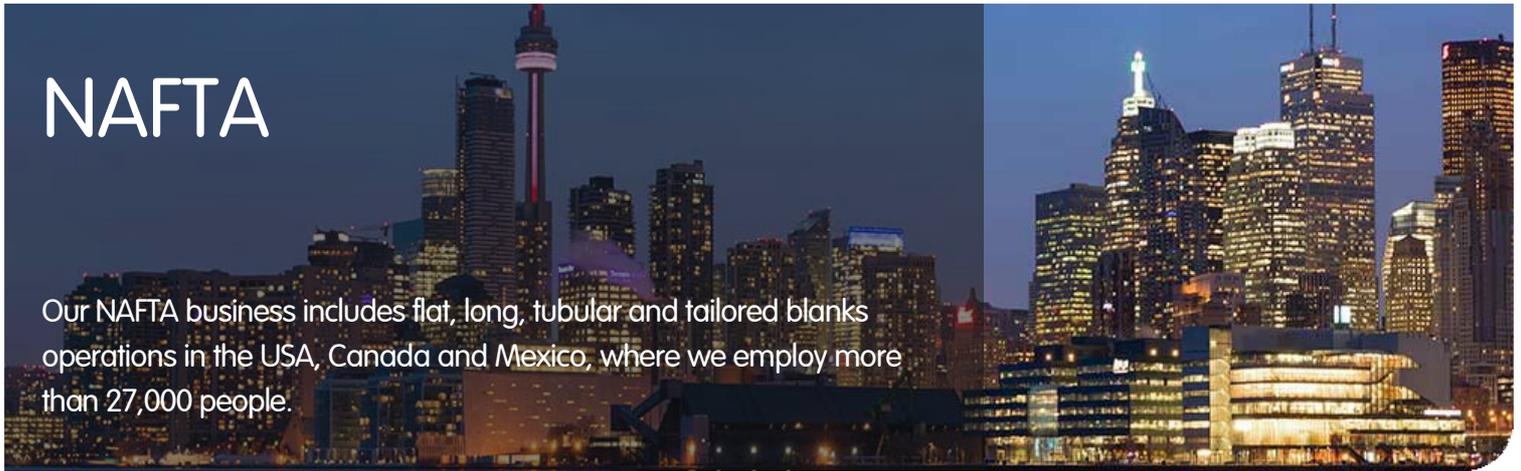
ArcelorMittal commits to a future of sustainability-driven innovation

Segment review



Sustainability review





NAFTA

Our NAFTA business includes flat, long, tubular and tailored blanks operations in the USA, Canada and Mexico, where we employ more than 27,000 people.



“Despite continuing challenges in our operating environment, our focus on Action 2020 created positive momentum in 2016. Footprint optimisation, key investments to enhance capability and reduce energy usage, and the successful agreement of our new labour contract have positioned us well for 2017 and beyond.”

John Brett President and CEO, ArcelorMittal USA

Employees

27,233

Sales

15.8

(US\$ billion)

Ebitda

1.7

(US\$ billion)

Steel shipments

21.3

(million tonnes)

Lost time injury frequency rate

0.95

(incidents per million hours worked)

Ebitda contribution to Action 2020

164

(US\$ million)

General Motors award

General Motors announces “Top Diversity Performer Platinum Award” for our supplier diversity programme, which provides opportunities to...

[Read more ▶](#)

Our 2016 operating environment

Our year began with challenging operating conditions for steelmakers in NAFTA, with global overcapacity and high levels of imports continuing to keep prices unsustainably low. As 2016 went on, however, conditions improved, with a more competitive market for steel and recovering demand across the region. Key stakeholder and steel market aspects of 2016 included:

- US GDP continued to grow, driven by consumer spending, though growth was the weakest since 2009 at 1.6%.
- Year-on-year, *apparent steel consumption fell by between 1% and 1.5% (excluding pipes and tubes); the fall was driven by a significant destock in the second half of the year.
- Automotive sales remained at record highs in the US, and both residential and non-residential construction markets showed some growth.
- Demand for oil and country tubular products (OCTG) remained weak, with 2016 apparent steel consumption in this sector falling by 30% compared to 2015.
- Action against unfair trade continued, with anti-dumping and anti-subsidy duties in place on all three flat steel product categories in the US; preliminary duties are also in place on steel plate products, with a final ruling expected shortly.
- Customers across a number of industries continued to demand high quality, lighter-gauged steel.

*Apparent steel consumption is physical deliveries, or sales, of steel products to end users or steel stockists. It differs from real steel consumption, which takes into account changes in steel inventory levels to assess underlying real steel demand.

[Learn more about our NAFTA operational footprint.](#)

Supporting STEM skills for a sustainable future

“ A shortage of STEM skills is a critical workforce challenge – for our company, and for US manufacturing as a whole. We’re partnering with local educational institutions so that we can work together on a curriculum that will give young people the skills they – and our business – need. ”

John Brett

President and CEO, ArcelorMittal USA

As an engineering and technology company, our future depends on the right people, with the right skills, driving our growth. What’s more, we believe that science, technology, engineering and mathematics (STEM) will be critical to sustainable development for economies and societies as a whole. That’s why developing skills in STEM is the global theme for our community investment strategy, and why the number and quality of our STEM projects is growing.



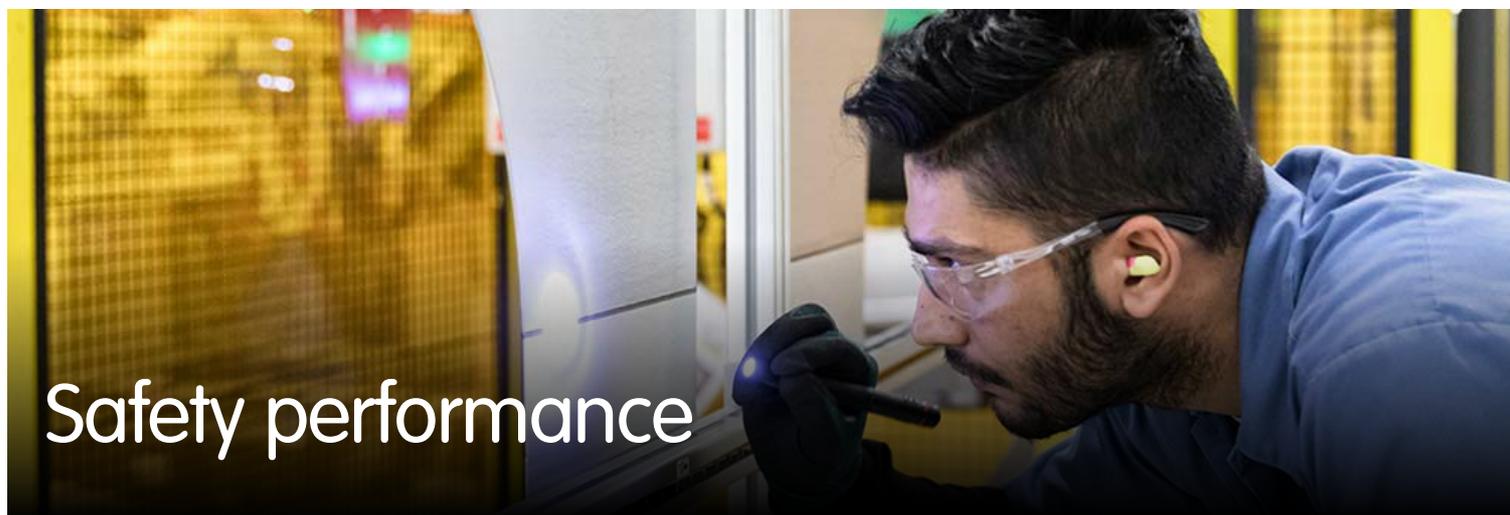
We emphasise the importance of partnerships across the education continuum from elementary school through to colleges and universities. In the US, we partner with a leading STEM non-for-profit, Project Lead the Way, to implement an engineering curriculum in middle and high schools in the communities in which we operate.

Among many other unique STEM programmes in the US, is a public-private partnership between AM/NS Calvert, Mobile Baykeeper, Mobile Area Education Foundation and Exploreum which encourages students, community members and government officials to care for waterways near the Gulf Coast in Alabama.

University partnerships remain a cornerstone of our STEM programme, since they help support a pipeline of talent needed in ArcelorMittal today and in the future. In the US, our Campus Partnership Program emphasises long-term relationships with university partners to recruit interns and full-time hires each year.

In Canada in 2016, our Dofasco plant pledged CAN\$1 million towards technology labs and classrooms at the nearby Mohawk College of Applied Arts and Technology in Ontario, Canada, where we have also funded bursaries for 85 students in financial need. ArcelorMittal Mexico awarded 504 scholarships for university STEM students in 2016.

These and many other STEM-related initiatives in NAFTA directly support our SD outcome 9 – a pipeline of talented scientists and engineers for tomorrow.



Safety performance

7%

LTIFR improvement

Safety is our highest priority

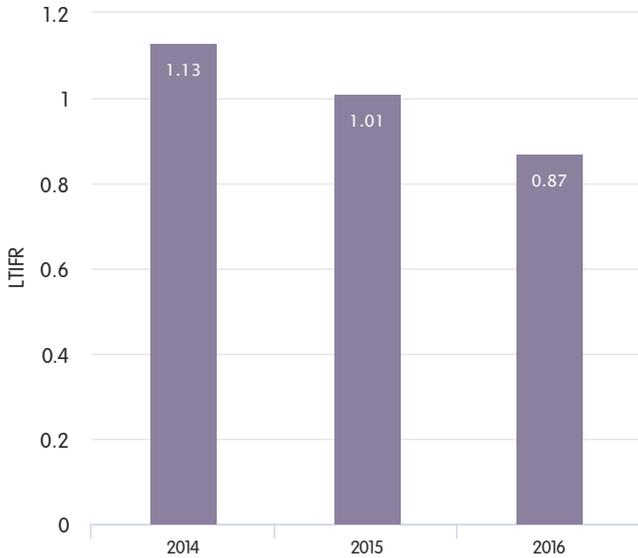
Our consistent focus on ensuring we keep all our people safe at work has resulted in pleasing progress in NAFTA in 2016, which reported a fatality free year, following the two fatalities that occurred in 2015.

There was also a 7% improvement in our lost-time injury frequency rate (LTIFR) for employees and contractors. Our 2016 LTIFR was 0.95, compared with a rate of 1.02 in 2015.

See [Outcome 1](#) for our global approach to safety.

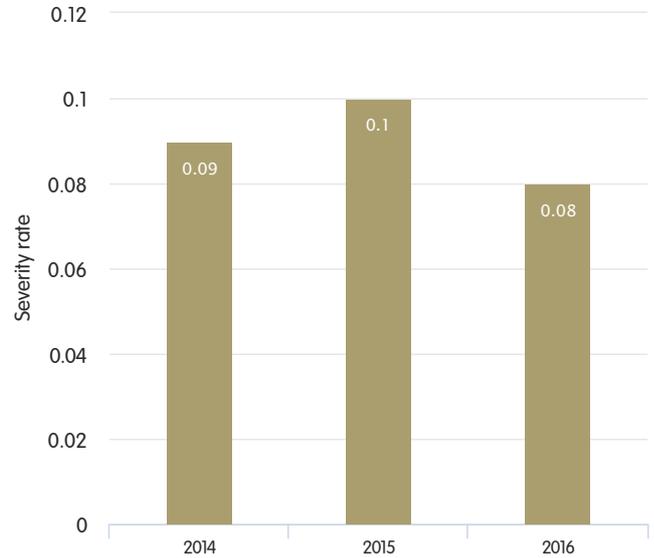
LTIFR

incidents per million hours worked



Severity rate

number of days lost to injury per thousand hours worked



Instilling safety in the next generation

Our safety philosophy goes beyond work. A person who acts safely at work will often act the same way at home, and vice versa. ArcelorMittal Long Products Canada took a new approach to Health and Safety Week in 2016 – organised by a joint labour/management committee – making an accident prevention awareness video with local schoolchildren, many of whom had parents working at ArcelorMittal.

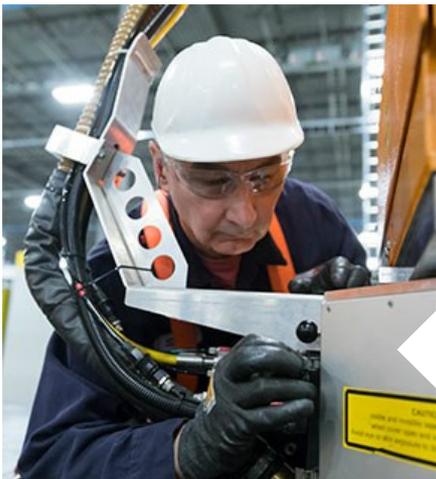
On camera, the children talked about their understanding of hazardous situations, and the example they felt adults should set. During Health and Safety Week all 1,500 employees of ArcelorMittal Long Products Canada in Quebec saw the video, then met the children who presented each employee a small, plasticine angel as a symbol to be careful during their shift so they could go home safely to their families.

Classroom discussions paved the way for adults and children to talk about safety together, in their homes. This innovative approach will leave a lasting impression on the children of the community and we hope they will become safety ambassadors themselves in their future jobs.



Delivering Action 2020

Action 2020 is ArcelorMittal's five-year strategic roadmap. It outlines how each business segment will deliver real structural improvements that are unique to our business, focusing on cost, volume, and a combination of product mix and customer service.



“ Despite negative apparent steel consumption and continuing competition from imports in 2016, we delivered a materially improved performance. Our close work with stakeholders, focus on cost, and programme of investments meant we moved ahead of our Action 2020 schedule, generating an increase of US\$828 million in Ebitda, to US\$1.7 billion, and laying strong foundations for future growth in 2017. ”

Robrecht Himpe President and CEO AM/NS Calvert, CEO ArcelorMittal North America

Our performance

Although steel shipments remained stable, sales in 2016 decreased by 8.6% compared to 2015 as a result of lower average steel selling prices, which fell by 8.2% year-on-year. The decrease in average steel selling prices was most keenly felt in the first half of the year. Spot steel prices began to improve in the second quarter of the year, which positively impacted performance in the second half of 2016.

Operating income for the year was US\$2.0 billion, a much-improved result compared with a US\$0.7 billion loss in 2015. The improvement was driven by better cost performance, an increased contribution from AM/NS Calvert, and a US\$0.8 billion one-time gain on employee benefits following the signing of our new labour contract with the United Steelworkers Union. Ebitda for the year nearly doubled, from US\$891 million to US\$1.7 billion.

[Read the full review of NAFTA's operating results.](#)

A responsive business with a focus on productivity

Delivering our Action 2020 strategy in NAFTA is a complex exercise that involves anticipating, understanding and responding to a range of stakeholders' interests, from customers to communities, while maintaining our focus on the actions and improvements we need to make within our operations.

Our 'footprint' asset optimisation plan in the US, which began in 2016, is a case in point – ratifying our new contract with the United Steelworkers Union (USW) in June created an opportunity for renewed investment in several facilities along with the long-term idling of non-essential units so that we can achieve the same or greater productivity using fewer assets and optimising costs. Our three-year collective bargaining agreement covers more than 12,000 USW-represented employees at 13 of our facilities in Indiana, Illinois, Minnesota, Ohio, Pennsylvania and West Virginia.



“ Important strides towards a more sustainable future. ”

John Brett

President and CEO, ArcelorMittal USA, gives his personal view on the [USW agreement](#).

Top 100 Employers

Dofasco in Canada's Top 100 Employers for third year running.

[Read more](#) ▶

Building shared value with employees

Our relationship with employees is critical to our success throughout the business. It helps us achieve continuous supply to our customers – our NAFTA segment experienced no significant disruptions in 2016 – while helping us retain and attract the best workforce. For example, we were proud that our Dofasco plant was recognised by Canada's Top 100 Employers in 2016, with long-term professional and personal employee development cited among a range of employee benefits. We also know how important contributing to the community is to our NAFTA employees – which is why our US business set and reached its target to double the number of skills-based volunteer hours donated by employees to community partners in 2016.

Meeting customer needs for safer, lighter-weight cars

At our AM/NS Calvert joint venture with Nippon Steel and Sumitomo Metals Corp in Alabama, US, significant investments in the latest steel-making technology, which came on stream this year, are enabling us to meet customers' demands. The capability to produce, for example, third-generation advanced high-strength steels can help the automotive industry achieve safer and lighter cars, with correspondingly lower emissions. AM/NS Calvert is also currently the only mill in North or South America which can produce the specialist substrate needed to make spiral-welded pipes for the energy industry.



“ Our customers had high expectations around the ramp-up at Calvert. In 2016, we increased production by 17% to 4.2 million tonnes with a continuous supply and no disruptions. This success was the result of several factors – we drew on the expertise of ArcelorMittal as a whole by assembling a global team of experts in the hot steel mill, improved maintenance planning to reduce interruptions, and invested in higher capacity in our yard. It meant we could run more hours, and generate more steel per hour. ”

Robrecht Himpe

President and CEO, AM/NS Calvert, CEO ArcelorMittal North America

New lightweighting solutions for SUVs and mid-size sedans



Our latest S-in motion® solutions for mid-size sedan and SUVs won the annual 'Best Innovation – Product' award from American...

[Read more ▶](#)

Innovating sustainably

We want our innovation to go hand in hand with applying our expertise in lifecycle assessment, so that we can help customers understand the commercial and environmental benefits of advanced steels.

For example, in 2016 our global R&D division partnered with Lehigh University and Pennsylvania Infrastructure Technology Alliance (PITA) to evaluate the lifecycle cost of bridges by comparing conventional painted steels with our corrosion-resistant steel, Duracorr® (ASTM A 1010). Despite Duracorr®'s higher initial cost, the lifecycle cost of the Duracorr® bridge is one-half to one-third that of a bridge built with conventional painted steels because of maintenance savings (no painting costs) during the bridge's 100-year lifetime. The fact that no painting is required is also a significant benefit for the environment and particularly important

in ecologically-sensitive areas.

Maintaining our focus on costs

To meet our Action 2020 objectives, we need to drive down costs across the business. In the US, we reached a new iron ore contract so that our future raw material costs are better aligned with pricing conditions in the steel market, and we continue to explore new technologies and processes to keep costs low in our sites.

Improving our energy efficiency is an important part of both cost reduction and our work to create a lower-carbon future, and we made investments in Burns Harbor and Dofasco which, on completion, will substantially reduce our energy usage. In total across the NAFTA segment, we completed 33 energy projects that will provide annual savings of over US\$26 million and 230,000 tonnes of CO₂.

Key investments will reduce US energy use

Investments play an important part in our overall ambition of reducing energy intensity by 10% in the US over 10 years.

In 2016 we invested in the second phase of a major revamp of Burns Harbor power plant, which we anticipate will bring significant energy savings on completion in 2019, and some 240,000 tonnes of carbon reduction annually.

The Burns Harbor project is part of an ongoing series of investments across our US portfolio that includes projects to reduce the blast furnace fuel rate at Cleveland and Indiana Harbour.

ArcelorMittal USA is one of 190 organisations in the US Department of Energy “Better Plants Program”, a multi-sector partnership between leading manufacturers to improve energy efficiency in the industrial sector. This is part of the Better Buildings Initiative, with an overarching goal of significantly improving the energy efficiency of commercial, residential, and industrial buildings in the United States.

Energy projects at Dofasco save enough power for 12,500 homes

Energy is one of our biggest input costs. Since 2011, a range of energy optimisation projects at our Dofasco site in Ontario, Canada, have achieved annual recurring savings of some CAN\$10 million and 125,000 megawatt hours, enough to power some 12,500 homes.

We now expect new and existing projects to achieve a further 258,000 MWh of savings by 2020.

A significant contribution to this will come from a new project announced in November



2016, the utilities boiler and power generation project, which will see three existing boilers replaced by one high-efficiency boiler as well as a turbine generator. The system will use waste gases from the steelmaking process to produce steam to generate electricity.

The goal of our Dofasco energy optimisation team is to beat the benchmark – just over 16 gigajoules of energy per metric tonne of steel produced – by 2020. In 2016, we used just over 17.5 gigajoules of energy per metric tonne.

Managing energy to achieve ISO 50001

Projects like this go hand in hand with Dofasco's drive to become compliant with ISO 50001, a certification standard which specifies requirements for establishing, implementing, maintaining and improving an energy management system – already a requirement in Europe for major energy users.

In April 2016, ArcelorMittal Dofasco and Mexico joined eight other companies in the North American Energy Management Pilot Program, supported by energy ministries from Canada, Mexico, and the US. This pilot scheme gives participating companies training and technical assistance to achieve ISO 50001.

At-a-glance: key progress against our Action 2020 objectives

Cost

- Footprint optimisation in our US business ahead of schedule, with assets idled at Indiana Harbor including the #1 aluminize line, 84" hot strip mill, and #5 continuous galvanizing line.
- Portfolio optimisation progressed with sale of long steel-producing subsidiaries in the US (Harriman, LaPlace and Vinton).
- Launched a major revamp of Burns Harbor power plant (second phase) with significant energy and carbon savings expected on completion in 2019.
- Agreed new iron ore contract in US so that raw material costs are better aligned with steel market pricing conditions.
- Reduced supplies, refractories and expenses (SRE) spend in US.

Volume

- Automotive volumes at AM/NS Calvert 50% higher, with a further 50% increase expected in 2017.
- Slab yard expansion at AM/NS Calvert combined with improved maintenance planning and product optimisation enabled increased coil production to 4.2 million tonnes per year, with further expansion planned for 2017.
- Indiana Harbor investments including new caster at #3 steelshop, installed ahead of schedule, and in 80" hot strip mill, which is now positioned to make approximately 4.5 million tonnes and will continue working its way to its goal of 5 million tonnes.

Product mix and customer service

- Preparations in place for new generation of advanced high strength steels (AHSS), which include the launch of new press hardenable steels (PHS) Ductibor® 1000 and Usibor® 2000.

- Delivery Initiative Team launched in US to better understand and deliver on customer needs.
- Improved quality performance in US, with internal rejects down 17%.



3% to 4% ASC
growth forecast for
2017.

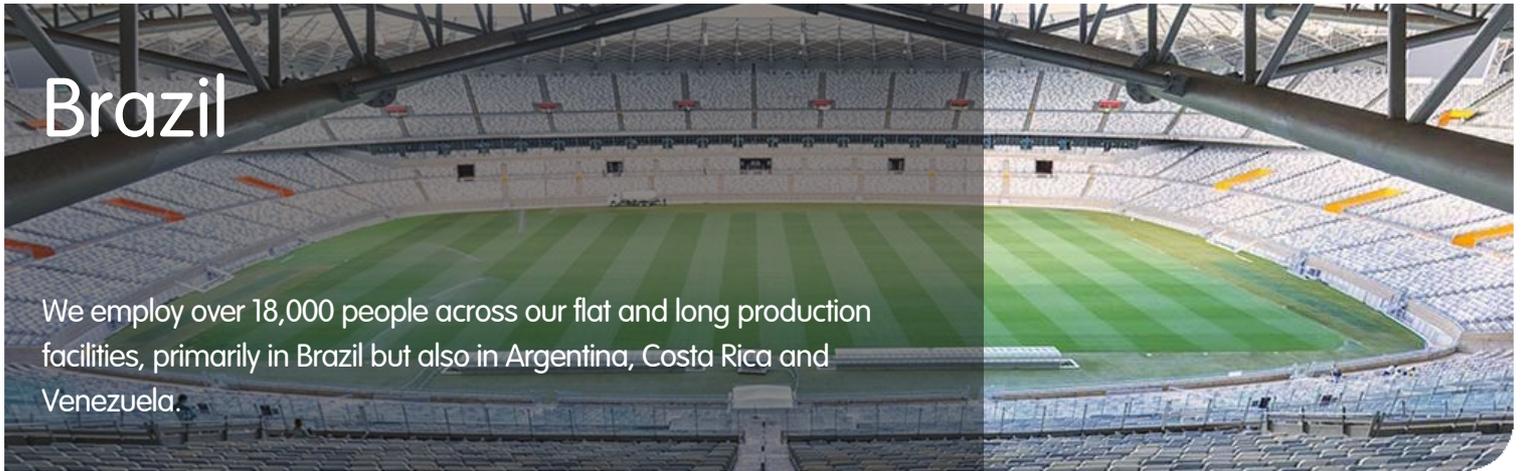
A growing market

The outlook for steelmaking in 2017 is encouraging, though challenges remain for us, and for our stakeholders. Although real steel consumption grew in the US in 2016, apparent steel consumption (ASC) declined. We expect the ASC trend to reverse in 2017, with demand for both flat and long steel to rise slightly and demand for tubes and pipes for the energy sector likely to rebound more sharply from the steep fall in 2016. Overall, we expect 3% to 4% growth in apparent steel consumption (excluding pipes and tubes) for the market as a whole.

Targeting increased volumes and higher quality

Our continuing investments in Indiana Harbor, Burns Harbor and in AM/NS Calvert will help us grow our volume; we are also focusing on improving both the product mix and service we offer customers to win market share.

Our increasing ability to supply third-generation AHSS will enable customers in several industries to use lighter, stronger steels with innovative coatings to deliver performance and, often, sustainability gains. In the US, our new Delivery Initiative Team is focusing on ensuring reliability of supply. And, across the business, our increasing emphasis on building and communicating our 10 SD outcomes is ensuring that we can better understand and anticipate the demands of all our stakeholders.



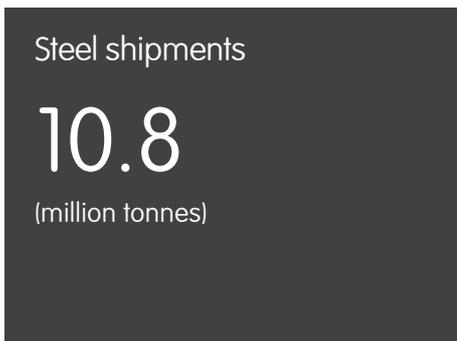
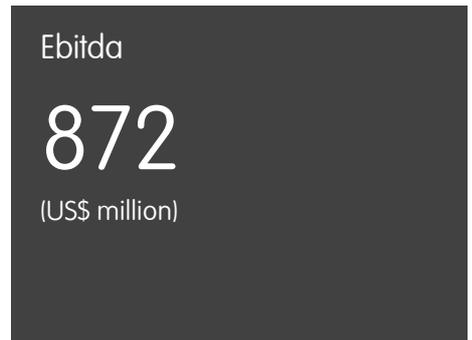
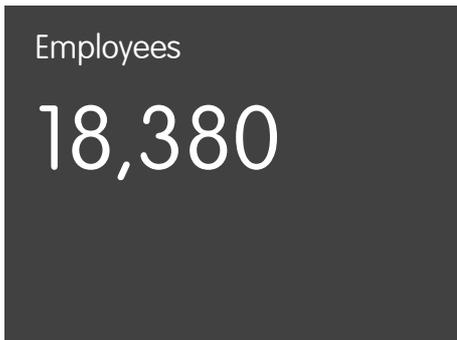
Brazil

We employ over 18,000 people across our flat and long production facilities, primarily in Brazil but also in Argentina, Costa Rica and Venezuela.



“ These are tough times for everyone in Brazil, including steelmakers, with the worst recession in decades affecting the livelihoods of millions of people and undermining demand for many of our customers' products. We want to be part of the country's recovery from economic and social turbulence, building on our strong stakeholder relations and a structurally competitive business that is increasingly focused on specialised products that meet specific customer needs. ”

Jefferson De Paula CEO ArcelorMittal South America Long Products



Brazil's numbers in 2016

Learn more about our Brazil operational footprint.

[Read more](#) ▶

Our 2016 operating environment

Economic recession, political turbulence and drought all contributed to a very challenging operating environment in Brazil in 2016. Falling GDP, rising unemployment, and investigations into state corruption created uncertainty and undermined confidence among manufacturers, consumers, and civil society. Steel demand fell, with decreases in all major sectors, including automotive and construction. However, by the end of 2016 there were tentative signs that confidence was returning, and that demand could recover, albeit from a low base. Key steel market and stakeholder aspects included:

- Brazilian GDP fell by over 3%, with productivity falling across most industrial sectors, in the worst recession for more than 30 years.
- Year-on-year, *apparent steel consumption fell by an estimated 13.0% to 13.5%.
- Demand for steel declined in the automotive, construction, and machinery manufacturing sectors.
- Rising unemployment, high household debt and low investment all suppressed consumer confidence.
- The impeachment of President Rousseff and ongoing corruption investigations heightened the importance of transparency in business and civil society.
- Environmental laws issued in response to the 2015 water crisis in the south east of Brazil remained active, imposing restrictions on water for industrial use.
- Drought also increased the cost of energy from hydro-electric power.
- Inflation reduced the competitiveness of Brazilian manufacturing versus imports, though it improved the export position.
- In Argentina, inflation reached 40% in 2016, putting pressure on wages and other costs.

*Apparent steel consumption is physical deliveries, or sales, of steel products to end users or steel stockists. It differs from real steel consumption, which takes into account changes in steel inventory levels to assess underlying real steel demand.



Safety performance

0.37
LTIFR in 2016

Group-leading health and safety performance

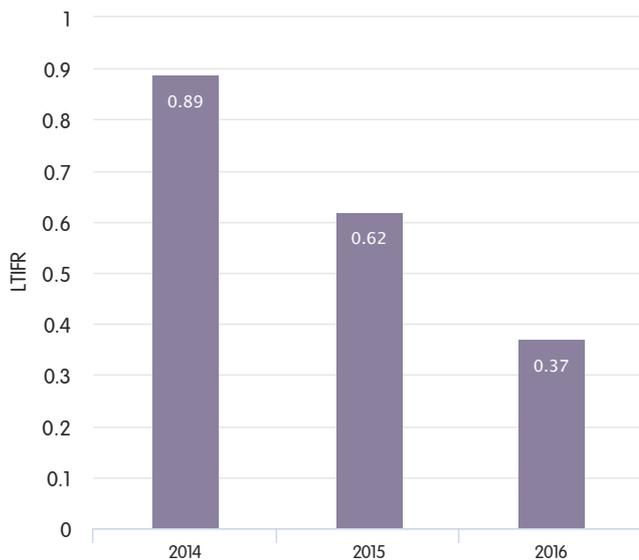
Our Brazilian segment has consistently improved its health and safety performance in recent years, and in 2016 delivered the best performance in the group. Most importantly no fatalities occurred, and there was also improvement in our lost-time injury frequency rate (LTIFR), which reduced from 0.62 in 2015 to 0.37 in 2016.

Considerable time and effort has been devoted to training and safety programmes, with the new safety initiative, Project Safe Behaviour, playing an integral role in the performance improvement achieved in 2016.

See [Outcome 1](#) for our global approach to safety.

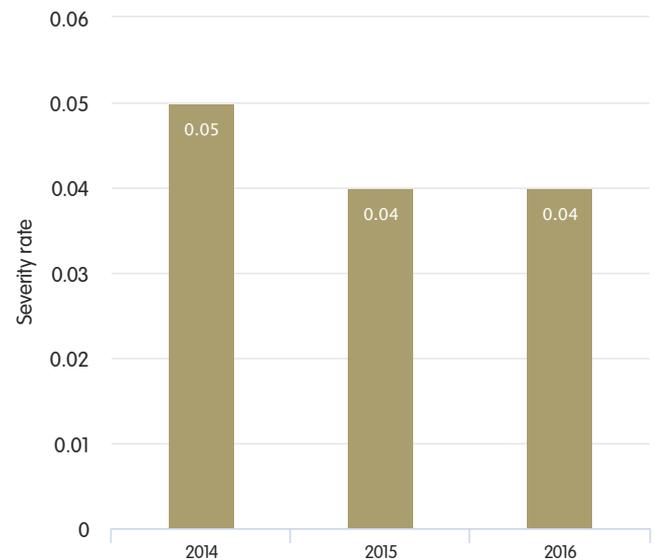
LTIFR

incidents per million hours worked



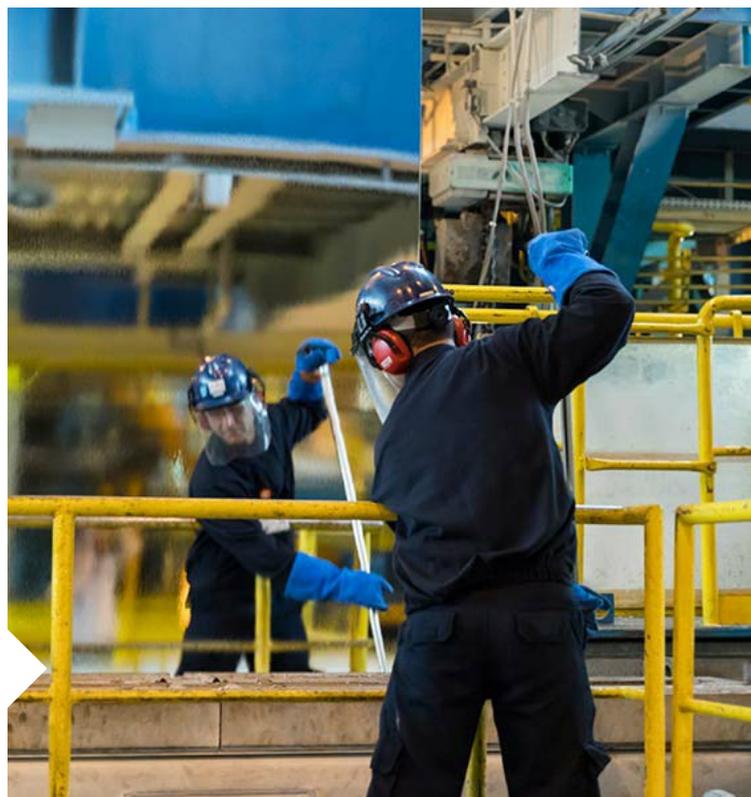
Severity rate

number of days lost to injury per thousand hours worked



Injuries at an all-time low in Brazil

In 2016, our flat carbon sites in ArcelorMittal Brazil saw injuries fall to an all-time low. According to Ricardo Garcia, vice president for human resources and IT in the region, this is directly linked to a new initiative, Project Safe Behaviour. Determined to drive further maturity within a safety culture that had already achieved impressive progress, our Brazilian colleagues started with strategic meetings with the board of directors. They prepared strategies aimed at generating new preventive behaviours in the organisation, developing further a sense of individual responsibility through 'ownership', while also reinforcing collective behaviours. They re-evaluated the health and safety management system tools, developed a work plan, and set up new training sessions with a range of different modules for all managers and supervisors as well as the health and safety and human resources teams. The results? An LTIFR of just 0.12 in 2016, a 56% improvement over 2015, and the lowest in the group.



Delivering Action 2020

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“Despite severe operating conditions, our focus on reducing fixed costs is delivering structural improvements, while increased volumes in our Flat Carbon steel business reflect our efforts to strengthen our relationships with customers and increase the range of specialised, high-added value products we can offer them.”

Benjamin Baptista CEO Flat Carbon South America



“ Transparency has never been more important in Brazil than it is right now. Our commitment to being an open and honest business means we can make a genuine contribution to the social and environmental improvements Brazil needs. This gives us a strong reputation within business and society, an asset which is highly valued by our customers. ”

Jefferson De Paula CEO ArcelorMittal South America Long Products

Our performance

Recession in Brazil and a range of external factors continued to affect our sales, which decreased by 26.8% to \$6.2 billion, primarily due to 17.2% lower average steel selling prices following the depreciation of the Venezuelan Bolivar and the Argentinean peso, and a decrease of 6.8% in our steel shipments to 10.8 million tonnes.

Weaker demand and the closure of our Trinidad and Tobago facility led to a fall in crude steel production of 4.1% to 11.1 million tonnes.

While these factors were offset in part by our ongoing initiatives to improve structural costs under Action 2020, Ebitda declined 29.2% to US\$872 million.

[Read the full review of Brazil's operating results.](#)

The value of trust and transparency in turbulent times

The challenges of severe recession and political uncertainty are not, of course, confined to steelmakers. Millions of people in Brazil and across the region are experiencing economic hardship and social disquiet, while many of the manufacturers and fabricators who make up our customer base are suffering from sharp falls in demand.

Our success is intimately linked to theirs, and we are committed to playing our part in helping to build the recovery. Our reputation, and the trust in which we are held, are key to this commitment.

As a result of the ongoing investigations into corruption in Brazil, one of our stakeholders' biggest concerns is transparency in business conduct. Our track record is strong – we introduced our Code for Responsible Sourcing in 2007, we expect all suppliers to commit to this, and we help suppliers with training in their requirements.

We also carry out anti-corruption due diligence on local suppliers.



Our leadership in this field was acknowledged in early 2016 with an invitation to join a new national advisory group aimed at enhancing the business integrity agenda in the country. The respected corruption watchdog, Transparency International (TI), has established a framework for collaboration between business, the public sector and civil society to diagnose and develop a reform agenda for the country, in order to restore business integrity. ArcelorMittal was the first business in Brazil to agree a partnership with TI.

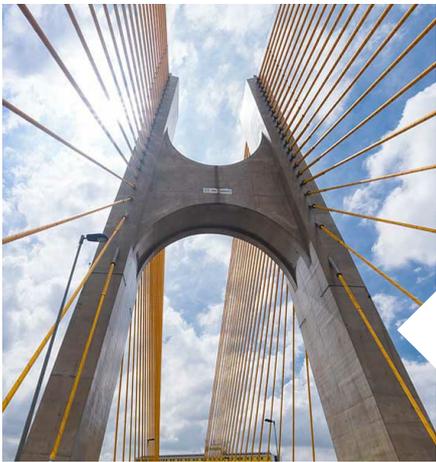


Committed to ethical business in partnership with Transparency International

“ We expect our new partnership with TI to have a positive impact on our entire production chain, encouraging other companies to also seek better governance and sustainability in business. We have an active compliance structure in place and intend to play a pivotal role in helping our country build a broad consensus on integrity within the business community. ”

Benjamin Baptista CEO Flat Carbon South America

[Read more](#)



Building closer relationships with customers

Being trusted by our customers is essential to the success of our Action 2020 plans. From our conversations, we know that they value our reputation; we also know that they have a growing interest in supply chain sustainability assurance, which helps us ensure we are their supplier of choice.

We're focusing on growing closer to customers in other ways too. In 2016, we streamlined our sales processes in order to gain a better understanding of customer needs and direct our R&D efforts to meet them. We've invested in technology that enables us to produce specialised products – at our Acindar plant in Argentina, for instance, a new rolling mill completed in 2016 not only increases the volume of bars we produce for civil construction, but allows us to free up our special bar quality (SBQ) mill to focus on products for the automotive and mining industries. We're also now equipped to produce Usibor® grades, specialised hot stamped steels for safe, lighter-weight carmaking, that help automotive manufacturers meet emissions targets, ready for the gradual recovery in car manufacturing we expect in 2017.

We're helping meet the needs of customers beyond the region too, by exporting specialised steels to be finished by ArcelorMittal mills in the US which are serving the automotive market.

Learn more about [Outcome 2](#).

Achieving structural competitiveness

As part of our Action 2020 focus on costs, we have continued to optimise our operational footprint as well as drive down fixed costs across the business. Regrettably, this has meant the closure of one of our Point Lisas operations in Trinidad and Tobago; we've also reduced operations at two further plants, and reduced full-time employees in other parts of the business. We believe these changes were necessary for our business to remain competitive and, while difficult, we worked with employees and their representatives during the process, in line with our policies.



Showing leadership on water

The south east of Brazil has experienced an unprecedented, and unexpected, drought in recent years, placing constraints on the availability of water for industry and indirectly leading to a spike in energy costs in a country heavily dependent on hydro-electric power.

In response, we have worked closely with government and local water authorities to find solutions. At our Tubarão plant in Vitória, where investments into treatment systems have enabled us to reduce our intake of fresh water by 40% since 2014, we were nonetheless reliant on surface water from the Santa Maria river. In 2015 we secured permission to dig groundwater wells within our steel plant, enabling us to access a water source that is not used by the city of Vitória. And for the longer term, we are investigating the viability of desalination as a means to ensure the reliability of our water supply.

Investing in air quality

Air quality is a high priority for the communities who live and work close to our operations. Across Brazil, states are reviewing air quality standards, and we aim to comply with or exceed them.

“Addressing stakeholder concerns about air quality in Vitória is one of our highest priorities. Alongside investment in improvements, we need to keep our channels of communication open to those around us – and we are continually speaking with local communities and the authorities to find the best way forward.”

Benjamin Baptista

CEO Flat Carbon South America

In Vitória, where we share a complex with other industries close to a city of two million people, the Brazilian government is investigating 'black dust', emissions that are associated with industrial activity in the region.

A State Decree of 2013 regarding air quality aimed to establish intermediate targets to reach air quality standards recommended by the World Health Organization. We are working together with the local environment agency to improve our process controls in pursuit of these standards.



Moreover, we have invested heavily in environmental improvements – around US\$100 million just since 2014 – including an automated system in the coal yard to reduce dust from coal piles, and the planting of some 2.8 million trees in the area to reduce wind erosion. In 2016, we approved a US\$26 million project to install dust bag filters at Tubarão, which will reduce emissions from our sinter plant by 90%, and emissions from the segment as a whole by 18%.

Learn more about [Outcome 5](#).



Helping build the skills that will boost recovery

In the context of economic recession, the value we bring to the Brazilian economy is crucial. More than that, we are building the skills for the future economy because these will also ensure that we retain and build a high-performing workforce – particularly in science, technology, engineering and maths (STEM).

We are preparing to open two new campuses for our ArcelorMittal University in Brazil in 2017, and we also want to encourage STEM subjects among the next generation. We run a number of projects, including the ArcelorMittal Environment Award, which has been dedicated to raising awareness of environmental issues among elementary school students and employees' children for 25 years. The 2016 awards involved 73,000 students, and in November 2016 the first prize was awarded to an initiative entitled "sustainable solar energy accessible to populations in need," conceived by the Municipal School Ordeal Ferreira Campos, Sabará.

We also want to support the small manufacturing businesses that are vital to our business and to local economies. In 2016, we joined the local government in Vitória and financial partners to support such companies in the region.

Learn more about [Outcome 9](#).

At-a-glance: key progress against our Action 2020 objectives

Cost

- Portfolio optimised with the closure of Point Lisas operations in Trinidad and Tobago
- Fixed cost reduction plan saves \$32 million in 2016 through measures including new maintenance contracts and reduced operations at two long steel plants
- Further fixed costs savings in Argentina
- Coke rates for flat steel production optimised to reduce raw material inputs
- Transformation programme targets productivity improvement

Volume

- Flat Carbon business achieved record production, driven by exports
- New rolling mill in Acindar, Argentina, to increase rolling capacity by 0.4 million tonnes per year for bars for civil construction

Product mix and customer service

- Tubarão plant equipped to produce Usibor® high-strength steel for automotive industry
- Increased focus on key industry clients and streamlined sales service
- Investment in desulphurisation technology to improve quality
- Acindar to optimise special bar quality (SBQ) production to focus on automotive and mining industries
- Dedicated development team created to expand high-added value portfolio
- Sales of high-grade slab steels expanded
- Production of galvanised products increased



3-4%

2017 ASC growth
forecast

Although the situation remains uncertain in Brazil, we see signs of returning confidence and the prospects for a mild recovery in 2017. It will start from a very low base, but we expect apparent steel consumption to grow by 3-4%, and improvement in demand from the automotive sector.

We believe the steps we've taken in 2016 will stand us in good stead for 2017. Not only have we made significant strides in improving our competitiveness, but we've built on the strong relationships that our stakeholders, including customers, value.

Together with our increasing capacity to produce the advanced steels that will help our customers create products that contribute to a sustainable future, these steps will help us play our part in returning our business and the wider economy to prosperity.

ACIS

Our ACIS segment employs over 41,000 people across our flat, long and tubular steel integrated production facilities in Kazakhstan, South Africa and Ukraine.



“After the severe challenges of 2015, better market conditions and the successful implementation of our Action 2020 plans resulted in a greatly improved performance from our CIS business in 2016. Record steel production, energy savings, and improved stakeholder relations leave us well positioned to make further progress in 2017.”

Paramjit Kahlon CEO, ArcelorMittal CIS



“Openness and transparency in our dealings with stakeholders has helped create good momentum for the business in South Africa. We have an important role to play as good corporate citizens, and to support us in this goal we have seen welcome action against unfair trade from the national government and a willingness to engage on the issues that affect us, and South African society, more widely.”

Wim de Klerk CEO, ArcelorMittal South Africa

Employees

41,989

Sales

5.9

(US\$ billion)

Ebitda

678

(US\$ million)

Steel shipments

13.3

(million tonnes)

Lost time injury frequency rate

0.58

(incidents per million hours worked)

Ebitda contribution to Action 2020

260

(US\$ million)

ACIS's numbers in 2016

Learn more about our ACIS operational footprint.

[Read more](#) ▶

Our 2016 operating environment

Although still volatile, the political situation in CIS stabilised relative to previous years, and the region began to recover from recession. The very severe market conditions of 2015 eased, though *apparent steel consumption continued to decline. The devaluation of the Kazakh tenge created a more competitive base for exports. In South Africa, where the market was significantly affected by unsustainably priced imports, trade action and public policy on the use of domestic steel created grounds for optimism. Key steel market and stakeholder aspects included:

- Apparent steel consumption in CIS declined by between 3.5% and 4.0% in 2016.
- Continuing tariffs on imports from outside the Eurasian Customs Union (EACU) placed pressure on sales from Ukraine, while favouring Kazakhstan, an EACU member.
- Transformation in South Africa continued, with expectation that businesses should contribute to Broad-Based Black Economic Empowerment (BBBEE).
- The South African government imposed a 10% tariff on steel imports, while establishing a designation policy, that any state infrastructure requiring steel should include South African steel.
- The governments of Kazakhstan and South Africa engaged in discussions around carbon pricing or emissions trading schemes.

*Apparent steel consumption is physical deliveries, or sales, of steel products to end users or steel stockists. It differs from real steel consumption, which takes into account changes in steel inventory levels to assess underlying real steel demand.



Safety performance

0.58
LTIFR in 2016

Safety is our highest priority

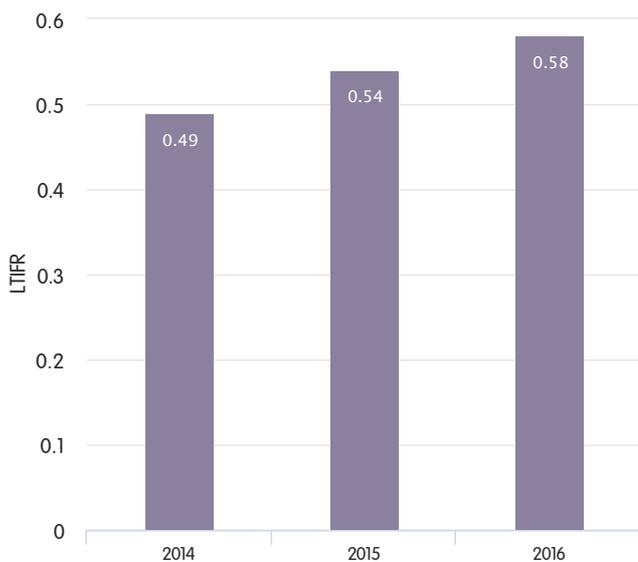
Tragically, five colleagues lost their lives in the ACIS segment in 2016, three in South Africa and one in each of Kazakhstan and Ukraine. This is five fewer than in 2015, but still five too many.

Our lost-time injury frequency rate (LTIFR) marginally worsened, from 0.54 in 2015 to 0.58 in 2016. Although the mild deterioration in LTIFR is concerning, the rate remains considerably better than the average of 0.78 in the group's steel business.

See [Outcome 1](#) for our global approach to safety.

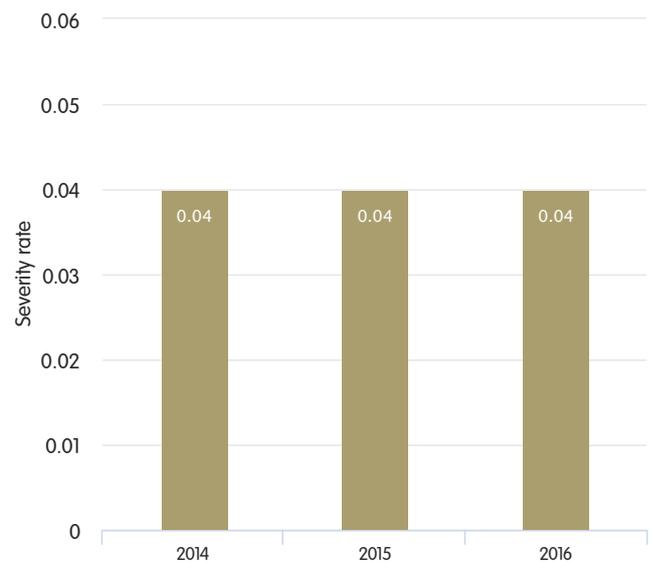
LTIFR

incidents per million hours worked



Severity rate

number of days lost to injury per thousand hours worked





“ This year management at all levels, as well as our dedicated health and safety professionals, worked with diligence and considerable creativity to engender a 24/7 safety ethos. Yet we suffered three deaths at our premises, all of them contractor employees, and all of them preventable. As much as our safety drive in 2016 used imaginative means to bring home safety awareness, we have begun to act with the most extreme rigour against unsafe acts and unsafe mindsets. ”

Wim de Klerk CEO, ArcelorMittal South Africa

Delivering Action 2020

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“ Overall, ACIS profitability increased by 113.8% to US\$678 million. This strong performance driven by a record quarterly production volume in Kazakhstan and Ukraine, underpinned by improved management practices and better target-setting as well as numerous cost reduction initiatives. A stable supply of raw materials and reductions in energy and other costs in Ukraine also contributed, establishing good momentum for 2017. ”

Paramjit Kahlon CEO, ArcelorMittal CIS

Our performance

Our crude steel production for ACIS increased by 4.0% in 2016, mainly as a result of better operational performance in Kazakhstan and Ukraine, which also benefited from improved operational stability. Production in South Africa marginally decreased, as we carried out a mini-reline at the Saldanha plant and closed the Vereeniging melt shop.

Sales in 2016 were 4.0% lower than the previous year at US\$5.9 billion, primarily due to a fall

of 8.6% in the average steel selling price, which affected all parts of the business. Sales were up 12.9% in the second half at US\$3.1 billion, reflecting a recovery in the CIS region.

Ebitda increased by 113.8% to US\$678 million, reflecting higher volumes and the focus on costs and good operational performance in CIS, as well as effective capture of the benefits of currency devaluation in Kazakhstan.

[Read the full review of ACIS's operating results.](#)

85%
electricity savings at
Vanderbijlpark

Focus on costs and productivity delivers Action 2020 goals

The recovery of our ACIS business from a challenging year in 2015 reflects a concerted effort to meet our Action 2020 targets, as well as signs of recovery in the CIS region. The business has proactively focused on driving costs down, and better management practices and target-setting have helped us achieve a significant increase in volumes in Kazakhstan and Ukraine. Despite a lower average steel selling price than 2015, our business was much more profitable than last year.

One of our biggest costs is energy, and we sought energy savings across our ACIS business in 2016. The switch to pulverized coal injection at our Kryvyi Rih plant in Ukraine played an important role in this, as did the investment in a new coke oven battery. Kryvyi Rih also received ISO 50001 certification in December 2016.

Efficiency measures helped our Temirtau plant in Kazakhstan reduce gas consumption per tonne in its sinter plant by 20%, while in South Africa, our Vanderbijlpark mill achieved an 85% saving in electricity consumption.

In South Africa, considering the volatility of electricity prices, and the prospect of a CO₂ tax system in 2017, energy efficiency initiatives make important contributions to both our current and future costs as well as total CO₂ emissions. At our Vanderbijlpark integrated mill in 2016, we established savings in imported electricity through both investment and low-cost approaches: the R138 million installation of a new steam boiler will enable the plant to utilise more of its waste gases in electricity production, increasing its generating capacity by over 40% and avoiding CO₂ emissions at the same time; the use of simple variable speed drives at the hot strip rolling mill will deliver electricity savings of up to 85% at that part of the site. Overall, however, the energy intensity of the steel we produced in South Africa (including electricity, natural gas, coal and industrial gases) increased in 2016 due to the mothballing of the electric arc furnace in Vereeniging, and the consequent increase in blast furnace production at the other three sites. Other initiatives are being explored to further improve energy efficiency and resilience further.

Strong relationships with stakeholders built on transparency

Open relationships with stakeholders are important everywhere we operate, but nowhere more so than in our ACIS business. Although the CIS region stabilised somewhat in 2016, political uncertainties remain, increasing the importance of transparency and openness; while in South Africa, good corporate citizenship goes hand-in-hand with a commitment to further Broad-Based Black Economic Empowerment (BBBEE) as the country continues to transform.

Listening, learning, respect and transparency are essential parts of our approach to business. This year, we provided focused training on the theme of integrity and human rights in Kazakhstan, while in South Africa we have published a transparent integrated annual report since 2014.

The year also saw the resolution of a longstanding case with the South African Competition Commission over legacy issues relating to past pricing-collusion practices. This was a holistic settlement, which came at a cost of R1.5 billion.

With this issue behind us we are now engaging with the government on various matters including trade protection. In 2016, the government imposed duties of 10% on imported steel, and introduced a designation policy, which states that state infrastructure projects requiring steel must use a proportion of steel made in South Africa.

212

students internships
in Kazakhstan

Educating and inspiring our future workforce

In CIS, as elsewhere, we face the challenge that our skilled workforce is ageing – an issue accentuated in Kazakhstan by the flow of workers to Russia, attracted by retirement benefits and favourable exchange rates. Ensuring that we can attract and retain employees with the skills and motivation to achieve high performance is a key element of our business strategy, and we are investing in technical and vocational training in both Kazakhstan and Ukraine. In CIS in particular, we continue to engage with government on ways we can help provide assistance for young people to develop their skills and make a contribution to their domestic economy, rather than emigrate.

Our ArcelorMittal University network has campuses in Temirtau and Karaganda in Kazakhstan, Vanderbijlpark in South Africa, and Kryvyi Rih in Ukraine, and we have a number of local initiatives in place. In Kazakhstan, our memorandum of mutual cooperation with Karaganda State Industrial University (KSIU) has resulted in a series of cooperative initiatives around STEM (science, technology, engineering and maths) training, and in 2016, as part of a range of training, research and knowledge-sharing activities, 212 students took part in internships at our Temirtau plant.

In South Africa, where we are responding to a real priority for national development, we restarted a recruitment drive to attract young engineers, offering a 40-week apprenticeship contract focusing on the iron and steel manufacturing process. The programme includes institutional and on-the-job training, with regular assessments and progress monitoring as an integral part of the apprenticeship programme.

Providing vocational training of this kind not only helps us, it strengthens the knowledge base of the countries in which we work.

Contributing to South Africa's transformation

Our South African business is committed to playing its part in the transformation of the country, and in September 2016, we announced a new Broad-Based Black Economic Empowerment (BBBEE) transaction involving issuing a 17% shareholding in ArcelorMittal South Africa to a special purpose vehicle owned by Likamva Resources, a 100% black-owned and 58% black women-owned company. In addition, a separate 5.1% shareholding will be held by the ArcelorMittal South Africa Employee Empowerment Share Trust for the benefit of employees and management.



At-a-glance: key progress against our Action 2020 objectives

Cost

- Reliable raw material supplies secured in Ukraine
- New coke oven battery and use of pulverized coal injection in Kryvyi Rih delivers energy cost savings
- Multiple cost initiatives drives down costs in Kazakhstan
- Project Focus improves costs in procurement and processes in South Africa
- New iron ore agreement in South Africa

Volume

- Improved management practices and target-setting in Kazakhstan and Ukraine drives record volumes

Product mix and customer service

- Investment in a distribution hub at the railhead in Newcastle, South Africa, to improve reliability and delivery speed as well as reduce road use
- Competitive advantage as sole producer of thin gauge hot roll coil in South Africa



Outlook for 2017

2020 goals

On track to meet Action 2020 goals

The recovery in profitability of our CIS business, although from a low base, and the strengthening of a number of key stakeholder relationships in South Africa, are very encouraging. We plan to continue our strategic focus on operational excellence to deliver volumes that will leverage our new competitive cost base in CIS, where we see apparent steel consumption stabilising in 2017. In South Africa, we aim to improve our competitiveness by reducing costs, particularly energy, optimise efficiencies and benefit from the improved stakeholder relationships we have facilitated.

Europe

Our Europe segment comprises flat and long operations across the continent, along with our Distribution Solutions business.



“ Our emphasis on Action 2020 efficiencies and customer-focused innovation produced real progress in 2016. Our European Action 2020 initiatives contributed US\$263 million to Ebitda, and played an integral role in improving ArcelorMittal Europe’s Ebitda to US\$2.5 billion, the highest level achieved since we began reporting on our European segment as a single entity in 2013.

In terms of outlook, we expect continued demand growth in 2017, albeit at modest levels, and are very well placed to capture our share. This, combined with further progress anticipated from our European Transformation Plan, and other Action 2020 initiatives, puts us in a very strong position to improve the sustainable profitability of our business over the long-term.”

Aditya Mittal Group CFO and CEO ArcelorMittal Europe

Employees

80,975

Sales

29.3

(US\$ billion)

Ebitda

2.5

(US\$ billion)

Steel shipments

40.2

(million tonnes)

Lost time injury frequency rate

1.01

(incidents per million hours worked)

Ebitda contribution to Action 2020

263

(US\$ million)

Europe's numbers in 2016

Learn more about our Europe operational footprint.

[Read more](#) ▶

Our 2016 operating environment

Our Europe business ended 2015 in an extremely challenging environment for steelmaking. As 2016 began, global overcapacity and unfair imports continued to keep prices unsustainably low. The outlook improved over the year, with steel demand slowly rising, positive rulings on a number of trade cases, and more sustainable pricing for both steel and raw materials. The longer-term outlook remains clouded, however, by the design of the next phase of the European emissions trading scheme (ETS), that, in its proposed form, will support neither the regional economy nor wider climate change goals. The key stakeholder and steel market aspects of 2016 included:

- EU GDP grew by 1.9%, driven mainly by the service industries but with some manufacturing growth.
- Year-on-year, *apparent steel consumption grew by between 1.5% and 2%.
- Automotive sales reached their highest levels since 2008, and construction markets showed gradual growth.
- The European Commission made positive rulings on a number of anti-dumping and anti-subsidy trade cases, though procedures for investigating dumping remained slower than in some other markets, with tariffs often imposed at lower levels.
- Customers in automotive industries continued to demand high-quality, lighter-gauged steel as they sought to achieve emission reductions through weight savings.
- Automotive customers led an increasing focus on supply chain sustainability standards.
- With the EU's plans for phase 4 of the ETS due to start in 2021, steelworkers in a number of markets protested against these plans, while steel industry leaders continued to warn that, if it passes into law as proposed, not only will the ETS not achieve its objective of reducing global carbon emissions, it will also impose unsustainable costs on the European steel industry.

*Apparent steel consumption is physical deliveries, or sales, of steel products to end users or steel stockists. It differs from real steel consumption, which takes into account changes in steel inventory levels to assess underlying real steel demand.



“ Climate change is a clear threat and needs to be addressed. Designing policy appropriate for multiple sectors and industries is difficult and complex. But the extent to which Europe’s steel industry and the 320,000 people it employs directly will be affected based on current proposals needs to be understood before it is too late. ”

Lakshmi Mittal Chairman and chief executive officer



Safety performance

1.01
LTIFR in 2016

Fewer severe accidents but more work to do

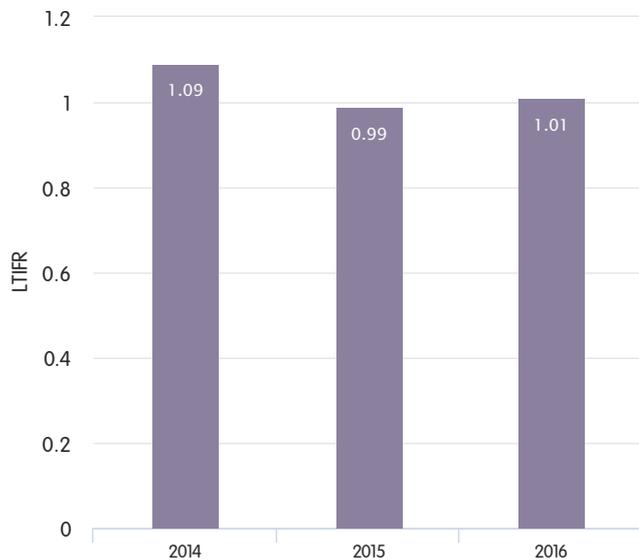
Our lost-time injury frequency rate (LTIFR) of 1.01 was stable compared with the rate of 0.99 in 2015. However, six colleagues tragically lost their lives in 2016, four lower than in 2015, but still an unacceptable number.

To further improve our health and safety performance, we have launched several initiatives across Europe. In our Flat Products business, the ‘meet the people’ CEO initiative is now almost 100% complete, and safety leadership training has been finalised. The Take Care! training programme that was introduced in 2015 across the entire European segment will be extended significantly this year, and other ongoing initiatives that are progressing well, are: treating serious occurrences as fatalities, and improving contractor management by ranking based on contractors’ safety performance.

See [Outcome 1](#) for our global approach to safety.

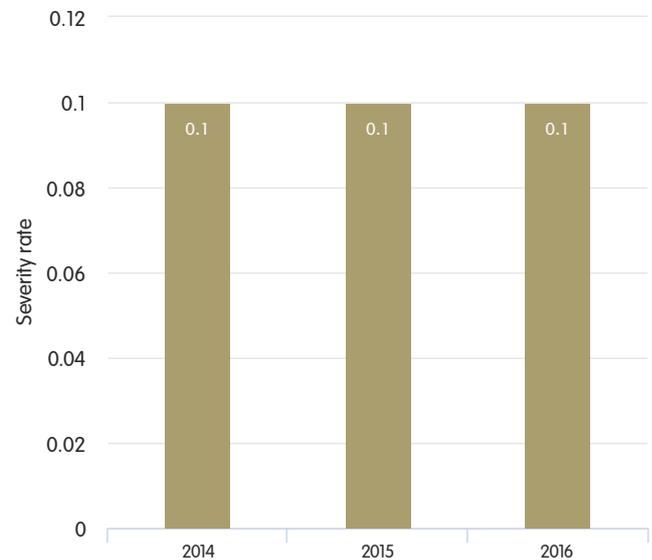
LTIFR

incidents per million hours worked



Severity rate

number of days lost to injury per thousand hours worked



A flagship new safety training programme for Europe

In Europe, we launched a different kind of initiative at the end of 2015 to drive better progress on safety. The Take Care! training programme targets all 60,000 shop-floor workers across our plants in Europe and aims to build a better health and safety culture. It focuses on changing behaviour through intensive participatory classroom and shop-floor learning.

Based on well-known standards such as [ArcelorMittal's 10 Golden Rules](#), Take Care! brings the principles of safety to life through practical examples, group activities and games that enable staff to internalise safety values and thus contribute to a stronger safety culture.

In 2016, we rolled the programme out across operations in France, Spain, Luxembourg and Bosnia & Herzegovina.



Belval, Luxembourg wins excellence award for safety 'maturity culture'

An ambitious programme of safety culture change at our Belval plant is recognised by Worldsteel.

Even with all the proper processes and systems in place, safety can still be a challenge, because it's as much about behaviour and paying attention as it is about procedure. Our plant in Belval, Luxembourg, saw that their safety standards were beginning to slip, and realised that the solution lay in attitudes and culture. The leadership team introduced the 'Maturity Project' which aimed to bring about an ambitious culture change to ensure that



everyday production processes adhered to the highest safety standards. This included a training programme for all site leaders to enable them to empower all employees at the facility by building technical knowledge and the right behaviour. The project was recognised by Worldsteel's Safety and Health Excellence Recognition Programme in [October 2016](#).

Delivering Action 2020

Action 2020 is ArcelorMittal's five-year strategic roadmap. It outlines how each business segment will deliver real structural improvements that are unique to our business, focusing on cost, volume, and a combination of product mix and customer service.



Our performance

“ Working closely with customers to develop high quality, specialised and innovative products which contribute to sustainable development has played a key part in the delivery of our Action 2020 goals in 2016. We have also continued to focus on procurement, reliability and productivity savings, and embraced digitalisation, to deliver an increase of 4.6% in Ebitda. ”

Geert Van Poelvoorde CEO, ArcelorMittal Europe - Flat Products

Europe sales were 8.2% lower in 2016 compared with 2015, primarily due to lower average steel selling prices, which fell by 6.7%, while steel shipments were also 1.1% lower than the previous year. Pricing improved as the year progressed; average steel selling prices in the second half of 2016 were 0.3% higher than the corresponding period in 2015, partially offsetting the 12.6% decline in average steel selling prices that occurred in the first half of the year.

Operating income for the year was US\$1.3 billion, a marked improvement on 2015 operating income of US\$171 million, driven by cost efficiency improvements and an absence of impairment charges and inventory write-downs that occurred in 2015. Ebitda generation also improved to US\$2.5 billion, from US\$2.4 billion in 2015.

[Read the full review of Europe's operating results.](#)

Sustainable innovation at the heart of Action 2020

The future of steel, and of our Europe business in particular, will be driven by innovation. In 2016, we developed and expanded a wide range of solutions in terms of both products and processes – and since our customers are, like us, growing more focused on their environmental and social impact, these solutions are increasingly designed to contribute to a sustainable future.

Broadening our product mix is a key part of our Action 2020 strategy, and innovation ensures that this expansion is focused on quality, as well as quantity. In 2016, for example, we inaugurated a new, breakthrough technology for the metallic coating of steel – called Jet Vapor Deposition (JVD) – in our brand new line in Liège (Belgium). This line will produce two new coated products – Jetgal® for the automotive industry and Jetskin™ for industrial applications such as household appliances, both of which demonstrate improved quality, enhanced functionality and lower environmental footprints in both energy and water. The €63 million production line was officially inaugurated by the King of the Belgians in February 2017.

We also expanded our capability to produce improved versions of existing products – for instance, by bringing out new refinements to our range of sheet piles, developed by our R&D teams, enabling us to attract new customers in new market segments.

“Our customers’ needs are continually evolving and the products we will make in ten years’ time will not be the same products we are making today. We’re working alongside customers to understand and anticipate these developments and shape our product portfolio accordingly. Our R&D teams’ focus on sustainability – and increasing customer demand – mean that the products we develop will contribute to a sustainable future.”

Augustine Kochumparampil

CEO, ArcelorMittal Europe – Long Products

PSA best supplier

ArcelorMittal receives PSA Group best supplier award for second consecutive year.

[Read more ▶](#)

Developing lighter-weight, stronger steels in step with customer demand

Our innovation is underpinned by our understanding of the sustainability benefits of our products. That makes it a particular asset to customers driven by their own sustainability goals and increasing levels of environmental regulation. For example, for carmakers seeking to meet European directives on fuel economy and emissions, our advanced high-strength steels (AHSS) can help reduce the weight of a vehicle while ensuring it remains strong and safe. In 2016, we prepared to expand our ability to produce Fortiform®, a third-generation AHSS product for cold stamping which can deliver weight savings of up to 20% and which combines high levels of formability and mechanical strength with increased energy absorption on impact in a crash. New ‘quenching and partitioning’ facilities installed in 2016 will enable our Liège mill to produce the

World first as Jet Vapor Deposition line opens

Breakthrough technology for metallic coating of steel.

[Read more ▶](#)

Fortiform® line in 2017.

Similarly, our Sagunto mill in Spain became the fourth plant in Europe to produce our aluminium-silicon coated press hardenable steel for automotive customers, Usibor® Alusi, joining Mouzon and Florange in France and Dudelange in Luxembourg. High-value products such as Fortiform® and Usibor® will play a vital role in our drive to deliver Action 2020.

We received further recognition from our European automotive customers in 2016, being named by the PSA Group as their best supplier for the second consecutive year.

ResponsibleSteel™ and sustainability assurance

Our customers are growing increasingly interested in how the products they buy are sourced and made, and requests for value chain assurance are becoming widespread in a range of industries. We are seeing evidence of the broader trend already in Europe. In 2016, our ability to demonstrate sustainability standards contributed to us winning an open tender for a valuable contract to supply 120-metre rails to **Deutsche Bahn**, while many of our biggest automotive customers were involved in founding the European Automotive Working Group on Supply Chain Sustainability.



European carmakers come together to drive sustainability



Some of the biggest names in the European automotive industry have joined forces to form the European Automotive Working Group on Supply Chain...

[Read more ▶](#)

We see this trend as an opportunity to develop a common approach for our customers and, as a result, strengthen our credentials as our customers' preferred supplier. At its heart, the ambition is to reassure our customers about our own sustainability standards and our approach is to work with partners to drive improvements across the steel and raw materials supply chain. This is why, at a global level, ArcelorMittal is helping to lead the industry's drive towards third-party certification standards through the development of **ResponsibleSteel™**, something many of our European customers are responding to positively.



Advocating good carbon policy

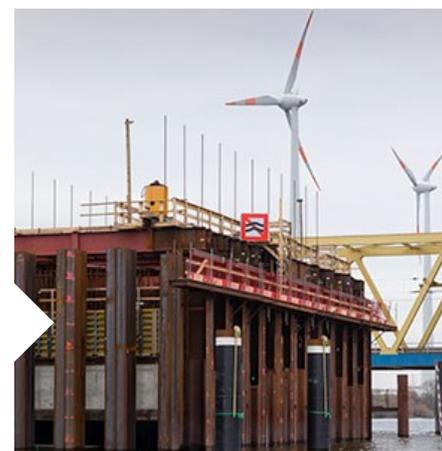
Phase 4 of the EU Emissions Trading Scheme (ETS) is a central issue for us and many of our stakeholders, and this intensified in 2016. While we support the EU's climate goals we, like many leaders and workers in our industry, argued that the proposals as they stand will make no positive difference to global CO₂ emissions. Because they will have the effect of increasing the cost of European steel compared with imports from countries where a lower carbon charge is applied – and where environmental standards are often lower – European steelmakers, and their employees, will be penalised.

Our chairman and CEO, Lakshmi N Mittal, recently spoke out on this issue, saying that the aim of the ETS should be to reduce emissions from Europe's steel consumption as well as its production. He proposed the use of border carbon adjustments to achieve this. You can read a full account of what Mr. Mittal said [here](#). It is important to note that we agree with the EU's climate goals, just not the way the ETS aims to achieve them – and that we are committed to reducing the carbon footprint of our business in Europe, as we are elsewhere.

Innovating to create a lower-carbon future

Through life cycle assessment – the study of the total impact of a product from raw material extraction, through manufacture and transport, to use and disposal or recycling – we know that our steel can contribute to lower overall carbon emissions compared to other materials in many applications. We also know that many of the products we make, such as lighter components for cars or packaging, help our customers achieve CO₂ savings.

But we also expect innovation, and innovative partnerships and collaborations, to play a key role in addressing the carbon footprint of our operations. At the COP22 talks in Marrakesh in 2016, we announced the formation of our Low-Carbon Technology Partnership Initiative with our European partners Evonik, LafargeHolcim and Solvay. The partnership will look at the potential synergies that exist between the manufacturing processes of the steel, cement and chemicals industries, and how we can harness them to produce CO₂ savings. As a first step, the partnership will study potential ways to use waste gases and other by-products to create value.



“ Innovative cross-sector partnerships such as this will help us to develop and industrialise carbon re-use technologies, ensuring that waste products created from the steelmaking process are effectively harnessed and re-used. ”

Carl de Maré

Head of technology strategy

We're also exploring the use of breakthrough technologies to capture and store carbon. One of our most promising projects is our partnership with biotech company LanzaTech, designed to convert waste carbon monoxide from steel production into ethanol on a commercial basis. In 2016, we began an €87 million pilot of this technology at our mill in Ghent, which aims to produce enough ethanol each year to run half a million cars. Ethanol produced in this way was

recognised as a renewable energy by the European Commission in 2016 – and each tonne of ethanol produced will reduce overall CO₂ emissions by 2.3 tonnes.

These developments, though exciting, are still at a relatively early stage, and we know that many challenges remain for us. Among them is the availability and price of scrap steel, which affects the balance of steel production at our sites. High scrap prices make it less viable to produce steel in electric arc furnaces, which recycle a higher proportion of scrap than blast furnaces; these make steel from iron ore, with a higher carbon input. We have supported a number of studies into scrap steel flows in order to further explore this issue.

See [Outcome 4](#) for our Resources.

Energy vigilance brings further cost and carbon efficiencies

Many of our steel plants in Europe are at a good level in terms of energy efficiency. And yet our colleagues are always looking for further improvements. A simple example in 2016 comes from Dabrowa Gornicza (Poland), where the installation of 11 variable speed drives (VSD) on different motors across the site, is expected to deliver electricity cost savings of over 250 times the investment in the first year.

Being able to control the speed of a motor and therefore the power supplied to it means that we can reduce the rotational speed of the motor to just what is needed. Since motors drive a large number of fans and pumps in a steel plant, even a small reduction in each can add up to a significant amount of energy and carbon savings. In the case of DG, the new VSDs will save an estimated 24,000 tonnes indirect CO₂ emissions from reduced electricity each year.

In total, our energy related investments in Europe Flat Products totaled €18.5 million in 2016 – generating a total of 135,000 tonnes CO₂ reduction (scope 1 and 2) on an annual basis.

Investing in cleaner air

While we continue to explore ways to address our CO₂ emissions, we're also improving our sites to reduce dust and other emissions that we know are a matter of concern for the people who live and work around us. A great example is our modernisation programme in Poland, in which environmental investments play an important part.

By the end of 2016, we had completed our modernisation of the coke plant at Zdzeszowice, which will have a significant impact on air emissions. We also approved three new capital investment projects at our Dabrowa Gornicza site, with a total investment of US\$92 million. We expect these projects to be completed by 2018, when they will ensure our operations in Poland are compliant with the European Industrial Emissions Directive.

We know that other communities have concerns about dust and air quality, and we are continuing a programme of both innovation and investment across Europe. At our Zenica site in Bosnia and Herzegovina in early 2017, for example, we installed an industrial demonstration of an important new technology developed by our global R&D team to improve air emissions from the sinter plant.

Air emissions

Harnessing innovative technology to reduce emissions.

[Read more](#) ▶

Continuing our transformation as a business

The innovative work we've done in Europe in 2016 has been made possible because of the changes we've made to the business in recent years. In 2016 this involved important progress in the utilisation of new digital platforms to optimise our service to customers and our procurement processes. In 2016 this continued with changes to our operational footprint in our Long Products business through the sale of Zaragoza, the partial closure of Zumarraga and the partial shutdown of Sestao in Spain. In addition to footprint optimisation, our Long Products business also moved to a new, product-based business model in order to facilitate stronger customer focus and service.

We also made encouraging progress through our Flat Products Transformation Plan, the backbone of our European Action 2020 initiatives. In 2016 this involved important progress in the utilisation of new digital platforms to optimise our service to customers and our procurement processes. This has focused on further removing bottlenecks from our supply chain, reorganising our finance and purchasing functions, and increasing our commercial focus so that we can be more responsive to customers.

A high-performing workforce with the skills we need

The improvement in performance we still need to make to achieve our Action 2020 objectives will be delivered by our workforce. We're working with employees to ensure that our working culture is diverse, fair, and performance driven.

In 2016, ArcelorMittal Ostrava received the "Company of the Year: Equal Opportunities award" at the Prague Diversity at Work conference for its support of female employees, and in France, we've worked with three trade unions to promote the vocational integration of workers with disabilities. Our Fos-sur-Mer site runs a training programme aimed at qualifying unemployed people with disabilities to work in metallurgical roles in partnership with Agefiph (Fund for the Integration of the Disabled).

Ensuring that our current and future workforce has the skills needed to succeed in a rapidly evolving industry, in which digitalization and robotics are playing an increasingly important part, is also crucial, and we've continued to build relationships with schools, technical colleges and universities across Europe. To cite just a few examples, ArcelorMittal Galati in Romania welcomed 100 graduates from Galati and Braila counties at its apprentice school in 2016, and in Poland, we ran a pilot skills programme for students from Zespół Szkół HTS vocational school in Kraków.



At-a-glance: key progress against our Action 2020 objectives

Cost

- Continued to optimise operating footprint with the sale of Zaragoza, partial closure of Zumarraga and partial shutdown of Sestao in Spain.

- Flat Products Transformation Plan: procurement, productivity and reliability savings on track.
- Reporting structures amended in finance, supply chain and marketing, to drive a more integrated, centrally co-ordinated approach.

Volume

- Relining of blast furnace #5 in Kraków completed in 2016 as part of total upstream and downstream investment at the plant that will extend hot rolling mill capacity by 0.9 million tonnes a year and hot dip galvanizing capacity by 0.4 million tonnes a year.

Product mix and customer service

- Expanding our Fortiform® family of third-generation AHSS products through upgrades at Ghent and Liège.
- Sagunto, Spain, became our fourth plant in Europe to produce aluminium-silicon coated steel, Usibor® Alusi.
- Working with customers on products with sustainability benefits and on supply chain assurance.



0.5-1.5%
2017 ASC growth
forecast

Opportunities for innovative products

There are clear opportunities for our business in 2017. We expect underlying demand in Europe to continue to rise, supported by the strength of the automotive market, though we expect apparent demand to grow only gradually, at 0.5% to 1.5%.

We aim to continue to increase the proportion of higher value, specialised products such as AHSS.

Stakeholder engagement trade protection remain crucial

We welcome competition, because we believe that the work we have done to achieve efficiencies through our Transformation Plan puts us in a strong position. However, unfair trade and dumping remain threats to European steelmaking despite trade action in 2016, and we will continue to call for faster and more effective measures to ensure competition is fair.

Getting the right ETS for the economy and the climate

We will continue to support Europe's climate change goals and to pursue innovative ways to reduce our carbon footprint in our business. In order to do this, we will advocate carbon-trading measures that reward European steelmakers who demonstrate and invest in carbon efficiencies, and oppose those that undermine European steel's competitiveness in the global market on the basis of differing carbon costs.

At the same time, across the business our increasing emphasis on building and communicating our 10 SD outcomes is ensuring that we can better understand and anticipate the demands of all our stakeholders.

European carmakers come together to drive sustainability

Some of the biggest names in the European automotive industry have joined forces to form the European Automotive Working Group on Supply Chain Sustainability, which aims to improve the social, ethical and environmental performance of automotive supply chains.

The new group reflects the automotive industry's leadership in supply chain sustainability, a trend that is growing among other sectors. Coordinated by CSR Europe, the group consists of several automotive manufacturers working together in recognition that people and the environment are vital resources in the automotive industry. In their words:

"As the automotive industry has complex value chains and a deep structured supplier base, the group believes in the benefits of a common approach and common messages towards suppliers, i.e. trainings and other activities. However, every party of the group shall maintain the management of their independent supply chains. In the process of collaboration, the participants strongly agreed to work together in compliance with competition law."

Find out more about our SD outcome 7: [Supply chains](#) that our customers trust.



Mining

We employ more than 28,000 people in our mining operations in Brazil, Bosnia & Herzegovina, Canada, Kazakhstan, Liberia, Mexico, Ukraine and the USA.



“ While the market remains volatile, our consistent and relentless focus on reducing costs gave us a solid platform to take advantage of the improvement in iron ore prices during 2016. We also mapped our strategy to develop the supply chain assurance standards that will drive progress in our industry and differentiate our business. ”

Simon Wandke CEO, ArcelorMittal Mining

Sales

3.1

(US\$ billion)

Ebitda

762

(US\$ million)

Iron ore production

55.2

(million tonnes)

Coal production

6.3

(million tonnes)

Lost time injury frequency rate

1.07

(incidents per million hours worked)

Ebitda contribution to Action 2020

120

(US\$ million)

Responsible Mining

Learn more about our mining operations.

[Read more](#) ▶

Our 2016 operating environment

Volatility in global commodities has become the norm, and 2016 witnessed continuing fluctuation as prices and production responded to macroeconomic trends. Iron ore prices rose during the year, supported by economic stimulus measures in China and higher than expected Chinese steel demand. Coking coal prices rose rapidly towards the end of 2016, largely due to China unilaterally limiting coal production.

Stakeholder scrutiny of environmental standards and supply chain assurance continued to grow: The Initiative for Responsible Mining Assurance (IRMA) plans to pilot its standard in 2017.



Safety performance

1.07
LTIFR in 2016

Safety is our highest priority

It is deeply concerning to report that six colleagues lost their lives in 2016, four of which were in a single accident in Kazakhstan. Our LTIFR also deteriorated to 1.07, from 0.74 in 2015.

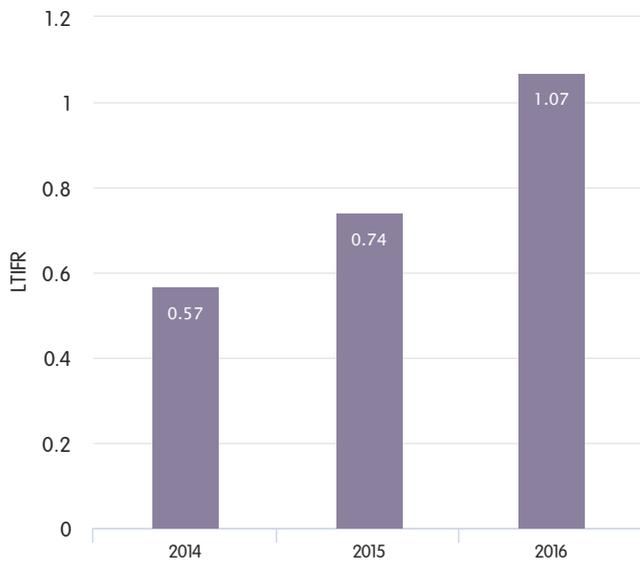
Our mining segment has materially improved its health and safety performance in recent years, and delivered continuous improvement over a six-year period up to 2014. However, we have seen a deterioration in performance over the past two years. We are targeting significant improvement in 2017; we know we have the right processes in place and the key now is to focus on improving the safety culture.

Specifically, we must continue addressing serious occurrences by raising risk awareness, delivering experiential training and markedly improving the quality of interactions for hazard identification and risk analysis, shop floor audits and pre-shift meetings.

See [Outcome 1](#) for our global approach to safety.

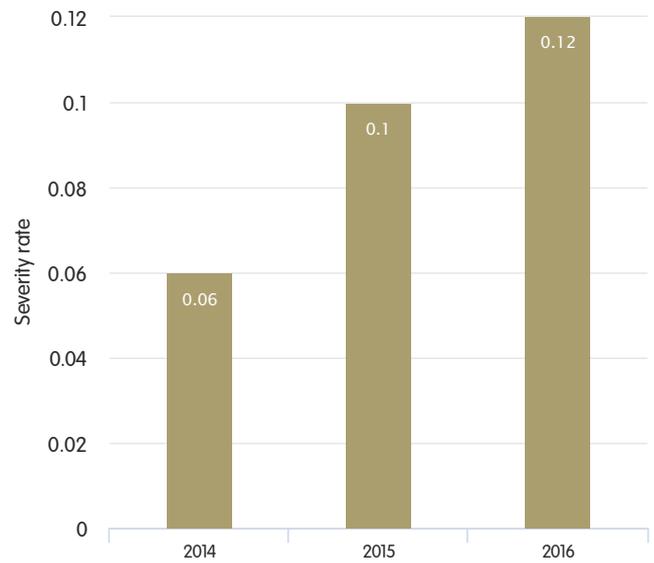
LTIFR

incidents per million hours worked



Severity rate

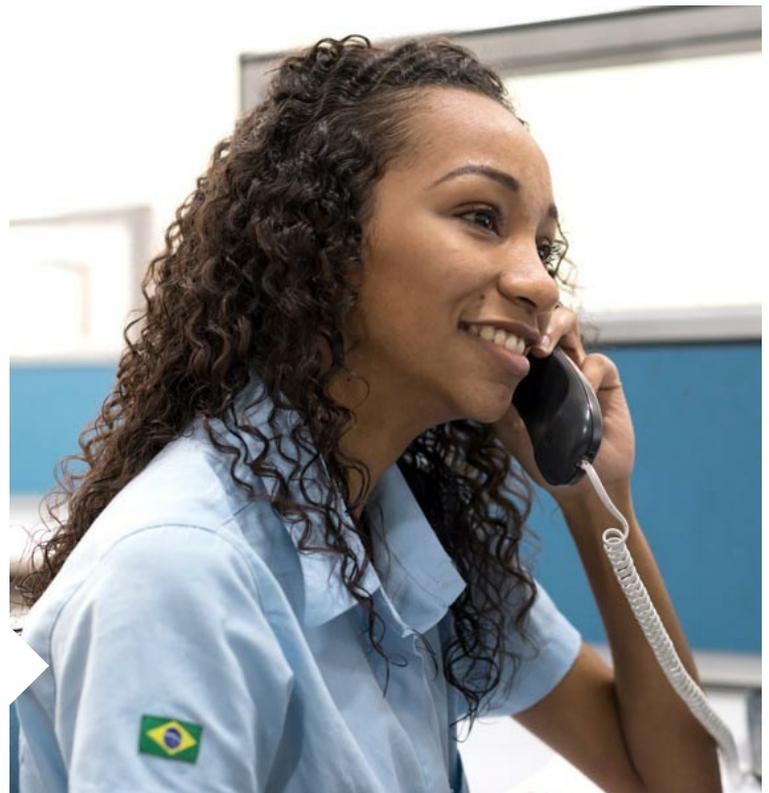
number of days lost to injury per thousand hours worked



Andrade mine in Brazil celebrates 24 years without a lost-time injury

Committed employees who share high awareness of risks and deeply care for themselves and their colleagues are key to safe mining. Our iron ore mine in Andrade, Brazil, attributes its proud record on safety – there has been no fatality at the mine for 67 years – to good leadership, teamwork, and a willingness to keep refreshing and renewing a commitment to safe behaviour. It celebrated an outstanding 24 years without lost-time injury on 11 September.

We know we have the right processes in place and the key now is to focus on improving the safety culture in all our assets.





Princeton wins IMCC H&S award

Our mine in Princeton won the IMMC's **inaugural award** for its SMART initiative (Safe Miners Acting Responsibly Together), an interactive, comprehensive training programme that underpins all safety programmes at the mine. SMART has played a big part in Princeton's achievement of more than six years without a lost-time injury, logging more than 1.3 million working hours during this time.

Delivering Action 2020

Action 2020 is ArcelorMittal's five-year strategic roadmap. It outlines how each business segment will deliver real structural improvements that are unique to our business, focusing on cost, volume, and a combination of product mix and customer service.



“ As iron ore prices moved towards more sustainable levels in 2016, albeit from a low base, the work we have implemented through Action 2020 to make structural cost improvements and improve our reliability, enabled us to make a significant contribution to ArcelorMittal as a whole. That's not just in terms of profitability – as an internal supplier of raw materials, our work on supply chain assurance is strengthening the offer of our steel business to customers who are increasingly interested in where their products come from. ”

Simon Wandke CEO, ArcelorMittal Mining

Our performance

Underpinning our bid to make our business more competitive through Action 2020 is a focus on improving our underlying performance regardless of market conditions. Following on from the 20% reduction in iron ore unit cash costs achieved in 2015, in 2016 we achieved a further reduction of 10% through a series of structural improvements. This, along with a 4.8% increase in average iron ore prices, contributed to a 65% increase in Ebitda to US\$762 million.

Our own iron ore production decreased by 12.1 to 55.2 million tonnes, as a result of lower production in Liberia (as we work towards transitioning to a nearby, higher grade deposit), Mexico (where we suspended production at a mine in late 2015 for commercial reasons) and Ukraine (reflecting a revised mine plan following a delay in accessing new tailing disposal land). Higher production at our Princeton mine in particular contributed to an increase in own coking coal production of 1.8% to 6.3 million tonnes.

Sales were down 8.1% to US\$3.1 billion. A decline in the first half of 2016 was partially offset by an increase of 2.4% in the second half. Sales to our external customers were down 5.2% at US\$781 million, mainly due to lower shipments from Mexico.

[Read the full review of Mining's operation results.](#)

Developing trusted sustainability standards

To ensure that our mining business is truly creating value, we need to look at what is happening now – including our focus on structural improvements and costs – while also looking ahead at the needs of our business and our stakeholders, including customers.

In 2016, we launched our Mining Sustainable Development (SD) policy, which sets out the principles that define our approach to mining. It is designed to help us build on our focus on land and local relationships, and to reinforce our commitment to being a long-term presence in the areas we work – and one that leaves a sustainable legacy.

With the policy in place and aligned with our SD outcomes, we are now identifying how and where we can improve our performance, led by 'outcome champions' within senior management.

The launch of our policy comes at a time when we are also playing a leading role in the wider movement towards establishing social and environmental standards for mining that stakeholders, including customers, recognise and value. In our role on the steering board of IRMA (Initiative for Responsible Mining Assurance), we have helped in the work of preparing best practice standards that will create an independently verified responsible mining assurance system that improves social and environmental performance. In 2016, IRMA was field-testing its standards; pilots are set to begin in 2017. We expect this to be a major development for our industry, and it is one we want to lead.

Seizing the supply chain opportunity

How we're supporting supply chain assurance through IRMA and ResponsibleSteel™.

[Read more ▶](#)

Managing risks in our tailings dams

Mining businesses have always understood the importance of managing tailings dams, but the tragic failure of the Samarco Fundão dam in November 2015 and its resulting human and environmental cost has brought the issue into sharp focus.

Our tailings storage facilities (TSF) Surveillance Guidance was implemented across our business in mid-2015, and is supported by a programme of comprehensive third-party dam safety reviews. Any new tailings facilities we build are also subject to third-party reviews.

We're also exploring new approaches to reduce the risk and impact of tailings. Drones and digital data collection both offer ways to monitor tailings and give us more real-time information. At our mine in Serra Azul in Brazil, we've introduced dry stacking technology, a process that removes most of the water from tailings so that they can be stored in a more structurally stable form. In 2016, our dry stacking pilot scheme was recognised by the Federation of Minas Gerais Industries FIEMG in Brazil.

New water assessment tool driving improvement

Mining is water intensive, and knowing how and where water is used in our operations is a key step to managing our water use in ways that reduce impacts on the environment and our neighbours. In 2016, we launched our new Water Assessment for Improvement tool, developed by our R&D teams. The tool maps water flows to produce 'process flow sheets' which record flow and quality data for each stream. This information helps us understand what we need to do to improve, and to follow up on our progress when improvements are made.



Investing in water management in Canada

Ensuring that waste water is diverted away from vulnerable ecosystems is vital to our water management. In 2016, we invested in new intercepting ditches to divert run-off from waste storage at our mines in Mont Wright and Fire Lake. By directing the water to treatment facilities, the ditches prevent pollutants from reaching streams and lakes, in particular Webb Lake.



Pilot pellet project designed to cut emissions

Increasing our use of alternative fuels is a valuable way to reduce our emissions of greenhouse and other gases. In May 2016, we were awarded a CAN\$4.5 million grant from the Québec government to help enable our pellet plant in Port Cartier to use a greater proportion of alternative fuels by replacing six oil-fuel burners with natural gas burners. The pilot project aims to reduce greenhouse gas emissions by more than 30% compared with oil-based fuel, while also significantly reducing emissions of sulphur and other pollutants.

Liberia's biodiversity

Liberia Biodiversity Conservation Programme reports on progress.

[Read more ▶](#)

Recognising stakeholder concerns in Liberia

In a volatile commodities market in which prices for iron ore in particular have fluctuated considerably, meeting stakeholder expectations can be challenging.

Our Liberia operations have a strong overall record: we have worked hard to make sure we develop a sustainable and resilient rural landscape through our biodiversity conservation programme, and are proud of our role in building the management plan for the East Nimba Nature Reserve, a biodiversity hotspot near our operations.

We have taken a number of steps to improve our dialogue with stakeholders in Liberia. A new collective bargaining agreement with unions at our mine was under discussion in 2016, and finalised in February 2017.



Outlook for 2017

Our mining business has a robust pipeline of Action 2020 projects which are continually assessed and progressed toward potential investment and implementation. The focus is on projects which improve the competitive positioning of our business, and specifically projects which return their investment cost in a short timeframe.



How does steel contribute to the circular economy, and what is ArcelorMittal doing to address its carbon challenge?

Alan Knight
General manager, corporate responsibility

Embedding and building on our 10 outcomes

With growing expectations from our customers in 2016, we continue to develop some important initiatives aimed at positioning our business at the forefront of sustainability within our sector. Our Sustainability Innovation tool, our Lanzatech project and ResponsibleSteel™ are all aimed at creating long-term value for stakeholders.

This work is underpinned by our progress on embedding the 10 outcomes, which entered their second year in 2016. The most important success has been the cross-business discussion they have inspired. Each outcome has a corporate-level sponsor who hosts detailed conversations with experts from across the company on the risks and opportunities each outcome creates. Virtually all our major countries of operation now publicly report on corporate responsibility and sustainable development under the 10 outcomes.

Our dashboard assessment process for a number of outcomes was targeted at country or site level, and has enabled us to draw up a series of strategic objectives to ensure that we optimise our progress towards each outcome. Our plan for 2017 is to prepare three of our sites for assessments under our related work stream – ResponsibleSteel™.



Sustainability: the driver of our innovation

Our new sustainability innovation tool aims to ensure all new research projects are designed with sustainable development in mind. We're serious about championing steel's role in creating the high quality, sustainable lifestyles we want the world to be living in the future. Central to this is innovation – and we are putting our best brains behind developing the processes and solutions that will make this possible.

In December 2016, we announced our Sustainability Innovation (SI) tool, which will ensure that all research projects are designed using the lens of sustainable development – any project that doesn't meet these criteria will not go forward.

Design principles aligned with the 10 outcomes

We have always considered sustainability – particularly environmental – criteria as part of our innovation thinking, but what's changing is that sustainability criteria will formally become part of the core design principles of a research project, rather than being something we assess towards the end. Greenhouse gas emissions remain a core focus, but the criteria go further to include all the social and environmental trends identified in our 10 outcomes.

The first phase of implementation includes testing the SI tool on six programmes across three areas – process, automotive, and construction solutions.

Highlights of our new SI tool

- Assessments cover all key social and environmental trends identified in the 10 outcomes
- Researchers identify the sustainability benefits/costs compared with current technology
- Results are based on ratings given for questions aligned with the 10 outcomes and, for emissions, kg of CO₂ equivalent
- Researchers can see sustainability impacts they may not be aware of, and the potential to improve them as their projects develop
- Our methodology and assumptions will be peer reviewed

Steel, ethanol and the low-carbon economy

ArcelorMittal's progress in carbon capture and utilisation technologies could give steelmakers a new role in supporting a lower-carbon future. However great our efforts to improve our energy efficiency and reduce our emissions, we cannot escape the reality of chemistry.

We need carbon to make the steel that will help build a world in which people can live quality lives. Reducing the impact of the carbon we use is one of the greatest challenges facing our industry.

Finding ways to extract value from CO₂



“As the grandfather to three grandchildren, it is critical to me to think about their lifestyle, and their children's lifestyle. We are preparing solutions, not only for today and tomorrow, but for years to come.”

Greg Ludkovsky

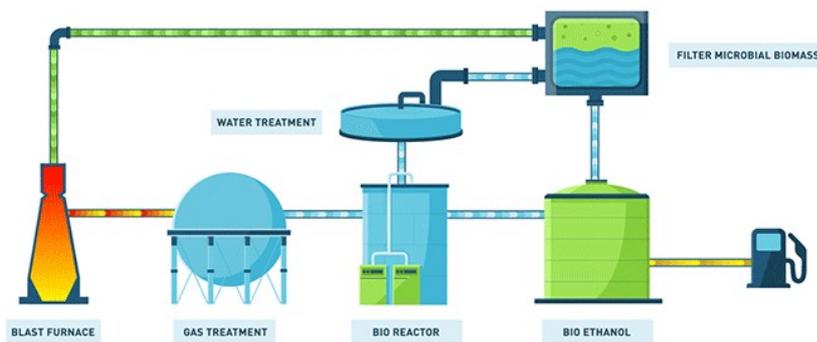


The search goes on for effective new carbon capture and storage (CCS) technologies that can lock away carbon from CO₂ so that it never enters the atmosphere. Like scientists, governments and businesses all over the world, we urgently want this search to succeed. But alongside that search, there is also an urgent need to develop carbon capture and utilisation (CCU) technologies. Unlike CCS, which treats CO₂ as waste, CCU converts it into commercially viable products such as bio-oils, chemicals, plastics and fuels. These can be used in place of products made from fossil fuels, with the net effect of reducing greenhouse gas emissions. In effect, by getting more value from the carbon we use, CCU could help the economy as a whole use less carbon – and so reduce the emissions that cause global warming.

Industrial demonstration of fuel for the future

How does this affect ArcelorMittal? We've been exploring the possibilities of CCU for several years, because we believe it could help steel play even more of a role in a circular economy than it does today. And while it is still at a relatively early stage, the progress we've made so far is encouraging. In 2016, we overcame some regulatory hurdles to ensure the commercial viability of the world's first industrial-scale demonstration of a new CCU technology. This was a project we first announced in 2015, but we have now improved the project design, substantially increasing the scale of the project.

As part of a long-term partnership agreement with innovation firm LanzaTech, we will begin to construct a full-scale production facility to create ethanol from carbon-intensive waste gases produced during steelmaking at our Ghent plant in Belgium. The technology is remarkable: using waste carbon monoxide as feedstock, microbes discovered by LanzaTech excrete high-grade ethanol which can be blended for use as a liquid fuel.



This demonstration project will be larger than we originally anticipated, and is now designed to produce some 63,000 tonnes of ethanol per year. With production due to commence in 2019, this project will support the European Union's target to derive 10% of transport fuel from renewable sources by 2020. When blended 10% with conventional fuel, our annual biofuel production will fuel the equivalent of one million cars.

We are already ordering some of the first components needed to embark on the project, and expect to announce further details later in 2017.

Renewable energy for 21st century lifestyles

Biofuel has an important role to play in many people's vision of a lower-carbon economy. It is a very efficient way to substitute fossil fuels while retaining the technologies that sustain 21st century lifestyles - especially air and land transport. Unlike the first-generation biofuels currently on the market, typically made from crops, the process we have developed with LanzaTech produces none of the pressures on agricultural land which have led in some places to deforestation or to competition with food-growing.

The key input is the carbon monoxide waste gas from our blast furnace, which is produced as a by-product from steelmaking, and otherwise would have been burnt to release CO₂. Although conversion to ethanol requires some processing, the resulting product will still displace 80% of the CO₂ that would be emitted from the fossil fuel it replaces.

In November 2016, the European Commission took an important step and officially indicated that, under the Renewable Energy Directive 2, liquid ethanol produced from industrial carbon waste would be recognized as 'advanced' biofuel - a form of renewable energy - since its use displaces carbon emissions from fossil fuels. If the project is a technical success, this regulatory recognition will forge the way for us to expand this technology on a commercial basis.

Our partnership with LanzaTech is not the only CCU project we are pursuing - we are also exploring other techniques for producing chemicals and raw materials, some of which are described in [outcome 6](#). We have to be realistic - the LanzaTech project is still at a pilot stage - but nonetheless, we are optimistic about its future.

“Renewables can and should be used for power generation, but for liquid fuels and chemicals we still need a source of carbon. Today we have a choice as to where that carbon comes from: fresh fossil or reused carbon emissions. Through our partnership, ArcelorMittal continues to demonstrate their leadership in making the transition to a lower carbon economy.”

Jennifer Holmgren

CEO of LanzaTech

Seizing the value chain opportunity through certification

Our customers' growing interest in the assurance of their supply chain for steel and raw materials, is driving us to progress certification through ResponsibleSteel™ and IRMA. Our customers want to know that the steel they buy – and the raw materials it's made from – will stand up to scrutiny with regards to all suppliers in that value chain observing the law, human rights and social and environmental standards.

It's an important responsibility, and one which is core to our business and sustainable development strategies. As well as being the right thing to do, it helps make our value chain more resilient and reduces our exposure to risk, including to our reputation.

But can it be more than a responsibility? Are people outside our business really interested in our sustainability standards and how we manage our supply chain? Could a responsible value chain be a business advantage?

The answer to all these questions is 'yes' – and it is growing louder all the time.

Customers seeking value chain assurance

Supply chain scrutiny is increasing. Consumers want to know the story behind the goods they buy, which means the people who make them – our customers – want to know those stories too. Many customers have their own sustainability agenda, and most are becoming subject to increased regulatory and reporting requirements. That means interest is growing across all sectors – as we describe in [outcome 7](#) of this report.

A clear way to meet this growing demand is by having a set of independent assurance standards against which products are measured and certified. Certification schemes exist across a range of industries, among the most best-known being the Forest Stewardship Council (FSC). But they don't exist for mining or steel – yet. That is about to change.

IRMA and ResponsibleSteel™

In 2016, certification standards came a step closer in both mining and steel, thanks to the industry working together on many fronts. IRMA (Initiative for Responsible Mining Assurance) is working towards a pilot of its standard for Responsible Mining in 2017. Building on existing standards, such as those developed by the International Organization for Standardization, the ResponsibleSteel™ standard aims to take into account all the material issues for our industry, including environmental, human rights and community considerations as well as principles of transparency and management.

We've played a key role in these developments, having a seat on the boards of both organisations. We'll be field-testing ResponsibleSteel™ at three of our plants in 2017. We've played this role because we see certification standards as good for our customers, good for our business, and good for the people in our supply chain and their environment. They are an effective way of supporting progress towards Sustainable Development Goals, such as goal 6 to ensure the availability of clean water, goal 8 to secure decent work for all and goal 12 to develop responsible patterns of production and consumption. More broadly,



“ We welcome the initiative from the steel sector to create a credible and reliable certification system. ”

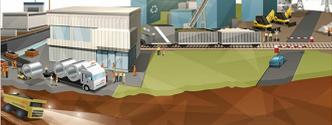
Dr Alexander Nick

Head of Sustainability Strategy and Management, BMW Group

standards are also good for the steel industry as a whole, as its products compete against other materials.

Steelmaking and raw materials supply chains are complex, so we don't expect instant results or a path that is always smooth. But we do think the path has been identified – and we want to lead the way.

10 outcomes

<p>Safe, healthy, quality working lives for our people</p> 	<p>Products that accelerate more sustainable lifestyles</p> 	<p>Products that create sustainable infrastructure</p> 	<p>Efficient use of resources and high recycling rates</p> 
<p>Trusted user of air, land and water</p> 	<p>Responsible energy user that helps create a lower-carbon future</p> 	<p>Supply chains that our customers trust</p> 	<p>Active and welcomed member of the community</p> 
<p>A pipeline of talented scientists and engineers for tomorrow</p> 	<p>Our contribution to society measured, shared and valued</p> 		

1: Safe, healthy, quality working lives for our people

The outcome we need is for our workforce to be safe and healthy, committed to our success, and to operate with integrity. We want a workplace where diversity is valued and every individual is respected and their potential developed.



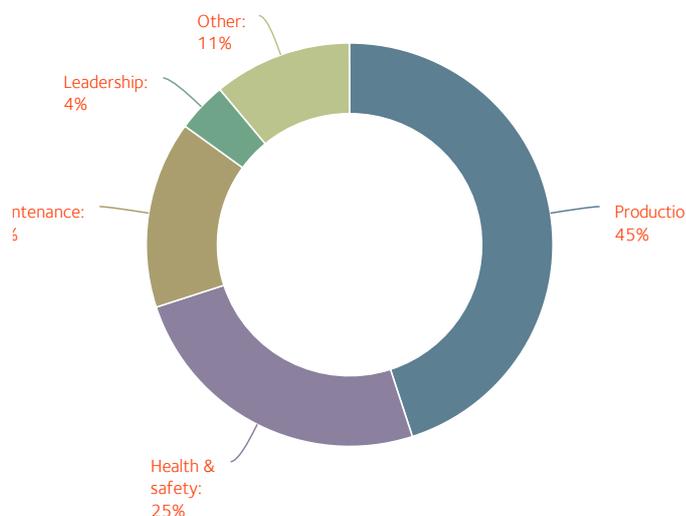
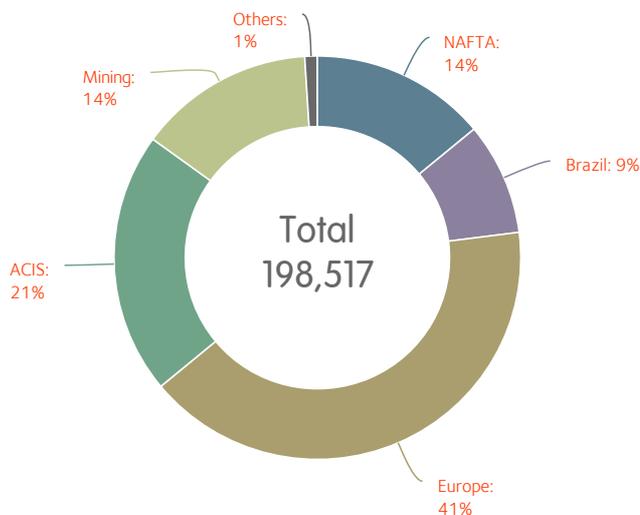
“ All the achievements we’ve made are through our people, so when we talk about having safe, healthy, quality working lives for our people, we’re talking about the company’s main asset. ”

Ricardo Garcia Sponsor of this outcome and vice-president, human resources and IT, South and Central Americas.

[Hear more from Ricardo on creating safe, healthy, quality lives for our people here](#) ▶

Employees by segment

Training by type 2016



Safety

Safety is our top priority, as reflected in our remuneration policy, which links part of the bonuses of both our executives and our managers to our lost-time injury frequency rate in the part of the business where he or she works. Each year, we focus the attention of the entire group for our annual health and safety day, which in 2016 saw over 200,000 employees and contractors worldwide actively involved in workshops and activities. Health and safety is, inevitably, a key area of focus in our training programmes, and in our engagement with trades unions through our Joint Health and Safety Committees at both the corporate level and at every production unit.

2016 was another difficult year, with 17 fatalities at our sites – ten fewer than in 2015. Every death should be preventable and we deeply regret the loss of our 17 colleagues. Whilst the number of days lost to accidents (or severity rate) has reached a plateau at 0.08, the rate of lost-time injury frequency (LTIFR) was 0.82, slightly up from 0.81 in 2015. Nonetheless, twelve sites reduced their LTIFR by more than 50% over the year. We have seen a substantial reduction in injuries over time – in 2007 our LTIFR was 3.1 – but we know we still have a long way to go to achieve our long-term target of zero accidents.

LTIFR

0.82

(steel and mining)

2016	0.82
2015	0.81
2014	0.86

Severity rate

0.08

(steel and mining)

2016	0.08
2015	0.08
2014	0.08

We can and must do better. Our leadership is taking a fresh look at safety data to get a detailed understanding of the root causes of accidents and near misses, and we will use this analysis to improve. We have identified three goals to tackle safety more effectively:

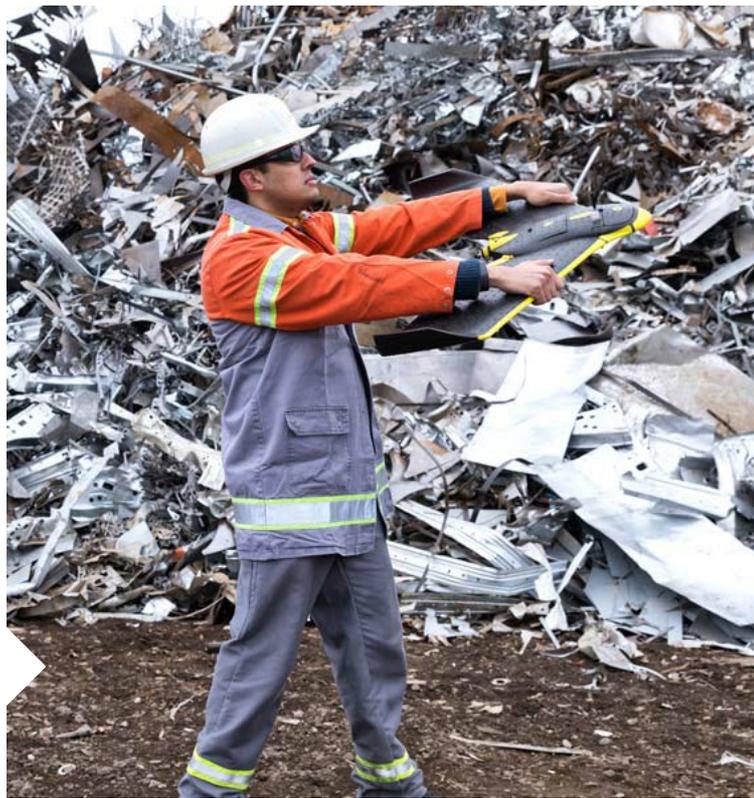
1. To help employees detect, analyze, report and share learning about serious incidents.
2. To improve the quality of key tools, such as hazard identification and risk analysis, shop floor audits, or pre-shift meetings.
3. To continue to develop a caring culture through effective communication and regular hands-on training.

Alongside this, we'll continue to provide specific support to sites with poor safety performance to ensure that sites are implementing group-level safety strategy effectively. And, through our European Works Council's dedicated health and safety working group, we are developing a series of actions to ensure the safety of subcontractors.

Drones reduce safety risk

At a number of sites we've started using drones to remove a particular type of risk to health and safety in certain maintenance tasks. Working at height is a particular risk on large industrial sites, and ideal for contracting out to drones to avoid the danger of people falling. These mechanical devices can inspect roofs and other areas that are difficult to access safely and efficiently – and we're already using them for inspections at Vanderbijlpark (South Africa), Ghent (Belgium), Fos (France), and various sites in South America.

At Vanderbijlpark, we're also using drones to inspect anti-intrusion fences and walls, improving our security. Drones can inspect the entire perimeter in a matter of minutes, compared with a team of two taking several hours to patrol by car.



A flagship new safety training programme for Europe

Intensive interactive classroom and shop floor learning are key to a new initiative, Take Care!, rolled out in four more countries in Europe in 2016.

[Read more](#)



Belval, Luxembourg wins excellence award for safety 'maturity culture'

An ambitious programme of safety culture change at our Belval plant was recognised by Worldsteel's Safety and Health Excellence Recognition Programme in October 2016.

[Read more](#)

Safe behaviour in Brazil

In 2016, our flat carbon sites in ArcelorMittal Brasil saw injuries fall to an all-time low following a new initiative, Project Safe Behaviour.

[Read more](#)





Our Andrade mine in Brazil

Celebrated an outstanding 24 years without lost-time injury on 11 September.

[Read more](#)

Instilling safety in the next generation

Our safety philosophy goes beyond work. A person who acts safely at work will often act the same way at home, and vice versa.

[Read more](#)



Absenteeism rate

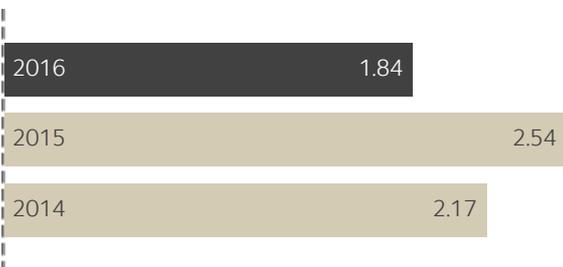
1.84%

(steel)

Manager turnover rate

2.4%

manager turnover rate



Employees' welfare

We track and report on employee grievances in our Governance report.

[Read more](#) ▶

Building a safe, healthy, high performance culture

Like most companies, finding and keeping the right people is high on our agenda. As well as providing a safe workplace, we must also develop the kind of culture that will keep people motivated, committed and performing at their best – the kind of culture that is envisaged by our 10 sustainable development outcomes. We know what our employees want because they tell us: a focus on health and wellbeing, a good work/life balance and personal feedback on their performance. In short, they want to be treated as individuals, and a high-performance culture does just that: it rewards performance, but also supports those who are struggling to realise their potential.

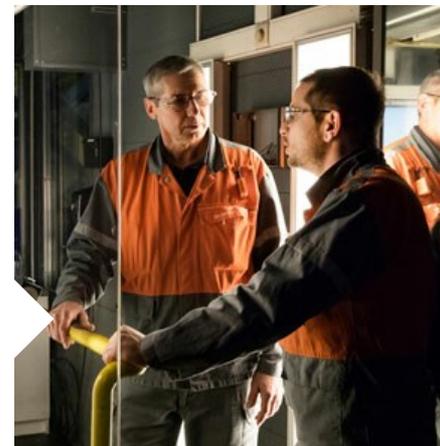
More than that, today's employees, particularly the younger generation, want to work for a company they believe in and trust, which is why our support for **ResponsibleSteel™**, a draft

certification standard which promotes employees' welfare amongst other key responsibilities, is significant.

Working together to manage disruption

Working closely with our unions and other employees when times are challenging brings the best results for the company and for our people. Anticipating and managing change means ensuring a continuous exchange of views and fully transparent discussions with our unions. Each European Works Council meeting in 2016, for example, was an opportunity to review our activities in Europe and highlight our key challenges, and through working groups and training sessions, further discussions focused on health and safety, employment, environment and social responsibility.

2016 was a challenging year. Due to difficult economic conditions, we had to close two sites in our Brazil segment, Point Lisas in Trinidad & Tobago and Matanzas in Venezuela. Spain also faced challenges. Our Sestao site was temporarily idled at the start of the year and later reopened on a reduced basis, while Zumarraga was also partially closed. In such circumstances, we work closely with our unions and other employee representatives to avoid redundancies where possible, either by not replacing people who retire, or by retraining people for other jobs. We managed these challenging situations with consideration for those affected, enabling people to understand that the decisions made were for the long-term benefit of the company and its workforce. These changes were concluded without any major strikes.



A diverse workforce in Europe

Supporting employees with disabilities is the focus of a number of diversity initiatives in Europe.

[Read more](#) ▶

Valuing diversity, respecting every individual

We work across 60 countries and our employees come from many more. We value diversity as a way of bringing fresh perspectives and experiences to the business, and for the contribution it makes to our ambition to be an employer of choice. Our policies cover every aspect of diversity and inclusion, and within ArcelorMittal there is a real focus on promotion by merit, reflected in the diversity of our leadership in terms of background and nationality.

Promoting gender diversity is a focus for us, since we want the best talent to build our future business. We have a number of programmes to encourage women to build their careers with us, including personal development and mentoring, and leadership training designed specifically for women at the ArcelorMittal University. In 2016, we contacted all the women who had taken part in these courses to date, and two-thirds of participants said that their training had enhanced their career. We've taken on board their feedback and in 2017, we plan to launch a new combined programme for women, Women@ArcelorMittal, and roll it out in multiple languages and regions. Looking to the longer term, we are encouraging young women to consider careers in engineering through STEM programmes designed specifically for girls, described in [outcome 9](#).

Developing the workforce of the future

With rapid advances in technology, steelmaking is becoming a different kind of business. Automation of maintenance and other processes is making it safer and less labour-intensive in terms of manual and administrative work, but the demand for engineering and analytical skills is growing. The workforce we have in just five years' time is going to look very different from that of today, which is why our work on STEM, described in [outcome 9](#), is so important.

Le Prix des Innovateurs

An award that rewarded new ideas focused on big data and energy storage in its inaugural year.

[Read more](#) ▶

300

top individuals in the company underwent a '360° review'

Developing our employees

Strategic workforce planning is now a key element of our business unit quarterly reviews, because only by thinking ahead will we have the right teams with the right skills in place when we need them. This is putting greater responsibility on our leadership, who must be able to motivate our people, keep them engaged in their jobs, map the future needs of the business, and identify potential successors for key positions. To sharpen their leadership awareness, all the top 300 individuals in the company underwent a '360° review'. We plan to develop robust leadership programme to address gaps identified through the results of this feedback process. Together with our annual career committees, which oversee the progress of key talent in the business, this ensures we will have the people coming up through the business capable of being our leaders of tomorrow.

85% of our open leadership positions were filled by internal people. 69% of these positions were filled by individuals identified in our succession plans and the rest by those nominated when we restructured parts of the business. Both dynamics together created a positive impact on the turnover rate amongst our leadership: 2.4% manager turnover rate out of a population of 1,600, compared with 2.6% in 2015.

Personal and professional development

We invest considerable resources ensuring people in our workforce are offered the best opportunities to develop their capabilities and their careers. In 2016, we invested a total of US\$74 million in over 10 million hours of training and development. In addition, 97% of exempt employees¹ had the opportunity to chart their personal and professional progress through a performance review process with their line manager twice during the year, up from 96% in 2015.

The ArcelorMittal University offers a range of classroom and online learning and goes from strength to strength, with seven campuses in Luxembourg, Temirtau (Kazakhstan), Hamilton (Canada), Avilès (Spain), Ostrava (Czech Republic), Vanderbijlpark (South Africa) and Kryvyi Rih (Ukraine). Preparations are underway to open two new campus locations in Brazil in 2017.

¹ Exempt employees are those in administrative or managerial positions that are exempt from overtime pay.

What's next in 2017

1. We will strengthen our tracking and analysis of serious occurrences – situations with potential for serious injury or fatality, with a goal of detecting and treating at least 900 such situations in 2017.
2. We plan to establish a new Women@ArcelorMittal training programme at the ArcelorMittal University.
3. We plan to conduct a new Speak Up! survey to benchmark employee sentiment and feed the results into new action plans to actively recruit and retain our talent pipeline.

Performance summary

Metric	Unit	2016	2015	2014
Lost-time injury frequency rate (steel and mining)	Per million hours worked	0.82	0.81	0.85
Fatalities	Number	17	27	23
Accident severity rate (steel and mining)	Days lost per thousand hours worked	0.08	0.08	0.08
Operations certified OHSAS 18001	%	98	97	97
Absenteeism rate	%	1.84	2.48	2.17
Manager turnover rate	%	2.4	2.6	3.1
Training provided per employee	Average hours	51	58	50

2: Products that accelerate more sustainable lifestyles

The outcome we need is for commercial designers and manufacturers, and the consumers they serve, to choose steel for products that need strength and durability – because they understand the contribution steel can make to better products and more sustainable lifestyles.



“The future lifestyle of over 9 billion people depends on limited resources, therefore the impact of our products on sustainability is critical. In automotive, we’re offering phenomenal weight reduction potential with our unique steel solutions. That directly translates into fuel economy, reducing the amount of CO₂ that is generated.”

Greg Ludkovsky Sponsor for this outcome and vice-president, global R&D

[Hear more from Greg about driving sustainable innovation at ArcelorMittal](#) ▶

Outcome 2

Read more about this outcome on our website.

[Read more](#) ▶

Endlessly recyclable, steel can be used in a wide range of products that consumers rely on every day, from cars to food tins and from washing machines to cutlery.

Our challenge – one we share with the manufacturers and designers who work with our steel – is to ensure that the products we create and develop are making a positive, sustainable contribution to consumers' lifestyles. Our success in this will support us in meeting two of the core aims of our **Action 2020** business strategy: to increase the volumes that we sell and to further improve our product mix. In 2016, we made significant strides towards achieving just that.

Innovation with sustainability at its heart

We want our innovation to explore steel's possibilities with sustainable development in mind. Our new Sustainable Innovation (SI) programme, developed in 2016, will train our researchers to analyse new products in our pipeline for their contribution to sustainable development using our new SI tool. The goal is to create a pipeline of products with proven sustainability benefits.

It's an approach that will help us both to improve what we do now, and to anticipate, develop, and respond to disruptive technologies as they emerge. And it is one that we believe will bring us closer to our customers, who increasingly seek benefits such as energy efficiency, resource efficiency, materials re-use and recyclability.



Sustainability: the driver of our innovation

“ Our new Sustainability Innovation tool aims to ensure all new research projects are designed with sustainable development in mind. ”

Greg Ludkovsky Vice-president, global R&D

[Read more](#) ▶

Putting our expertise to work for customers

The sustainability of a product is of course best measured over its whole lifespan. We've been building our in-house expertise in lifecycle assessment (LCA) since 2005, and that knowledge plays a vital role in our innovation process.

To date we've carried out 67 LCA studies across a wide range of industries, and we put this expertise to work for our customers in a number of ways. Using methodology that is integral to ISO14040-44, our LCA studies help manufacturers understand the sustainability opportunities steel offers their business, which they can then communicate to consumers. LCA can also help them achieve sustainability targets they set themselves, or that are set for them by regulators. And we can share the latest developments in LCA with manufacturers, because our work on LCA brings us together with some of the best thinkers in this field through 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.

Pushing the boundaries in automotive

Making stronger steels is one of the key ways we're helping customers achieve sustainability benefits in the automotive industry, since less steel is needed for the same job, enabling the vehicle to be lighter weight and so use less fuel.

We've pushed the boundaries with three successively stronger generations of Advanced High Strength Steels (AHSS). These steel solutions enable carmakers to build lighter, lower emitting vehicles without compromising performance and safety. Since the 1980s our AHSS solutions have reduced the weight of the basic structure of a vehicle by 25%, while new third-generation steels such as Fortiform® will enable our customers to go even further, saving up to 20% of the weight of components such as bumpers. In 2016 we launched press-hardenable high-strength steels Ductibor® 1000 and Usibor® 2000 and new durable, corrosion-resistant steels MartINsite® M1700 and M2000, which make strong bumpers and door beams.

New S-in motion® solutions for mid-size sedan and SUVs

In 2016, we launched the latest addition to our S-in motion® range, S-in motion® for mid-size sedan and SUV solutions. These solutions help carmakers achieve a 20% to 22% weight reduction in the body structure of the vehicle compared to typical 2015 model SUVs and sedans, thanks to new processes as well as advanced steels. The impact of these innovative solutions could be significant. For example, if all the SUVs and mid-size sedans sold in North America in one year were to adopt our S-in-motion® solutions, they could save some 2.6 million tonnes CO₂ⁱ over their lifetime on the road. These latest S-in motion® solutions won the annual 'Best Innovation – Product' award from American Metal Market, a leading publication for the metals industry, in [June 2016](#).

ⁱ Calculation based on 475,000 mid -sedans sold each year in North America, each benefiting from an 84kg weight saving over a lifetime mileage of 200,000 km, leading to a potential total lifetime fleet savings of 746,247 tonnes CO₂eq. For SUV, with estimated sales in North America of one million, leading to a total lifetime fleet savings of 1,899,162 tonnes CO₂eq.

Innovative steels for US

at our AM/NS Calvert plant in the US



Light-weighting in Europe

in step with customer demand



Winner of Can of the Year sustainability award (bronze), Canmaker Summit 2016

Creating sustainable, recyclable packaging

An endlessly recyclable material has obvious value for packaging – and steel's resilience and strength are widely sought after, including by foodmakers looking to preserve their produce without the need for refrigeration.

We've worked with the packaging industry for many years, and see it as an area in which we can continue to innovate – by light-weighting, for example, which reduces the resources used to make and transport packaging and deliver the packaged goods themselves.

What's next in 2017

1. We will pilot our Sustainability Innovation tool for two new automotive R&D projects.
2. We will start developing our S-in motion® concept on smaller 'B segment' cars.

Performance at a glance

Metric	Unit	2016	2015
Products launched that contribute to outcome 2	Number	37	17
Research programmes in development that contribute to outcome 2	Number	19	16
New LCA studies completed	Number	6	1

3: Products that create sustainable infrastructure

The outcome we need is for steel to be the first-choice material for construction and infrastructure projects, because the people who commission, design and build them know and appreciate steel's true value.



“As a corporate citizen, we have a duty to preserve the planet for future generations. Steel in Modern Construction promotes our energy efficient, ecologically consistent product portfolio in construction, while serving the ecological needs of the planet.”

Greg Ludkovsky Sponsor for this outcome and vice-president, global R&D, describes how steel can help improve the sustainability credentials of the infrastructure we all rely on to improve lives.

[Hear more from Greg about driving sustainable innovation at ArcelorMittal ▶](#)

Outcome 3

Read more about this outcome on our website.

[Read more ▶](#)

There's a reason we call steel 'the fabric of life'. Steel has the potential to transform how and where we live, especially as populations grow and the resources they need to flourish grow scarcer.

But what will our future cities look like? How will we source and access our energy, water, information? How will we travel, and how will we protect ourselves from the changing climate?

We believe that steel – strong, flexible, durable, endlessly recyclable – should be part of the answers to these questions. In 2016, we worked closely with the architects and engineers, planners and industrialists who will build the infrastructure of the future, finding new ways to make and use our products so that they improve the sustainability credentials of the projects they design and build.

Buildings for a sustainable future

Steel is, of course, already supporting much of the world's infrastructure needs, whether in bridges, buildings, railways or wind turbines. Given the long lifespan of such infrastructure, it's important to make the right decisions. We're using lifecycle assessment (LCA) techniques to determine environmental impact of new steel solutions.

Products and processes that improve durability, reduce weight or cut pollution can all help designers and engineers find more sustainable solutions to the challenges of construction. A simple example: in 2016, we developed new, patented technology for mega columns in tall and ultra-tall buildings. By making the construction process faster and simpler, these mega columns reduce the disruption, pollution and risk of erecting tall buildings in confined urban spaces.

Bridge to the future

Duracorr® reduces bridge costs by up to half.

[Read more ▶](#)

Anticipating customers' sustainability criteria

Demand for sustainability and transparency is growing across many industries, and we're working more than ever with our customers to meet their sustainability goals. LCA plays an important part. Environmental Product Declarations (EPDs), increasingly required for products used in construction, include an LCA as part of a detailed description of a product's environmental impact.

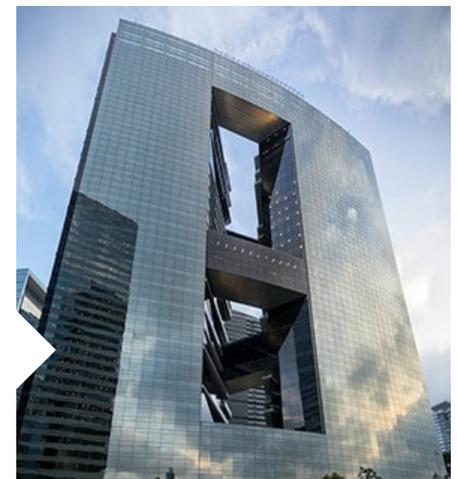
We can help our customers in several ways – by sharing the expertise gathered over the course of 67 LCA studies, or sharing the insights gained by being a member of the Institut Bauen und Umwelt (IBU), the German Institute of Construction and Environment, which specialises in the sustainability labelling of construction products and materials and which we joined in 2016. What's more, our global R&D division has already completed EPDs for our steel reinforced bars, structural sections and sheet piles, and we have plans to create further EPDs for structural beams, road safety barriers and coated coils.

Tools for architects and designers

We're keen for the benefits of using steel in infrastructure to be widely understood, and we're providing architects and engineers with the tools to do their own analysis, so that they can see for themselves where steel is the right choice in terms of sustainability impacts. Engaging more customers with more products also helps us meet our Action 2020 business goals of increasing our volumes and further improving the product mix.

To help them, we've developed various software packages to allow them to compare the benefits of different materials, including steel.

Our ISO-compliant software, AMeco, is a simple, reliable method for comparing the impact of using different materials for building structures, in terms of lifecycle embodied energy and carbon emissions. Our new Steel in Modern Construction initiative uses software, developed in 2016, to go further. We've used it to model a full office building, enabling architects to make



the best design choices by assessing the impact of choosing different materials on the building's performance. In 2017, we plan to use this tool to model industrial buildings too.

Alongside these tools, engineers and fabricators can draw on the comprehensive tables and information about high-strength structural steels in our new [Orange Book](#), an essential aid in the design of steel buildings and structures, launched in October 2016 in collaboration with the UK's Steel Construction Institute.

Exploring reusability

While steel's recyclability is a key contribution to the circular economy, its long lifespan also creates the potential for re-use. We're exploring the possibilities for re-usable steel components, and discussing this with customers. In 2016 we teamed up with building design firm Arup to take part in the Circular Building project at the [London Design Festival](#), a collaboration which produced a building made from 100% re-usable or recyclable components.



“ Collaboration is central to taking circular economy thinking forward and if the industry chooses to work together, projects such as the Circular Building are a fantastic illustration of what we can achieve. ”

Stuart Smith

Director, Arup

Re-use has the potential to create carbon savings and reduce the amount of resources used in manufacture. For many customers, there are clear advantages in a component that can be used again and again, or that will retain its value because someone else can use it in its current form.

Exploring re-usable steel also means exploring how it would work in practice – for instance, business models that make it easier to recover and re-use materials than to discard or recycle them, or products that are leased rather than sold. Although at an early stage, this work has already produced successes, including a range of re-usable sheetpiles that are returned after use rather than discarded or sent for scrap.

What's next in 2017

1. We will pilot our Sustainability Innovation tool for two construction research programmes.
2. We will create EPDs for structural beams, road safety barriers and coated coils.
3. We will launch our second phase of the Steel in Modern Construction initiative with a model for industrial buildings.

Performance at a glance

Metric	Unit	2016	2015
Products launched that contribute to outcome 3	Number	30	5
Research programmes in development that contribute to outcome 3	Number	15	11
New LCA studies completed	Number	10	3

Find out more about our approach to [this outcome](#), why it matters to us, and the challenges we face.

4: Efficient use of resources and high recycling rates

The outcome we need is to be acknowledged for using resources in the most efficient and effective way, so that we are creating significant value for our customers and shareholders as well as for the environment.



“ All our by-products are valuable resources for customers and for ourselves. I’m a strong believer that there’s only one way forward and that’s zero waste. Only those industries that don’t generate waste will last and I think that’s the key advantage of steel. As a company, we need to take leadership on this. ”

Carl de Maré Sponsor for this outcome and vice-president, technology strategy, describes how our steel operations are finding new ways to generate value from our processes.

[Hear more from Carl about how we're driving circular efficiency in resource use](#) ▶

Outcome 4

Read more about this outcome on our website.

[Read more](#) ▶

Steelmakers have always been thoughtful of how to make best use of the resources they need, re-using by-products wherever possible, or sharing them with neighbouring industries. From cement to energy, fertilizer to glass, our efforts to avoid waste have made us valuable industrial and municipal partners. Steel plants are also recycling facilities – because scrap steel is an important input in the steel-making process, making us one of the world's largest recyclers.

So when we talk about efficiency, we mean it in the widest sense. We have a social, environmental and commercial responsibility to use resources efficiently, reducing our impacts and our raw material costs. In today's world, the expectation is that industry reduces its landfill to zero, and so we aim to ensure that the resources we do use are put to the best possible use, taking advantage of the steel-making processes to generate or re-use as many valuable by-

products as we can.

Our outcome sponsor, Carl de Mare, convenes an expert hub made up of technical, R&D, sustainability and market-oriented specialists, who together have reviewed site-level performance, and are designing core objectives for the outcome.

Read more about [outcome 4](#).

11

R&D process solution projects focused on by-products and recycling

33 million

tonnes lower CO₂ due to the recycling of scrap

7 million

tonnes CO₂ avoided via use of BF slag to replace cement

Working towards zero waste to landfill

We've set up an 'expert hub' to pool our learning across the business, and look at how we can be more strategic in the use of our by-products. Our vision is for zero waste to landfill while maximizing value for our stakeholders. In 2016, we asked all our major sites to assess themselves against a dashboard of agreed criteria developed by the expert hub.

By-products from steelmaking for a circular economy

A blast furnace converts iron ore into steel using coking coal and limestone. At the same time, this ingenious piece of industrial chemistry creates a wide range of by-products such as slag and sludges, dust, waste gases, and of course heat and steam. With modern environmental processes, many of these 'waste' products from the steelmaking process are captured, and so we are constantly researching new ways to find value from them. We aim to use as much as we can in our own processes, and what we can't use, we try to make available to others as a valuable industrial resource. In 2016 we reused 78% of our residues, with some 8% going to landfill.

Blast furnace slag, for example, can be used as cement, or in the production of stonewool (a fire retardant and insulator), or in glass-making. Other slag by-products can be used as fertiliser or in road construction. And the waste gases from different stages in the steelmaking process are either re-used internally, or used to generate energy – often for the surrounding communities once we've met the needs of our own operations.

Our global R&D division is currently working on 11 new research projects to develop new process solutions to help the company achieve outcome 4. For example, we are partnering with other industries to investigate the use of slag for water filtration.

To be truly sustainable, of course, initiatives like these must be financially viable, which often means by-products are 'valorised'. Our global R&D division has developed a modelling tool,

Steel, ethanol and the low-carbon economy

How breakthrough science could turn steel mills into fuel-makers.

[Read more ▶](#)

ROMEO, to evaluate the impacts of re-using by-products to ensure that a financial saving in one place does not create a negative environmental impact elsewhere. In 2016, we used ROMEO on two projects but found neither to be viable – a disappointment, but evidence that our checks are suitably rigorous.

We also work on a number of projects to put our gaseous by-products to good use. One of the projects that offers considerable potential is our partnership with LanzaTech, which aims to convert our waste CO₂ into useful products, such as ethanol, on an industrial scale, potentially delivering an entirely new way in which steel mills could capture and re-use carbon. Our flagship demonstration project in Ghent, Belgium, finalised the engineering of the plant and started with the first onsite investments. The plant will start operations in 2018.

Recycling scrap steel

Steel's recyclability is a huge asset. 28% of the steel we produce globally comes from scrap, and overall around 87% of the world's obsolete steel is recycled – the highest recycling rate of any material. Making steel from scrap requires far less carbon than making fresh steel from iron ore. When we include this end-of-life recycling in the assessment of overall CO₂ emissions, steel is one of the most carbon-friendly man-made materials that exists today. So, as more scrap steel becomes available, it will play an increasingly important part in the low-carbon circular economy of the future.

Currently, however, there remain some challenges to the exclusive use of scrap steel, both in terms of quality and availability. Globally, quantities of scrap fall short of demand, and are sufficient for around one third of global needs. Even in Europe, where more end-of-life steel is available there's only enough scrap to meet half of the region's demand. We're collaborating with the University of Cambridge to look at the efficiencies of steel flows between one lifecycle phase to another, and where the potential for greater cost and carbon efficiencies lie.

When it comes to the scrap mix, this has no impact on the qualities of most steels used in construction and infrastructure. However, it can be a hurdle for the production of specialist steels, such as wires or advanced high-strength steels (AHSS) steels for the automotive sector. Ultimately our production balance responds to the demand for different products, and since the slowdown in demand for construction products continued in 2016, our use of scrap also fell slightly, to 25 million tonnes. We've been looking at different ways to sort automotive scrap, and are currently investigating an automated approach in collaboration with automotive customers.

A future made from scrap

In 2016, we commissioned a third-party study aimed at identifying the impacts the increasing availability of scrap will have on the steel industry. Currently, the most rational economic allocation of resources is to produce construction steel (long products) with obsolete scrap and to make more specialised steels (flat products) with blast furnace (iron-ore) steel. We wanted to know when, if we take into account long-term demographic and steel market trends, will the world be in a position to produce steel from scrap rather than iron ore? We might have expected steel to be predominantly made from scrap by the middle of the century. Our study showed



that the emergence of developing economies – where construction steels will play an important role – will be heavily influenced by scrap availability, transportation and trade. But only shortly after 2050 will there be enough obsolete scrap to enable flat products to be made from obsolete scrap too. By 2070 will steel made from scrap become predominant. The role of blast furnace production, therefore, will remain important in producing new steel for many decades to come.

The Jean-Sebastien Thomas Prize: supporting scientific study of scrap steel

In May 2016, our inaugural prize honouring our late colleague Jean-Sebastien Thomas, a leader in the field of sustainable steel, was awarded to Kentaro Takeyama from the Graduate School of Engineering, Tohoku University, Sendai, Japan for his work on material flow analysis in scrap steel.



Making steel use more efficient

We want the steel that leaves our mills to be used by our customers as efficiently as possible, and we're exploring ways to reduce the off-cuts of steel our customers generate – what is known as 'pre-consumer scrap'. Working with a number of European universities, we're analysing how and where this scrap is generated – and what savings in cost and carbon our process innovations could achieve.

What's next in 2017

1. We will publish an external paper on steel and the circular economy.
2. We will evaluate two processes for the re-cycling of blast oxygen furnace slag using our ROMEO tool.

Performance at a glance

Metric	Unit	2016	2015	2014
Scrap recycled	million tonnes	25.3	28	31
Lower CO ₂ due to scrap recycling	million tonnes	33	37	40
Production residues and by-products re-use (steel)	%	78	79	81
Production residues and by-products re-use (mining)	%	10	10	10
Blast furnace slag re-used	million tonnes	18	16	18
BF slag sold to cement	million tonnes	9	8	11
CO ₂ avoided due to BF slag use in place cement	million tonnes	7	6	8

Eco-cement direct from the steel mill

For every tonne of steel manufactured, ArcelorMittal produce around a third of a tonne of blast furnace slag. When this slag is cooled very quickly in a process known as granulation, it becomes a valuable resource that can be used as a partial replacement for Portland cement.

For many decades, society has understood the important benefits of this slag cement due to its enhanced durability and its improved aesthetic appearance. The fact that its use also reduces the need for Portland cement, and so effectively displaces the high level of CO₂ emissions involved in cement-making, has perhaps been overlooked. Only recently, with the advent of green building standards such as LEED and BREEAM, have the carbon advantages of this kind of 'eco-cement' been gaining the attention of building designers, gaining recognition in high profile projects such as the Olympic Park and the Shard in London.

Whereas the production of traditional Portland cement requires the quarrying and energy-intensive processing of 1.6 tonnes of natural resources per tonne of cement, producing blast furnace slag for cement is simply made from components already in the steelmaking process. With a small amount of processing – granulating, heating and grinding – this industrial residue is turned into a marketable by-product that provides carbon benefits of some 766kg CO₂ per tonne of slag^[1].

Currently in Europe slag cement makes up around 20% of all cement mixtures – some 20 million tonnes annually. Considering global production volumes of slag cement are around 200 million tonnes annually, and growing each year, the potential to save carbon emissions by avoiding Portland cement production are significant indeed^[1].

To maximise the value from this technology, ArcelorMittal have teamed up with Ecocem, the European leader in low-carbon technology for cement, and entered into a joint venture: Ecocem France. Beginning in 2009, with a high-tech installation in Fos Sur Mer, Ecocem France will this year double in size with a new production facility in Dunkirk, bringing the annual capacity up to 1.4 million tonnes of premium quality low-carbon cement.



Ecocem brings their invaluable expertise in the construction market, and the knowledge of where and how slag cement brings particular advantages in use. Cement mixtures containing slag cement are, for example, more durable than ordinary Portland cement since they are resistant to the chemicals that can wear cement out, making it particularly suitable for use in roadbuilding and coastal infrastructure. This makes the lifespan of the concrete longer, and the cost of repairs lower.

ArcelorMittal has been using its know-how to improve its processes even further. By re-using blast furnace gas in the granulation process rather than natural gas, we can reduce the amount of CO₂ associated with its production even further, and we're now installing the facilities to do this in Dunkirk. It's a great example of how we work with our customers not just to reduce our own emissions but to improve the sustainability impacts of their products.

This partnership in France alone has already reduced CO₂ emissions from the cement industry by nearly two million tonnes, and from 2018 onwards will enable us to reduce a further one million tonnes every year. Upscaling our capacity to produce slag cement in the years to come will clearly bring significant benefits, not just for the cement industry but for our ability to achieve global goals of a low-carbon circular economy.

¹ A conservative estimate of the carbon footprint of Portland cement is **766kg CO₂ per tonne**. By contrast, because slag is a by-product of steel, its emissions are already included in the carbon footprint of steel. An estimated 30-40kg CO₂ per tonne of slag are needed to convert the slag into slag cement ('ground granulated blast furnace slag').

[i]

See Allwood and Cullen, Sustainable Materials with both eyes open, UIT Cambridge, 2012, [chapter 20](#).

5: Trusted user of air, land and water

The outcome we need is for our stakeholders to trust us to share the vital resources of air, land and water. They'll do this because we operate responsibly and transparently, demonstrate we want to reduce our negative environmental impacts, and work in collaboration with partners and local communities to enhance the natural resources we all rely on.



“ Being a trusted user of natural resources is vital for us as a steelmaker. More and more people are aware of the link between environmental quality and their health, so to earn our credibility we need to become more and more transparent and communicate better. ”

Karl Buttiens Sponsor for this outcome and head of environment.

[Hear more from Karl about the importance of good environmental management](#) ▶

Outcome 5

Without air, land and water, we have no economy, no society, no eco-systems.

[Read more](#) ▶

Natural resources are essential to us and to everyone around us – if we are not trusted to share them responsibly, we cannot do business. The importance of this trust is, if anything, growing, because the expectations of our customers are increasing alongside the intensifying interest of governments, NGOs, and international bodies.

The communities in which we operate, meanwhile, remain acutely sensitive to any changes in the air, land and water we share.

Meeting these expectations is a significant challenge, and has required high amounts of investment, especially where we have inherited older facilities or where growing populations have meant that resources such as water are subject to increased demand.

We aim to be open and transparent about these challenges, listening to the concerns of our stakeholders and engaging with them to improve our processes and reduce our impacts.

Improving air quality

Air quality is one of the most salient issues for the people who live and work around our sites, and we have been working for many years to understand and address community concerns. Through better processes, investment in R&D, and investment in capital improvements, we have made significant progress. In Ostrava (Czech Republic), for example, our steel plant has cut its ducted dust emissions by 25% year on year after installing 13 new dedusting facilities in 2015. This takes the plant far beyond European emission limits, which the plant was compliant with well before they became binding in 2016.

[Read about this story](#)

Looking at the global picture, our air emissions are affected not only by the investments we make and technology we use but the mode of production. Over the past year in developed economies, we have continued to see a shift away from construction products and towards automotive and consumer goods, and this has meant a corresponding move from electric arc furnaces. This has caused a corresponding increase in average air emissions per tonne, which has outweighed the reductions resulting from previous environmental investments. Dust, NOx and SOx emissions per tonne all showed a slight increase this year.

Nonetheless, we know that air emissions remained a concern in a number of places in 2016, including Poland, Brazil, Ukraine, Bosnia & Herzegovina and Canada. We are continuing to invest: of the capital investment we allocated to environmental projects* last year, over 82% was aimed at improving air emissions. At the same time, through our communications and environmental reporting, we work hard to ensure that stakeholder perceptions are based on hard data and real events.

* Environmental projects include those aimed at improved air, land or water management. Energy and carbon projects are reported in outcome 6.

Europe

Investing in cleaner air in Poland.

[Read more ▶](#)



Harnessing innovative technology to reduce emissions in Bosnia

Our global R&D division is exploring new approaches to reduce our emissions reductions further. One example is the new hybrid filtration technology we have developed for the sintering process, using both electrostatic precipitators and bag filters for the first time in an integrated system. Following a pilot at Gijón in Spain, the first industrial-scale demonstration of this innovative technology was initiated in 2016 at our Zenica site in Bosnia & Herzegovina, as part of an ongoing investment programme to modernise the steel plant there. Results from the pilot are expected in 2017, with future applications planned for our steel plants in Dabrowa Gornicza, Poland and Ghent, Belgium.

Protecting biodiversity and managing land

We aim to practise good land management wherever we operate, whether in our steel mills or in our mining operations. By working with communities and other stakeholders, we've had considerable successes over the years – in Tubarão, Brazil, for instance, we've planted 2.6 million trees over the past 28 years to reduce wind erosion, and in Liberia, where we operate in proximity to a unique ecosystem, we've developed a multi-stakeholder biodiversity programme to ensure the value of this is conserved.



Reporting on biodiversity progress in Liberia



We aim to work with stakeholders to develop a sustainable and resilient rural landscape through our biodiversity conservation programme, and are proud...

[Read more ▶](#)

Managing tailings ponds

Mining generates a large volume of rocks, overburden and tailings. Of these residues, tailings represent the most significant risk, and so managing them carefully is an important part of our responsibilities.

In 2016, we carried out further inspection and monitoring to check on the implementation of our tailings facilities surveillance guidance, which we launched in 2015. At our Serra Azul mine

in Brazil we also developed a new technology, 'dry stacking', in which tailings are dried so they can be stored in a more structurally stable form. Altogether, in 2016 we allocated \$28.1 million to projects that will improve tailings management.

Sharing water with communities

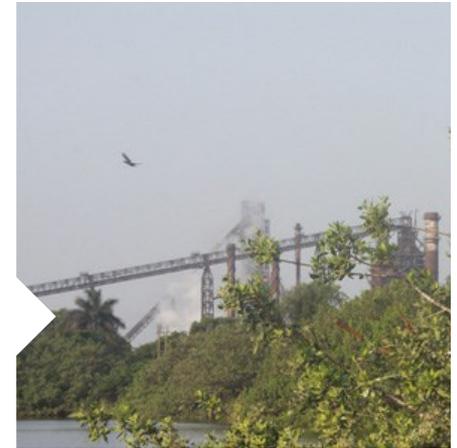
We know how valuable freshwater is to the communities around us – householders, public services and other businesses; at some sites it is also vital to our operations, both in steelmaking and mining. Consuming freshwater responsibly, and making sure that we monitor and maintain the quality of the water we discharge, are both important elements in protecting the environment and ensuring good relationships with our neighbours.

Our steel plants are designed to treat and recycle the same intake of water repeatedly, often hundreds of times. Given the volumes we need to withdraw, steel plants are typically built in places where surface water is widely available, so water withdrawn from groundwater sources makes up less than 1% of our water intake; and seawater is often used for cooling purposes. Nonetheless, in an era of increasing water scarcity, stakeholders need to be able to access and understand the data, and so how our water use may or may not impact them. We are reviewing the quality of our water data with this in mind.

Circumstances vary from site to site and our net water use – the difference between the water we withdraw and that we discharge – is reported more specifically in our country sustainability reports. Our consolidated figure for net water use across the group is five cubic metres per tonne of steel.

Nonetheless, where freshwater is scarce or when drought strikes, we work with local municipal and water authorities to explore the best sources for our water, including seawater, rainwater, and wastewater from water treatment plants. In 2016, for example, at our Ostrava mill in the Czech Republic, we contributed to the area's watershed planning process after working with the local watershed administrator to manage our water consumption during a drought in 2015. Our Piombino site in Italy installed a desalination plant in 2015, and our Tubarão steelplant in Brazil is investigating this for the long-term future of their operations.

At the end of 2016 we started to review our mapping of water scarcity across our sites, and how we report and measure water. We want to ensure we are reporting high quality data, and focusing on where the risks are, not just from a regulatory point of view, but in terms of all the stakeholders with whom we share freshwater supplies.

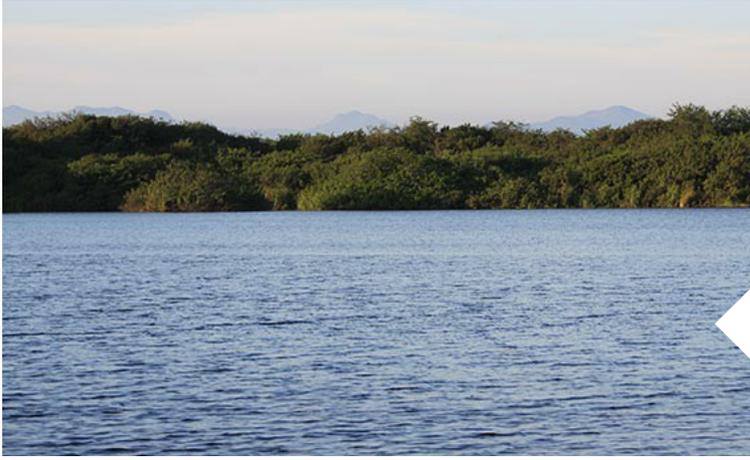


Showing leadership on water in Brazil



The south east of Brazil has experienced an unprecedented – an unexpected – drought in recent years, placing constraints on the...

[Read more ▶](#)



New water assessment tool

Water is essential to the mining process – we use it to extract and process iron ore – and we need to make sure that we manage that water sustainably. In 2016, we launched a new water assessment tool across our mining operations, developed by our global R&D and mining divisions. The data the tool provides will help us design and implement further water improvement plans like the investment we are making in new interception ditches at our Mont Wright and Fire Lake mines in Canada, designed to protect surrounding lakes and rivers.

What's next in 2017:

1. We will introduce a new monitoring and data management procedure to ensure our air and water data across our operations consistently meet the standards required for external assurance.
2. We will install a second pilot of our new hybrid filtration technology in Dabrowa Gornicza, Poland.
3. We will map sites of priority water stress and report on their water management plans.

Performance at a glance

Metric	Unit	2016	2015	2014
Environmental capital expenditure [air, land, water]	\$m	177	162	193
Industrial operations certified to ISO 14001 (steel only)	%	98	98	98
AIR				
Dust emissions (steel)	kg/tonne of steel	0.67	0.66	0.62
NO _x (steel)	kg/tonne of steel	1.25	1.18	1.15
SO _x (steel)	kg/tonne of steel	1.9	1.85	1.95
Total dust emissions (mining)	thousand tonnes	6.8	5.1	5.3
Total NO _x (mining)	thousand tonnes	15.7	15.5	17
Total SO _x (mining)	thousand tonnes	9.0	9.4	13.2
LAND				
Production residues to landfill/waste (steel)	%	8	8	7
WATER				
Water intake (steel)	m ³ per tonne of steel	23.7	23.7	23.3
Water net consumption	m ³ per tonne of steel	5	5.3	4.7

6: Responsible energy user that helps create a lower-carbon future

The outcome we need is for our stakeholders to trust that we are making a positive contribution to a lower-carbon future by cutting our energy use and carbon emissions, and developing innovative new products that help our customers and other industries do the same.



“ I am personally convinced we will need to stay focused on carbon. We have to look at carbon as a raw material and not just as a greenhouse gas. That’s why reusing it for fuels, plastics and chemical has really become one of our key strategies. ”

Carl de Maré Head of technology strategy and sponsor of outcome 4

[Hear more from Carl about how emerging technology can revolutionise the way we see steel](#) ▶

Outcome 6

Read more about this outcome on our website.

[Read more ▶](#)

The world's leaders have signaled their determination to combat climate change with an ambitious collective target. What role can steel play to create this lower-carbon future?

Steel is an energy-intensive industry and carbon is an essential element in the chemistry of creating primary steel. In 2016 we used 2,168 million gigajoules (GJ) of primary energy, and emitted a total 204 million tonnes CO₂ (steel and mining).

“ Even if all our operations were powered by wind turbines, we'd still be omitting significant levels of CO₂, because the majority of our CO₂ emissions are created when iron ore is made into iron during the steelmaking process. This is an inescapable chemical reality. ”

Geert Van Poelvoorde

Chief executive officer, Europe Flat Products

Reducing our emissions intensity to reach our 8% target by 2020 (since 2007) is pushing current technology to the limit. Adapting our business so that we play our part in the world's action against climate change is one of the toughest issues we face.

We are moving forward. We have spent much of 2016 consulting with stakeholders on the expectations they have from us as the world's largest steelmaker on climate change. Alongside our commitment to ensuring we can continue to supply steel for the world's everchanging needs, we're more serious than ever about making a difference to atmospheric greenhouse gas levels on a global scale. We've developed greater confidence in explaining the importance of cross-industry, low-carbon technology partnerships – for example at COP22, the UN Climate Change Conference in Marrakesh in November 2016. And as well as explaining to European policymakers why excessive carbon prices on a regional basis will cause steel plants to close and European jobs to be lost, we are now working to find improvements to European carbon policy to ensure it contributes to emissions reduction globally, not just within Europe. Our COP committee meets regularly to review and develop our approach to carbon reduction.

Carbon reduction strategy

We already know that steel plays a key role in the circular economy – safe, strong, durable, and infinitely recyclable, steel is a lower-carbon alternative over its lifecycle to other materials such as aluminium and concrete in many applications. What we now know is that a truly transformational circular economy has the potential for steel, with the right technology, to make significant reductions in global CO₂ emissions.

The chair of our COP committee regularly updates our chief finance officer, Aditya Mittal, and is made up of senior leaders from technology strategy, environment, government affairs, strategy, corporate responsibility and communications. Its sole purpose is to deal with the issue of climate change for the company.

During 2016, the committee undertook an extensive engagement process with 50 external stakeholders, reviewed the external factors influencing our carbon emissions, analysed the

10 key stakeholder expectations on climate change

We had around 50 engagements with stakeholders.

[Read more ▶](#)

potential of our portfolio of steel plants to reduce their carbon emissions, and reviewed the feasibility of each of the various low-carbon steelmaking technologies we have been working on.

The result is a realistic assessment of where we are likely to be able to make the most substantial carbon reductions. Our analysis has confirmed several things: that the world will not have enough scrap to enable recycling to make a sufficient difference to climate change for decades to come; that if we are to make more than incremental reductions in carbon, we need to go far beyond energy efficiency; and that carbon capture and utilisation (CCU) technologies offer the most likely path.

Our carbon reduction strategy, therefore, is to pilot the most promising low-carbon breakthrough technologies, whilst continuing to pursue energy efficiency measures relentlessly, wherever they are still available. We've made significant progress in each during 2016.

The role of scrap and energy in carbon reduction

Stakeholders expect us to reduce our carbon footprint by using more scrap. This ignores two realities. Firstly, contrary to expectations, there is no global carbon benefit to be had from encouraging steel producers to use more scrap, since virtually all the post-consumer scrap available globally is already being recycled. Only as more steel products become obsolete can the world produce more recycled steel. Secondly, any steel producer will only make the products that its customers demand.

Only some types of steel are suited to being produced entirely from scrap in the electric arc furnace – generally those that are used in the construction of buildings and infrastructure. Other more technically specialised products, for the transport and energy sectors for example, are currently made in the blast furnace route, using predominantly iron ore (although some scrap is also used).

For ArcelorMittal, as a global steel producer with the option of using either route, the balance between blast furnace and electric arc furnace production – and so between iron ore and scrap use – is driven by the pattern of demand for different steel products in our markets. Where the demand for construction products falls – as it has done in developed economies – the relative production of steel from scrap also falls, which may drive up overall CO₂ per tonne. Only when the availability of scrap reaches sufficient levels will we be able to 'choose' to produce more products from post-consumer scrap.

In 2016, we commissioned an extensive study on [the impact of future scrap supplies](#). We know it will take decades for scrap supplies to improve significantly, so when it comes to reducing our carbon footprint, scrap cannot provide enough, soon enough.

So how can we reduce our carbon footprint whilst continuing to make steel with iron ore rather than scrap? Energy efficiency, for its part, can only play a moderate role in our carbon reduction efforts since much of the work has already been done. The energy required to produce a tonne of crude steel has reduced by some 40% since 1960 according to the World Steel Association. Our best plants are already as efficient as they can be using the technology currently available.

Using renewable energy is also of limited impact on its own, since the majority of the emissions from producing steel come from the chemical process of reducing the iron ore. Clearly a new kind of technology is needed.

“As the CEO of one of the most energy-efficient plants in Europe, I can honestly say that we already use the best available current technology. To make any more real improvements in our carbon footprint, we need completely new breakthrough technology to make it work.”

Reiner Blaschek

CEO, ArcelorMittal Bremen

Breakthrough technologies for carbon reduction

New, breakthrough technology, we believe, can help us in two important areas: changes in the steelmaking process itself, and changes in the way we manage our waste gases.

In Dunkerque, France, we've been testing the potential use of high-temperature gas, made from our waste gases, to reduce iron ore and thus partially displace the use of new coal. Based on this research, new materials have been developed which can sustain the extremely challenging conditions caused by contact with this high-temperature gas and in 2017, will be launching a first industrial pilot to demonstrate the feasibility of this technology.

Managing our carbon-intensive waste gases has given rise to the most promising set of technologies to date, known as carbon capture and utilisation. The aim is to convert the carbon in our waste gases into useful products. This is a rapidly evolving area, and our work is taking several forms. For example, flue gases from our Fos-sur-Mer plant in France are being used in an experiment to grow microalgae in nearby pools, with the aim of converting the microalgae to bio-crude or valuable chemicals.

But the most promising technology at present is what we're developing with bio-tech company [LanzaTech](#), which we're planning to demonstrate at our Ghent plant in Belgium.

Exploring innovative partnerships

Fresh ways of thinking about the relationship between industries can also contribute to lower-carbon solutions. We already sell many of our by-products to other industries, providing them with raw materials for cement, road-building, chemicals and glass-making among other activities. Re-using by-products in this way avoids the emissions that would be generated in the making of these products from primary materials.

We want to harness more opportunities like this – and at the COP22 talks in Marrakesh in



2016, we announced the formation of our Low Carbon Technology Partnership Initiative with partners Evonik, LafargeHolcim and Solvay. It will look at potential synergies between the manufacturing processes of the steel, cement and chemicals industries, and how we can harness them to produce CO₂ savings. As a first step, the partnership will study potential ways to use waste gases and other by-products to create value.

Energy & carbon

Find out more about our approach to this outcome on our website.

[Read more ▶](#)

Energy efficiencies in our own operations

While we search for breakthrough technologies, we're also committed to reducing our energy use across our operations. This makes sense for any business – using less energy reduces costs as well as CO₂ emissions – and the fact that energy is such a major input for us gives us considerable opportunities. For example, across the NAFTA segment, we undertook 33 energy projects that will provide annual savings of over \$26 million and 230,000 tonnes of CO₂. In Europe, where our energy investments are more mature, we are working hard to find more efficiencies. For example, a small investment in variable speed drive motors at our Dabrowa Gornicza site in Poland, is expected to save electricity costs of over 250 times the initial investment, annually, and indirect CO₂ savings of some 24,000 tonnes.

We've developed energy management best practices for the group – most of our large European steelmaking sites are certified to the ISO50001 standard or equivalent and we're extending this to the Americas.

The energy intensity of our steel is of course driven both by our energy efficiency and by the balance of production between the blast furnace and the electric arc furnace routes. Overall in 2016, we used 23.9GJ energy per tonne of steel, down from 24.2GJ in 2015.

Investing in efficiency

Each year the energy efficiency measures we invest in, including low-cost initiatives such as variable-speed motors, can have a substantial impact on our costs and our carbon. In 2016, we approved several major new capital projects to bring energy improvements. These included the revamping of a major power plant at Burns Harbor in the US, the installation of a high-pressure boiler and turbo generator at Dofasco steel plant, Canada, and a mining-related investment in Canada, where we're installing a cryogenic storage system to test natural gas replacement in our iron ore pellet plant. The last two projects both benefitted from financial assistance from local government.

Key investments will reduce US energy use

Investments play an important part in our overall ambition of reducing energy intensity by 10% in the US over 10 years. Our 2016 investment in the second phase of a major revamp of Burns Harbor power plant should bring significant energy and carbon savings on completion in 2019.

[Read more](#)





Energy projects at Dofasco save enough power for 12,500 homes

Energy is one of our biggest input costs. Since 2011, a range of energy optimisation projects at our Dofasco site in Ontario, Canada, has achieved annual recurring savings of some CAN\$10 million and 125,000 megawatt hours, enough to power some 12,500 homes. More investment will bring further efficiencies.

[Read more](#)

Making the most of the energy we use

The chemistry of steelmaking means that we won't get away from using carbon completely – in the medium term at least – but by thinking innovatively about our processes we can make the carbon we do use work harder, and reduce overall CO₂ emissions by helping others avoid carbon use.

What does this mean in practice? First, it involves ensuring we don't waste energy. We continually seek ways to recycle energy within our own operations, and in several sites we directly export energy as heat, steam or electricity for local businesses or communities. Our plant in Tubarão in Brazil, for example, generated 2,816,557 MWh electricity from its waste gases in 2016, enough both for its own consumption and to export 732,074 MWh to the grid – supplying the equivalent of over 331,000 homes a year. As technology advances, we think there will be opportunities for our sites to do more of this – generating and even using the technology within a steel plant to store energy to smooth out intermittencies in the electricity grid.



5,009 GJ

of electricity from renewable sources used across our sites

25%

recovered energy as proportion of total used

23,373 GJ

energy exported to local community as heat, steam or electricity

Public policy on climate change

We support action on climate change, and we want the right public policy frameworks to deliver substantial carbon reductions from the steel industry globally, so that steel can viably play its part in a lower-carbon future. In the wake of the Paris agreement, policy-makers were tackling this issue in many parts of the world in 2016. The CDP estimates that by 2017, 70% of the world's steel will be covered by some form of carbon pricing.

Before these schemes are finalised, it's important that they are designed in detail to be aligned and so work for global carbon reduction. So we contribute to the discussion wherever we can, advocating three principles: that carbon targets and processes should be consistent across all regions, to avoid the cross-border trade that will advantage steel made where the effective carbon price is lowest; creating a level playing field for all steelmakers; and that targets should be set at levels that are technically and economically feasible.

While this is particularly relevant with regard to the [Emissions Trading Scheme in Europe](#), in 2016 new carbon pricing schemes or regulatory initiatives were being discussed in Brazil, Mexico, South Africa, Kazakhstan and the US. The Canadian Government announced plans for a national minimum carbon price.

“ One of the major obstacles to success is that emissions are global. The aim of the system should be not just to reduce emissions from what Europe produces, but also to reduce emissions from what Europe consumes ... A carbon border tax is the best answer on climate change. ”

Lakshmi Mittal

Chairman and chief executive officer



Our carbon emissions in 2016

Our target is to reduce our carbon emissions per tonne of steel by 8% by 2020, using 2007 as a baseline. If we look at the steel plants we operated in 2007 and still operate today, the carbon intensity of the steel we make in those plants has declined by 4.6% in CO₂/tonne steel since 2007.

While carbon intensity is influenced by a combination of factors – technology, scrap use, energy efficiency and the quality of raw materials – in the end, the most significant influence is the pattern of demand for different steel products, since this is what determines the balance of steel production between our blast furnace (BF) plants and our electric arc furnaces (EAF). In recent years the decline in demand for construction industry steel has meant that we have made less EAF steel than in the past. This trend continued in 2016 and, as a result, our impressive carbon reduction progress at our EAF sites has an ever smaller influence on the average carbon intensity of all the steel we produce year on year.

Overall, despite the improvements in our energy efficiency in 2016, the average carbon intensity of our steel across both our BF and EAF plants has not changed year on year and stands at 2.14 tonnes CO₂ per tonne of steel. Our entire carbon footprint in 2016 across our steel and mining operations was 204 million tonnes CO₂e, down from 205 million tonnes in 2015*. The

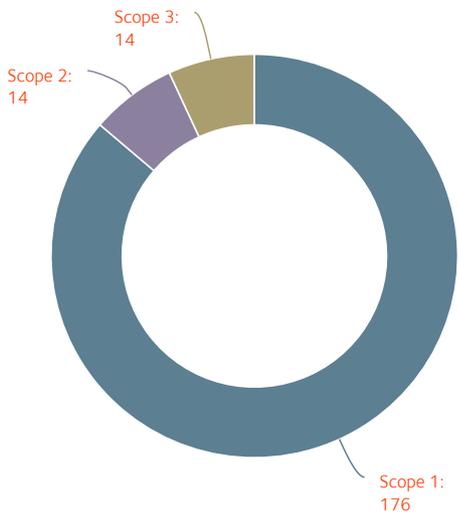
reduction is largely due to decreased EAF production, and therefore our indirect (scope 2) emissions from the electricity we used. Greenhouse gas emissions from our mining operations made up 5% of this footprint.

Whilst we have achieved much in recent years, it is becoming more and more challenging to continue to reduce our direct (scope 1) carbon emissions at our blast furnace sites as we reach the limits of what current technology can deliver. This is why it is so important to emphasise the importance of breakthrough technologies, and not only this, but the policy frameworks that will see such technologies become commercially viable.

* This is made up of our Scope 1, 2 and 3 emissions in accordance with Worldsteel Association methodology

Greenhouse gas emissions by scope (steel and mining)

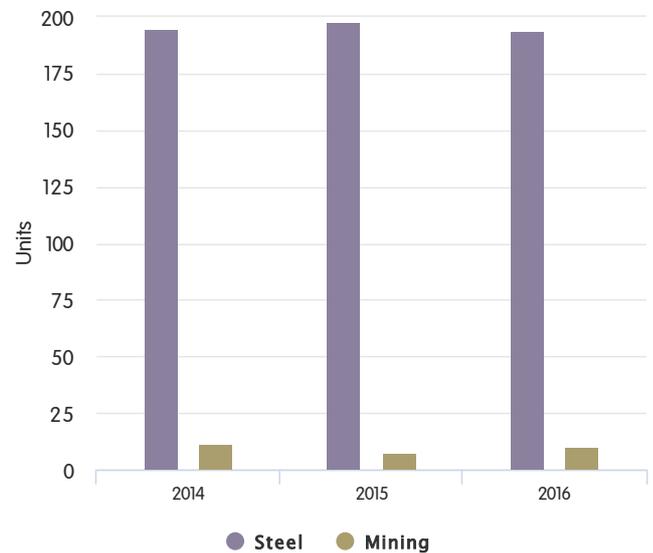
Million tonnes CO₂e



The emissions by Scope 1, 2 and 3 are calculated in accordance with Worldsteel Association methodology. See Worldsteel CO₂ Emissions Data Collection, User Guide, Version 7 available [here](#).

Total greenhouse gas emissions

Million tonnes CO₂e



Lower-carbon vehicles

Our contribution to a low-carbon circular economy is of course much wider than reducing our own carbon emissions. Much of it is about producing solutions for our customers that have fewer lifecycle emissions than ever before – as our S-in-Motion® range for the automotive sectors has shown.

[Read more](#)





Lower carbon buildings

Our specialist steels are making other industries more energy and carbon-efficient. Our R&D teams are developing a tool to help construction industry customers lower the carbon footprint of the buildings they design.

[Read more](#)

What's next in 2017:

1. We will start a full-scale industrial demonstration of the Lanzatech technology.
2. We will progress the financing for industrial pilots of two further carbon reduction technologies to serve the low-carbon circular economy.

Performance at a glance

Metric	Unit	2016	2015	2014
Primary energy consumption (steel)*	million GJ (PJ)	2,158	2,205	2,221
Energy intensity (steel)	GJ/t liquid steel	23.9	23.9	23.8
Total CO ₂ e emissions (steel and mining)	million tonnes	204	205	203
Scope 1 CO ₂ e (steel and mining)	million tonnes	176	176	174
Scope 2 CO ₂ e (steel and mining)	million tonnes	14	16	17
Scope 3 CO ₂ e (steel and mining)	million tonnes	14	13	15
Total CO ₂ e emissions (steel)*	million tonnes	194	198	195
Total CO ₂ e emissions (mining)	million tonnes	10	7	8
CO ₂ emissions per tonne*	tonnes CO ₂ per tonne of steel	2.14	2.14	2.09

* This data has been assured by [Deloitte Audit](#).

10 key expectations of stakeholders

It is vitally important that the right strategy facilitates rather than hinders global paths to carbon reduction. We want to make sure our stakeholders understand the contribution that steel can make to a lower-carbon future.

In 2016, we listened to the expectations our stakeholders have of us as the world's largest steelmaker, with one of the largest corporate carbon footprints that cannot be easily reduced. We had around 50 engagements with customers, as well as discussions with other



companies, investors, banks, experts and NGOs.

In summary, stakeholders have ten expectations of us on climate change. We are expected to remain truthful on what we can and cannot achieve on carbon. We need to show empathy, ambition and progress on reducing our direct carbon footprint. The most difficult expectation will be the scale of the carbon reductions we can offer versus the 'science-based target' concepts of the Paris agreement on climate change. We mapped the actions we are already taking to help address these expectations, and what more can we do to better meet them.

The 10 stakeholder expectations of ArcelorMittal on carbon are:

1. Expression of empathy and concern regarding climate change
2. Knowing the risk of carbon and carbon policy to our business
3. Reduction in direct emissions
4. Breakthrough technology and a demonstration of ambition
5. Collaboration is king
6. Contribution to the circular economy
7. An action plan on carbon reduction
8. Suggestions of viable alternatives to the EU ETS
9. Transparency on our carbon emissions
10. Large carbon emitters will be in the spotlight

7: Supply chains that our customers trust

The outcome we need is for our customers to trust that we live up to their standards, both in our own steel and mining business, and in our supply chain.



“Trust in the supply chain goes into the sustainability of the supply chain itself and the impact it’s having on the environment. It’s important to us because it’s the right thing to do and secondly, it is something our customers and many other stakeholders are demanding today.”

Brian Aranha Executive vice president, head of strategy, CTO, R&D, CCM & global automotive and sponsor of outcome 7

[Hear more from Brian about sustainability standards for our customers](#) ▶

Outcome 7

Read more about this outcome on our website.

[Read more](#) ▶

We’re all surrounded by steel, in our cars, our kitchens, our cities – and customers, consumers, regulators and other stakeholders are increasingly interested in where it comes from, and the accountability of the businesses that produce it. Our customers are asking more and more questions about material issues in our supply chain as well as our operations, and expect us to know the answers. Our Code for Responsible Sourcing has served us well, but it doesn’t take us far enough in assuring what is a vast and complex supply chain. Our procurement spend is some US\$41 billion.

Supplying rails to Deutsche Bahn

ArcelorMittal secures another year of rail deliveries to Deutsche Bahn.

[Read more ▶](#)

Growing customer demand for information

In 2016, we saw more customer requests for information on the sustainability of their supply chain than ever before – both in our operations and in the extraction of raw materials we use – and the requests were more detailed. We had greater engagement with customers on supply chain standards, and from a wider range of industries – automotive, construction, household goods and packaging.

Many requests are driven by our customers' own sustainability ambitions, their assessment of risk, and their regulatory environment; some also see it as a way to strengthen their brand in response to changing consumer attitudes.

We believe our work on sustainable development is bringing us closer to those customers – for example, our ability to demonstrate good practice contributed to our winning an open tender for a valuable contract to supply 120-metre rails to Deutsche Bahn in 2016.

Driving sustainability standards in steel and mining

We see the increased interest in supply chain standards as an opportunity. We want to reassure our customers that our products are made according to sustainability standards they and their stakeholders expect, and to help raise standards across our supply chain and throughout our industry. In practice, this means working with a range of partners to develop a common approach across the industry.

“BMW Group has defined sustainability criteria that all our first-tier suppliers need to meet. Moreover, we are engaging in supply chains with high sustainability exposure to set up certification systems.”

Dr Alexander Nick

Head of sustainability strategy and management, BMW Group

A major focus of our work in 2016 was to lay the foundations for the development of two new multi-stakeholder standards, ResponsibleSteel™, and the Initiative for Responsible Mining Assurance (IRMA). By showing such leadership, we hope to strengthen our position as our customers' preferred supplier of steel and so support our Action 2020 goals.



Seizing the value chain opportunity



Alan Knight describes customers' growing interest in the assurance of their supply chain for steel and raw materials, and talks about progress...

[Read more ▶](#)



“ Our customers tell me that they trust ArcelorMittal because we are an open, honest, corporate citizen. ”

Jefferson de Paula
CEO ArcelorMittal South America Long

European carmakers come together to drive sustainability

Some of the biggest names in the European automotive industry have joined forces to form the European Automotive Working Group on Supply Chain Sustainability, which aims to improve the social, ethical and environmental performance of automotive supply chains.

[Read more](#)

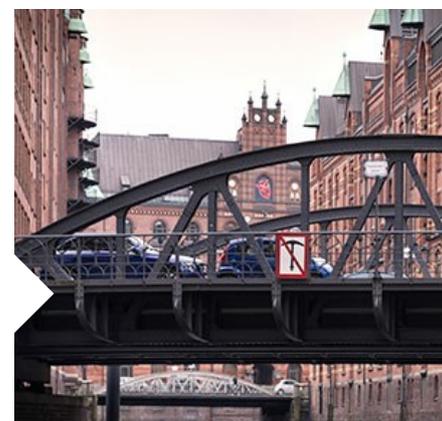


Standards backed by due diligence

We carry out due diligence on the business ethics record of new suppliers, using a proprietary database. Further to that, our Code for Responsible Sourcing, launched in 2011, sets out the broader sustainability commitments we expect from our suppliers, and describes how we can work together to achieve them. We ask all new global suppliers to sign up to the Code, and survey all our strategic and core suppliers on their implementation of it.

In 2016, we evaluated 387 core and strategic suppliers of raw materials, operating and industrial products, spare parts and land logistics. Where we detected the need for improvement, we designed action plans which made specific proposals to the supplier.

We know that our customers are starting to look for more than this. We know how hard it is for our buyers and primary suppliers to be really confident of the standards in their own supply chain through the use of questionnaires alone. We need to do more. So in 2016 we continued



to build on our mapping of social and environmental hotspots in our supply chain in order to prioritise more due diligence where it is most needed.

Focusing on hotspots

We know that the extraction of raw materials is where the most salient risks lie. We continued to engage with a multi-stakeholder working group on sustainable tin production in Indonesia, which we joined in 2015.

To go further in this priority part of our supply chain, in 2016 we joined the board of IRMA, an emerging third-party certification standard for mining, and we hope to pilot this standard in 2017. In addition, we also identified the need to do more work on the risks in our scrap steel supply chain, and will work with other stakeholders to pursue this in 2017.

What's next in 2017

1. We will continue to support ResponsibleSteel™ and IRMA through funding and by sitting on their boards.
2. We will test the feasibility of ResponsibleSteel™ at three of our European sites.
3. We will publish a statement about our human rights due diligence systems for our supply chain.

Performance at a glance

Metric	Unit	2016	2015	2014
Global procurement suppliers evaluated against our code for responsible sourcing	Number	387	424	181

8: Active and welcomed member of the community

The outcome we need is to be welcomed as good neighbours who actively engage with and listen to local stakeholders, and who make a positive contribution to communities through both our day-to-day operations and well-targeted investments.



“ We have a mindset that looks at the community as a long term partner. Having active and engaged stakeholders in our communities is really critical to our success, and we need to be a strong corporate citizen, building and leveraging partnerships to return value to those stakeholders. We've realised that what needs to be core to our community engagement strategy is building resilience in our communities – bringing in more economic drivers, building capacity for conservation efforts, STEM education. And we need to work with our partners so that we are not the sole providers. We don't have all the answers about how to tackle community need. It's great to have other partners involved. ”

Bill Steers General manager, communications and corporate responsibility in the NAFTA region

You can hear more about how we're creating shared value with the communities in which we work in this video ▶

Outcome 8

Read more about this outcome on our website.

[Read more ▶](#)

Our business will only be resilient and successful if the communities around us also thrive. By listening to our stakeholders and understanding the impacts our business has on those around us – both positive and negative – we are working proactively with communities to ensure that we're a welcomed, positive presence. Our aim is to bring long-term, measurable benefits to communities and at the same time ensure we have a social licence to operate. It is this combination that enables our business to focus on achieving our Action 2020 strategy, which in turn prepares us to enhance the value we create for society in the decades to come.

Supporting resilient and thriving communities

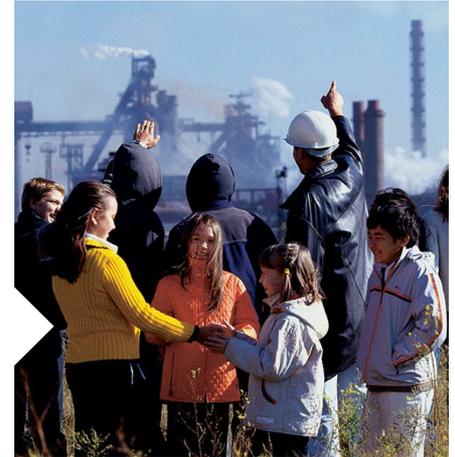
How our business creates shared value

Many people share in the success of our business. In 2016, we employed over 198,000 people directly, and over 43,000 contractors (full time equivalent) many of them in highly skilled jobs, and in communities where other employment opportunities are scarce. Thousands of businesses are supported in our supply chains, on which we spent over US\$41 billion through our procurement of goods and services in 2016. We also paid US\$741 million to governments in income and local taxes, supporting public spending and economic growth.

We publish more information about our local economic contributions in our country sustainability reports – see the report from [ArcelorMittal Poland](#) as an example, and we will continue to improve this reporting at local level in 2017.

Driving local economic development

To support economic development in the countries where we operate, we have established a number of local supplier initiatives, including the Integrated Program for Supplier Development and Qualification in Brazil, the Minority and Women Business Enterprises Programme in the US and the Enterprise and Supplier Development Programme in South Africa.





Award-winning supply chain diversity in US

General Motors presented ArcelorMittal USA with a top diversity award in 2016 for promoting businesses owned by minorities, women and veterans in our supply chain. Diversity in the supply chain creates long-term shared value for ArcelorMittal and its...



Enterprise and supplier development in SA

ArcelorMittal South Africa (AMSA) almost doubled the number of emerging businesses registered on its database, launched a business incubation hub, spent R6.4 million on enterprise development and R10 million on supplier development programmes.

Listening and responding to community needs

Our economic contributions are significant – but we know that they are not enough on their own. We can only continue to create value if we retain the trust and support of community stakeholders. We have been working alongside communities for many years, and we know the importance of open and honest communication. We continue to build relationships with community members which encourage dialogue, so that we can understand in detail what our impacts are, including when those impacts are negative and give rise to legitimate grievances – for example about the emissions from our steel plants.

That way we can adapt, prevent issues from arising where possible, and respond to those which have escalated.

In 2015, we issued new community grievance mechanism guidelines to improve this process, and in 2017 we will continue to advance wider adoption of these guidelines to ensure we are providing our stakeholders with effective channels of remediation.

We believe a good example of how to encourage dialogue with community stakeholders is provided by our colleagues in Dofasco (Canada), who have established a Community Liaison Committee. This is a regular forum run by ArcelorMittal with oversight from the Ministry of the Environment and Climate Change, open to stakeholders from education, industry, business and non-governmental organisations. The model has been shared between peers across the business and is now being replicated in Spain, Ukraine, Romania, Kazakhstan and Bosnia & Herzegovina.

Recognising stakeholder concerns in Liberia

In a volatile commodities market in which prices for iron ore in particular have fluctuated considerably, meeting stakeholder expectations can be...

[Read more ▶](#)

Investing in communities

By understanding communities' views and needs, we can work in partnership to maximise our positive impacts as well as to minimise areas of concern. We build these partnerships in many different ways, because every community in which we operate is unique. Our contribution can range from long-term, multi-stakeholder engagements for shared value, such as the [Sustain our Great Lakes](#) partnership, to joint initiatives supporting education in science, technology, engineering and maths (STEM) – described in Outcome 9. These initiatives are reported in each of our country sustainability reports. At corporate level we are undertaking a review of our data systems to ensure the integrity of our reporting across the company, and whilst this is ongoing, we are not reporting a consolidated figure on our community investments.

CSR Award for Maxico

ArcelorMittal Mexico was presented with two CSR awards for its community work in November 2016. One was in recognition for a long-standing community development project run in partnership with ChildFund Mexico.



Inspiring, and inspired by, employees

Our employees are members of the community as well as being part of ArcelorMittal, so it is not surprising that our investment in the community and our relations with community stakeholders are important to them. Our external reputation survey in the US last year highlighted what a key factor community relations are to the way employees feel about the company.

What's next in 2017

1. We will advance wider adoption of our community grievance mechanism guidelines by reviewing their implementation in three countries.
2. We will review and institute standardised metrics to measure social impact in our communities.

9: A pipeline of talented scientists and engineers for tomorrow

The outcome we need is to build a strong pipeline of talented and well-trained engineers, scientists and technicians to support society, and our business, in the future.



“ Our investment in STEM subjects is supporting a new generation of scientists and engineers that will transform the way we do business. ”

Daniele Quantin Sponsor of this outcome and director of human resources, global R&D

[Hear more from Daniele about developing the talent for our future economy](#) ▶

Outcome 9

Read more about this outcome on our website.

[Read more](#) ▶

Any vision of a sustainable future society must have science and technology at its heart. But who will create it, and whose talent, know-how and ingenuity will overcome the challenges it will face?

We've long recognised the importance of developing skills in STEM (science, technology, engineering and mathematics) among the next generation: they are essential to our industry and to our business, as well as to society as a whole. In fact, for ArcelorMittal, this outcome is a priority for adding long-term value to the business. So developing STEM skills is the global theme for our community investment strategy, and we're working with schools, colleges and universities all over the world to encourage, support, and reward STEM education.

The skills to thrive in an increasingly complex world

“ Science fiction is hugely popular in movies and computer games, so why isn't 'science reality'? Children are opting for finance and other areas of training instead of higher studies in science – we need to work with our education systems to attract young people to study science, and then to work with us. ”

Daniele Quantin

Like other steelmakers, we face a challenge: a shortage of candidates with the right skills to join our workforce. We need people with traditional engineering and technical qualifications, but we also need them to have the ability to adapt to change, exploit new technology, and thrive in an increasingly complex workplace. That means recruiting skills in new areas such as lifecycle analysis, robotics, data analysis, nanotechnologies, circular economics and 3D metallurgy.



“ A shortage of STEM skills is a critical workforce challenge – for our company, and for US manufacturing as a whole. We're partnering with local educational institutions so that we can work together on a syllabus that will give young people the skills they – and our business – need. ”

John Brett President and CEO, ArcelorMittal USA

[Read more about our STEM partnerships in the US](#) ▶

Le Prix des Innovateurs

An award that rewarded new ideas focused on big data and energy storage in its inaugural year.

[Read more](#) ▶

Inspiring the next generation

Our pipeline begins in schools, where we aim to inspire and encourage young students – and especially girls – to take an interest in science. After all, they will become the graduates of the 2020s and 2030s. For example, our Ghent site in Belgium hosts visits from hundreds of schools to give young learners an understanding of what's involved in modern steelmaking. In Brazil, our Environment Award has reached more than 200,000 students and 7,000 teachers across the country over the past 25 years, with 73,000 students involved in 2016 alone.

In addition, we fund prizes for college and university students such as 'Le Prix des Innovateurs' in France, which aims to motivate students to explore STEM themes.

212

internships at
ArcelorMittal
Temirtau

Partnerships for the long term

Connecting with future engineers and technicians is a priority everywhere we operate – so we've built a global network of initiatives. We've long worked in partnership with leading academic organisations around the world, including the universities of Stanford and MIT in the U.S., Cambridge in the UK, Lausanne in Switzerland, McMasters in Canada, and the China Central University. These partnerships foster productive collaboration on the big scientific and engineering questions in our industry, while helping us attract the best graduates.

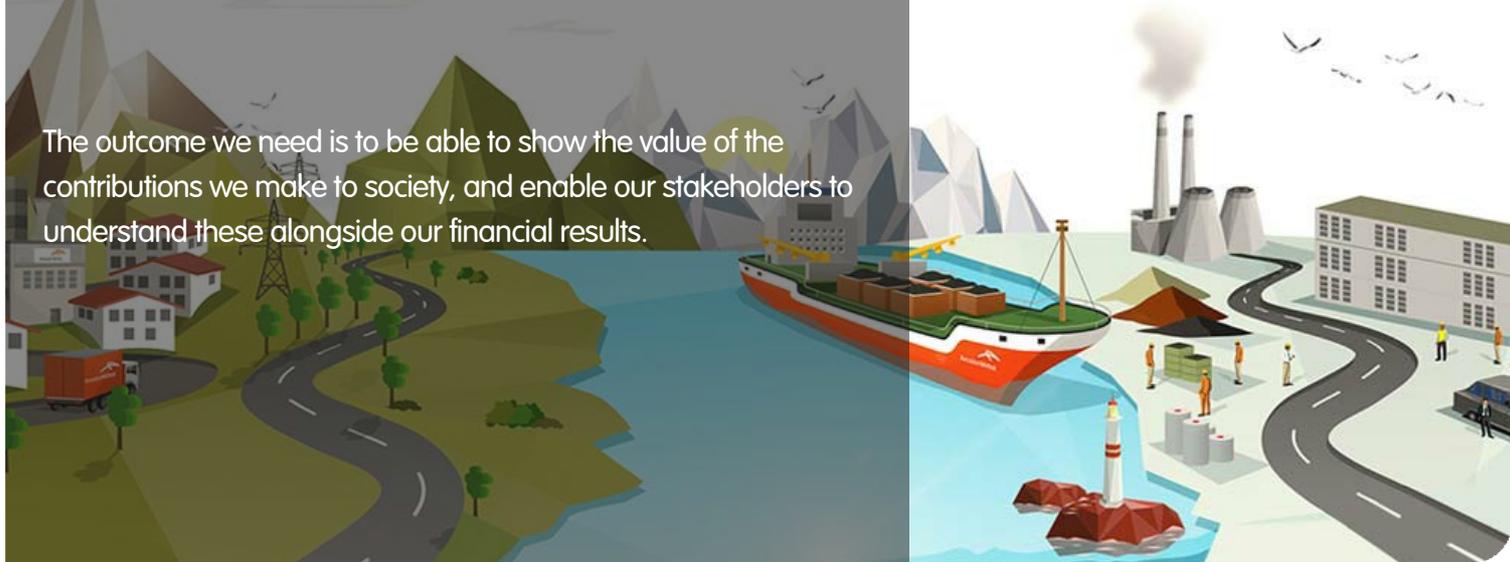
In 2016, our global R&D division alone gave long-term internships to more than 180 engineering students in their final year, and more than 60 PhD students. In a separate series of initiatives in Kazakhstan, 212 students took part in internships at ArcelorMittal Temirtau under our Memorandum of mutual cooperation with Karaganda State Industrial University (KSIU).

Other highlights from 2016 include:

- ArcelorMittal Mexico awarded 504 scholarships for STEM students in 2016
- ArcelorMittal Galati in Romania welcomed 100 graduates from Galati and Braila counties at its apprentice school
- ArcelorMittal Poland, ran a pilot vocational training programme involving the Zespół Szkół HTS vocational school in Kraków

10: Our contribution to society measured, shared and valued

The outcome we need is to be able to show the value of the contributions we make to society, and enable our stakeholders to understand these alongside our financial results.



“It’s important to be able to tell our stakeholders not only how well our company performs environmentally, but what impacts we are having on society – both positive and negative. That’s what enables people to look at our company and say ‘Ok, their contribution goes further than I had realized.’”

Henk Scheffer Sponsor of this outcome and group compliance officer

[Hear more from Henk about our contributions to society](#) ▶

Outcome 10

Read more about this outcome on our website.

[Read more](#) ▶

Different forms of value

We define our contribution to society in terms of different forms of value: the economic contributions we make to stakeholders; the changes in natural capital, including reductions in our carbon and other air emissions; the value for our people – in other words, the benefits of the employment opportunities we provide; and what the benefits of our innovation in the products we create.

These forms of value are of course intimately related. If we can develop more integrated thinking within the company, we will be better able to demonstrate how these forms of value relate to each other. This is the rationale behind integrated reporting.

Integrated thinking also helps us plan the right business strategies for the future. For example,

we know that we can create value for our customers and for our workforce and the community by driving common social and environmental standards in our value chain, something we are pursuing through the ResponsibleSteel™ certification scheme.

Another example is how the cost of carbon could impact on both the social value and the financial value that ArcelorMittal creates. In Germany for example we employ 9000 people in steelmaking. In order to protect our ability to continue this economic contribution to the German economy, we need to ensure that our profit levels are well above the cost of carbon in a future European emissions trading scheme, so that we can also invest in long term value creation. This is a complex trade-off you can read more about [here](#).

Measuring social impact

Social outcomes tend to be the result of many local factors and so for a global organisation, measuring impact at a global level will inevitably leave out much of the story. We want to develop a way to measure our impacts at country level. In 2016 we asked local operations to complete a dashboard assessment for outcome 10, prompting local management to consider the links between the social impacts of their operations, the profit they generate and their social licence to operate. In South Africa we have measured our social impacts in a standalone report since 2014 (the Factor report). In most countries, however, we do not yet measure social impact across the board, but in Poland, France, the US and Canada we have begun to do so in our country-level sustainable development reports. We are now in the process of drafting a global framework to align future social impact studies with the 10 SD outcomes we want to achieve.

Six years of integrated reporting in South Africa

ArcelorMittal South Africa has for the last six years published an integrated report, including details of the economic and social contributions it has made to the country's development.

[Read more](#)



Our economic contributions

Steel is the backbone of many economies. The payments we make to government provide a substantial component of public spending – in 2016 we contributed a total of \$4 billion to the treasuries of the countries in which we operate through a variety of taxes. Of course in many cases, steel is a core export and therefore a key source of foreign exchange – for example, ArcelorMittal was recognized as the leading exporter in both Ukraine and Bosnia & Herzegovina in 2016.

“ ArcelorMittal is committed to its operations in Ukraine and we are proud to be recognised as one of the major drivers of the country’s economy. ”

Paramjit Kahlon

Chief executive officer, ArcelorMittal Kryvyi Rih

Driving social impact in the supply chain

Many people share in the success of our business. In 2016, we employed 198,517 people directly, and 43,044 as contractors, many of them in highly skilled jobs, and in communities where other employment opportunities are scarce. We spent over \$41 billion on procurement in 2016, supporting thousands of further jobs in our supply chain in the 60 countries in which we have a presence. The impacts of this supply chain are numerous, and one example is illustrated by an award from a key customer, General Motors. The \$7.6 billion we pay in salaries and wages also have further indirect impacts in each country as our workforce spend their wages in the local economy.

Award-winning supply chain diversity in US

“ ArcelorMittal USA is very pleased that our successful supplier diversity program has been recognised with this award. ”

Eric Knorr

Vice president, procurement, ArcelorMittal USA

Diversity in the supply chain creates long-term shared value for us and our stakeholders: our US diversity programme allows us to provide an opportunity for minority-, women- and veteran-owned businesses to win contracts with the company; and as we develop their capacity, we are building good relationships with new local suppliers, which can provide us with commercial advantages.

For example, in May 2016, General Motors presented ArcelorMittal USA with a top diversity **award** for promoting businesses owned by minorities, women and veterans in our supply chain.

ArcelorMittal USA has averaged more than US\$200m in diversity spend with minority, women and veteran-owned business over the past two years. During this period the company has also doubled its diversity spend with qualified and certified diversity suppliers.

What's next in 2017

1. We will finalise a social impact framework.
2. We will publish a fully integrated report for 2017.

Performance at a glance

Metric	Unit	2016	2015	2014
Total estimated direct economic contribution	\$ million	56,202	63,316	78,839
of which ^[1]				
Corporate income tax	\$ million	296	398	337
Local taxes	\$ million	390	465	544
Payroll taxes	\$ million	3,193		
Other taxes	\$ million	95		
Employee salaries, wages and pensions	\$ million	7,637	10,880	12,718
Supplier and contractor payments	\$ million	40,489	46,569	59,062
Capital expenditure	\$ million	2,444	2,707	3,665
R&D	\$ million	239	227	259
Dividends and payments to creditors	\$ million	1,417	1,978	2,164

^[1] In 2016, the company undertook a review of all the taxes paid at a local level besides income tax. The figures published here are the result of that work, and represent a wider scope than reported in previous years. Details can be found in our Basis of Reporting.



We aim to be a business that optimises its ability to create value, continuing to serve the needs of customers and society in an increasingly resource-constrained, low-carbon world. Through the actions we're taking now, we're building our long-term resilience as a business that is successful in creating value for all our stakeholders.



\$2 bn
targeted annual free
cash flow through
Action 2020

Implementing our Action 2020 strategy

Action 2020 is our five-year strategic roadmap, launched in 2016. It outlines how each business segment will deliver real structural improvements that are unique to our business, resulting from improvements in cost, volume and product mix.

Achieving our Action 2020 targets will enable us to realise value and promote investment for the future. By 2020, the targeted improvements we've set each of our business segments aim to achieve free cash flow in excess of US\$2 billion on an annual basis.

Of course, the drive to improve our business will not stop in 2020. Technology is already enabling us to increase the mix of innovative, higher-added value products, improve service levels, drive supply continuity and improve safety, as well as maximising the productivity of our plants and mines. This will continue to be essential to our success. But if we achieve the Action 2020 targets we've set ourselves we know we'll have built a sound and highly-competitive foundation from which our business can continue to create value in the decades to come.

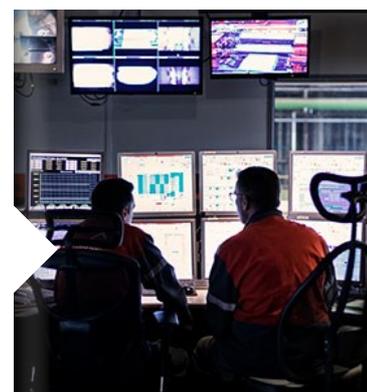
Action 2020

Read more about our
Action 2020 strategic
roadmap



Segments

How we're implementing
Action 2020 in our
business segments



Innovating for customers' long-term needs

We see the ability to innovate products and processes that solve customers' design challenges as being at the core of our long-term success. We've already established our position as leaders in innovation in a number of sectors. Automotive is a prime example, where we've long worked in close partnership with our customers on breakthrough advances in safe, weight-saving, and emissions-reducing steel solutions. By applying the same model to other industries, we can understand, anticipate and meet the needs of customers at the design stage.

Beyond 2020, we want to expand the realms of possibility for our customers by showing them how imaginative new solutions – advanced steels and revolutionised processes – can transform their products or the way they are made, sold and used.

Sustainable development will play an important part in this. We know that trends driven by technology, such as autonomous driving and car-sharing, will transform the way our customers offer their products. We also know that customers will, like us, increasingly seek solutions that offer social and environmental benefits.

Already, we're providing customers with a range of tools and data to help them assess the lifecycle impact of the steel they use. We have a number of new initiatives that will enable us

Sustainability tool

10 outcomes driving innovation.

[Read more](#) ▶

to create customer and broader stakeholder value beyond 2020. For example, our Steel in Modern Construction programme will enable architects and engineers to design the most sustainable buildings by looking at the lifecycle impacts of all the materials they use. Our new sustainability innovation tool, with which we plan to assess the social and environmental impact of every innovation in our R&D pipeline, will reassure us and our customers that ArcelorMittal's steel solutions are making a positive contribution to a more sustainable future.

High-performing organisation

We know that businesses like ours will have to become ever more adaptable in the years beyond 2020, and be able to anticipate and respond to the needs of customers and society more widely. The new technologies and approaches that are already changing our industry – robotics, digitalisation and big data – will need new skills and talents. We're building a lean, agile organisation, with a focus on these particular capabilities, in order to capitalise on the benefits these technologies bring.

Just one of the megatrends we are investigating is the digitalisation of both manufacturing and business. The ultimate goal of this initiative is to have a fully digitalised enterprise where manufacturing and business optimisation are fully linked together. To accomplish this, global R&D is developing a set of tools – both physical, such as sensors, and analytical, such as big data platforms.

This means ensuring a pipeline of the technical, scientific and engineering skills we'll need to continue being the leader and innovator of our industry. It also means identifying and nurturing the leaders who have the important strategic and communication skills to take us forward.

“ Regarding digitalisation, I am sure we are only at the beginning of capitalising on the opportunities it presents. It will be a key building block of our future business and performance. ”

Geert van Poelvoorde

CEO, ArcelorMittal Europe Flat Products

To find, retain and motivate these talented people, we're creating a culture that enables them to perform at their best, rewarding success and giving people opportunities while hearing and responding to their concerns. We believe our commitment to sustainable development will also prove increasingly important, as people want to know that their work is making a positive contribution to the world.

“ Robotisation. 3D printing. Big data. The questions that new technologies pose are fundamental to how our future economy will be run: it's not only a question of what benefits digitalisation can bring, but what new skills we will need, and what roles people

Our people

Creating a safe, high performance culture for the workforce of the future.

[Read more ▶](#)

will be freed up to play in a world where technology does so much more.”

Henri Blaffart

Executive vice-president, group head of human resources and corporate affairs

Responding to social and environmental trends

Our 10 sustainable development outcomes are designed to equip us to respond to society's long-term trends. The challenge by 2050 will be to ensure that the nine billion people living on earth can live well within a low-carbon, circular economy. The Paris Agreement on Climate Change and the UN's Sustainable Development Goals (SDGs) have now clearly indicated how governments, companies and civil society need to work together to respond to this challenge.

To sustain the lifestyles enjoyed in a developed economy, we use about 10 tonnes of steel per person, providing endless aspects of our quality of life that we take for granted – safety, shelter, mobility, clean water and healthcare to name but a few. A developing country typically uses less than half a tonne per person. What will it take to enable every person in the world to enjoy the quality of life that 10 tonnes of steel provides, without compromising the security of our climate?

Firstly, achieving a sustainable society will mean higher social and environmental standards, with businesses expected to know and show how their products are sourced and made, and to demonstrate that they create value, rather than erode it. This is the expectation for responsible production patterns encapsulated in SDG12. By 2020, we expect ResponsibleSteel™ to be the norm in our industry.

“Our customers know that sustainability standards are increasingly important to the young generation, who will become both the consumers and the leaders beyond 2020.”

Geert Van Poelvoorde

CEO, ArcelorMittal Europe – Flat Products

It will also mean developing a truly circular economy – a transformation in which we believe steel has a vital role. Although endlessly recyclable, there will not be enough obsolete scrap steel in the world to enable all new steel to be made from recycled scrap until 2070. So we are looking at the ways in which new ownership models will influence steel consumption in the future – in cars for example.

Sustainability Review 2016

Embedding and building on our 10 outcomes.

[Read more ▶](#)

“ In a circular economy world where nothing is wasted, where water and materials are a protected resource, we need to find new models to extend the life of the products we make, and ensure that one industry’s waste is another’s input collaboration. This will not only be a good idea, it will be the only way to survive. ”

Alan Knight

General manager, corporate responsibility

In the interim, we’re working on the technology to enable the steelmaking process itself to be part of a low-carbon, circular economy. One idea is to enable the carbon we need for the chemistry of steelmaking to be re-used so that society as a whole minimises its overall emissions.

For example, carbon capture and utilisation technology (CCU) can combine waste carbon with hydrogen to produce useful products such as liquid fuel. This has the potential to transform not just steel but those parts of the transport sector that are most difficult to decarbonise, such as heavy goods vehicles and aviation. Such advanced biofuels from CCU could even be used as a form of energy storage, to support intermittent renewable energy sources such as wind and solar power. And it doesn’t stop there. The possibilities to use steel’s by-products in place of fossil fuels to make other products are significant – plastics, rubber, paints and even protein, that would lock in carbon and prevent it from release into the atmosphere. Just as in the past, when the steel industry closed the materials loop by recycling scrap, could it in the future become the groundbreaker to close the carbon loop too? We’re starting before 2020, of course, but we are laying the foundations of a very different future.

“ Innovative cross-sector partnerships will help us to develop and industrialise carbon re-use technologies that have the potential to take waste products created in the steelmaking process and use them to transform many of the basic systems we take for granted. ”

Carl de Maré

Vice-president, technology strategy



Governance

Listening, learning, respect and transparency are key to the integrity of the company's leadership and governance.

Board of directors

Senior management

Governance structure



Business ethics

Human rights

Stakeholder relations



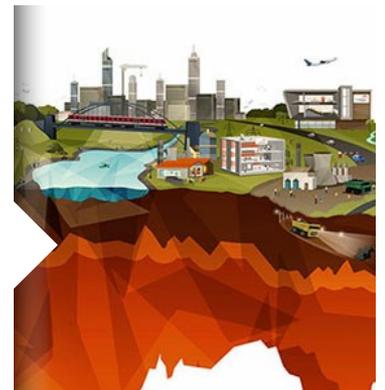
Corporate governance

Read our full corporate governance report.



Governance and 10 SD...

Read more about how good governance supports our 10 outcomes.



Board of directors

ArcelorMittal's board of directors is responsible for the strategic direction and oversight of the company.

The Board has 11 directors, of whom 10 are non-executives and seven are independent. Lakshmi Mittal, chairman and chief executive officer, is the only executive director on the board.

On 1 March 2017, ArcelorMittal's Board of Directors has taken note of Mr. Wilbur Ross' resignation from the Board as a consequence of his confirmation as US Secretary of Commerce.



Lakshmi N Mittal

Chairman and Chief Executive Officer

Lakshmi N Mittal, 66, is the Chairman and Chief Executive Officer of ArcelorMittal. Mr. Mittal started his career in steel in 1976 by founding Ispat Indo, a company that is still held privately by the Mittal family. He founded Mittal Steel (formerly the LNM Group) in 1989 and guided its strategic development, culminating in the merger in 2006 with Arcelor, to form ArcelorMittal, the world's largest steelmaker. He is widely recognised for the leading role he has played in restructuring the steel industry towards a more consolidated and globalised model.

Mr. Mittal is an active philanthropist and a member of various boards and trusts, including chairman of the board of Aperam and the boards of Goldman Sachs and Airbus N.V. (previously EADS NV). He is a member of the Foreign Investment Council in Kazakhstan, the World Economic Forum's International Business Council and the World Steel Association's Executive Committee. He also sits on the board of trustees of Cleveland Clinic in the USA.

In 1996, Mr. Mittal was awarded 'Steelmaker of the Year' by New Steel in the United States and in 1998 the 'Willy Korf Steel Vision Award' by World Steel Dynamics for outstanding vision, entrepreneurship, leadership and success in global steel development. He was named Fortune magazine's 'European Businessman of the Year 2004'. Mr. Mittal was awarded 'Business Person of 2006' by *The Sunday Times*, 'International Newsmaker of the Year 2006' by *Time Magazine* and 'Person of the Year 2006' by the *Financial Times* for his outstanding business achievements.

In January 2007, Mr. Mittal was presented with a Fellowship from King's College London, the college's highest award. He also received in 2007 the Dwight D. Eisenhower Global Leadership Award, the Grand Cross of Civil Merit from Spain and was named AIST Steelmaker of the year. In January 2008, Mr. Mittal was awarded the Padma Vibhushan, India's second highest civilian honour, by the President of India. In September 2008, Mr. Mittal was chosen for the third 'Forbes Lifetime Achievement Award', which honours heroes of entrepreneurial capitalism and free enterprise.

In October 2010, he was awarded the World Steel Association's medal in recognition of his services to the Association as its Chairman and also for his contribution to the sustainable development of the global steel industry. In January 2013, Mr. Mittal was awarded with a Doctor Honoris Causa by the AGH University of Science and Technology in Krakow, Poland.

Mr. Mittal is a citizen of India.



Lewis B Kaden

Lead independent director

Lewis B Kaden, 74, is the Lead independent director of ArcelorMittal, a member of the Audit & Risk Committee, and chairman of the Appointments, Remuneration and Corporate Governance Committee. He has approximately 40 years of experience in corporate governance, financial services, dispute resolution and economic policy. He is currently Senior Adviser of TGG Group and the John Harvey Gregory Lecturer on World Organization at Harvard University.

Mr. Kaden was vice chairman of Citigroup between 2005 and 2013. Prior to that, he was a partner of the law firm Davis Polk & Wardwell, and served as Counsel to the Governor of New Jersey, as a Professor of Law at Columbia University, and as director of Columbia University's Center for Law and Economic Studies.

He has served as a director of Bethlehem Steel Corporation for ten years and is currently chairman of the Board of Trustees of the Markle Foundation and vice chairman of the Board of Trustees of Asia Society.

He is a member of the Council on Foreign Relations and of the Trilateral Commission, and is also moderator of the Business-Labor Dialogue. He is a Senior Fellow of the Moussavar-Rahmani Center on Business and Government at the Harvard Kennedy School of Government and Senior Fellow of the Program on Corporate Governance at the Center on the Legal Profession at Harvard Law School.

Mr. Kaden is a citizen of the USA.



Narayanan Vaghul

Non-executive director

Narayanan Vaghul, 80, is a non-executive and independent director of ArcelorMittal as well as the chairman of the Audit & Risk Committee. He has over 50 years of experience in the financial sector and was the chairman of ICICI Bank Limited between 2002 and April 2009.

Previously, he served as the chairman of the Industrial Credit and Investment Corporation of India, a long-term credit development bank, for 17 years and, prior to that, served as chairman of the Bank of India and executive director of the Central Bank of India. He also served for brief periods as a consultant to the World Bank, the International Finance Corporation and the Asian Development Bank.

Mr. Vaghul has been a visiting professor at the Stern Business School at New York University and a board member of Mahindra & Mahindra. He is chairman of the Indian Institute of Finance Management & Research and is also a board member of Wipro, Piramal Healthcare Limited and Apollo Hospitals.

Mr. Vaghul was chosen as a Businessman of the Year in 1992 by *Business India*. He also received a Lifetime Achievement Award from the *Economic Times*. In 2009, he was awarded the Padma Bhushan, India's third highest civilian honour.

Mr. Vaghul is a citizen of India.



Bruno Lafont

Non-executive director

Bruno Lafont, 60, is a non-executive and independent director of ArcelorMittal and a member of the Audit & Risk Committee. He began his career at Lafarge in 1983 and has held numerous positions in finance and international operations with the same company. In 1995, Mr. Lafont was appointed Group Executive Vice President, Finance, and thereafter Executive Vice President of the Gypsum Division in 1998. He joined Lafarge's General Management as Chief Operating Officer in May 2003, and held that post until December 2005. He was appointed Chief Executive Officer in January 2006, and Chairman and Chief Executive Officer in May 2007. In July 2015, Mr. Lafont was appointed co-chairman of the board of directors of LafargeHolcim and Honorary Chairman of Lafarge.

Mr. Lafont currently chairs the Energy & Climate Change Working Group of the ERT (European Roundtable of Industrialists) and the Sustainable Development Commission of the MEDEF (Mouvement des Entreprises de France), the French Employers' Association.

He is a member of the Executive Committee of the World Business Council for Sustainable Development (WBCSD) and a Board member of the AFEP (French large companies association). He is also a Special Adviser to the Mayor of Chongqing (China) and a board member of EDF.

Mr Lafont is a graduate from the Hautes Etudes Commerciales business school (HEC 1977, Paris) and the Ecole Nationale d'Administration (ENA 1982, Paris).

Mr. Lafont is a citizen of France.



Vanisha Mittal Bhatia

Non-executive director

Vanisha Mittal Bhatia, 36, is a non-independent director of ArcelorMittal. She was appointed as a member of the LNM Holdings board of directors in June 2004. Mrs Mittal Bhatia was appointed to Mittal Steel's board of directors in December 2004. She joined Aperam in April 2011 and is its chief strategy officer.

Mrs Mittal Bhatia has a Bachelor of Sciences from the European Business School. She is also the daughter of Mr. Lakshmi N Mittal.

Mrs. Mittal Bhatia is a citizen of India.



Tye Burt

Non-executive director

Tye Burt, 59, is a non-executive and independent director of ArcelorMittal and a member of the Appointments, Remuneration and Corporate Governance Committee. He was appointed President and Chief Executive Officer of Kinross Gold Corporation in March 2005, and held this position until August 1, 2012. Kinross is listed on the New York Stock Exchange and the Toronto Stock Exchange. Mr. Burt was also a member of the board of directors of Kinross.

Mr. Burt has broad experience in the global mining industry, specialising in corporate finance, business strategy and mergers and acquisitions. Prior to joining Kinross, he held the position of Vice Chairman and Executive Director of Corporate Development at Barrick Gold Corporation. He was President of the Cartesian Capital Group from 2000 to 2002; Chairman of Deutsche Bank Canada and Deutsche Bank Securities Canada; Global Managing Director of Global Metals and Mining for Deutsche Bank AG from 1997 to 2000; and Managing Director and Co-Head of the Global Mining Group at BMO Nesbitt Burns from 1995 to 1997, holding various other positions at BMO Nesbitt Burns from 1986 to 1995.

Mr. Burt is the Chairman of Urthecast Corp., a small Canadian TSX-listed company in the aerospace technology business. He is also the Chair and Principal at Carbon Arc Capital Investments Corp. and the Life Sciences Research Campaign Chair of the University of Guelph's Better Planet Project. Mr. Burt is a member of the Duke of Edinburgh's Award Charter for Business Board of Governors.

He is a graduate of Osgoode Hall Law School, a member of the Law Society of Upper Canada, and he holds a Bachelor of Arts degree from the University of Guelph.

Mr. Burt is a citizen of Canada.



Jeannot Krecké

Non-executive director

Jeannot Krecké, 66, is a non-executive and non-independent director of ArcelorMittal. He started his university studies at the Université Libre de Bruxelles (ULB) in Belgium in 1969, from where he obtained a degree in physical and sports education. He decided in 1983 to change professional direction. His interests led him to retrain in economics, accounting and taxation. He enrolled in various courses, in particular in the USA.

Following the legislative elections of June 13, 2004, Mr. Krecké was appointed Minister of the Economy and Foreign Trade of Luxembourg on July 13, 2004. Upon the return of the coalition government formed by the Christian Social Party (CSV) and the Luxembourg Socialist Workers' Party (LSAP) as a result of the legislative elections of June 7, 2009, Mr. Krecké retained the portfolio of Minister of the Economy and Foreign Trade on July 23, 2009.

As of July 2004, Mr. Krecké represented the Luxembourg government at the Council of Ministers of the EU in the Internal Market and Industry sections of its Competitiveness configuration as well as in the Economic and Financial Affairs Council and in the Energy section of its Transport, Telecommunications and Energy configuration. He was also a member of the Eurogroup from July 2004 to June 2009.

On February 1, 2012, Mr. Krecké retired from government and decided to end his active political career in order to pursue a range of different projects. Mr. Krecké is currently the CEO of Key International Strategy Services. He is a member of the boards of JSFC Sistema, of East West United Bank, of China Construction Bank Europe, of Calzedonia Finanziaria S.A., Jan De Nul S.A. and Novenergia Holding Company S.A.

Mr. Krecké is a citizen of Luxembourg.



Suzanne P Nimocks

Non-executive director

Suzanne P Nimocks, 57, is a non-executive and independent director of ArcelorMittal and a member of the Appointments, Remuneration and Corporate Governance Committee. She was previously a director (senior partner) with McKinsey & Company, a global management consulting firm, from June 1999 to March 2010, and was with the firm in various other capacities beginning in 1989, including as a leader in the firm's Global Petroleum Practice, Electric Power & Natural Gas Practice, Organization Practice, and Risk Management Practice.

Mrs. Nimocks chaired the Environmental Committee of the Greater Houston Partnership, the primary advocate of Houston's business community, until December 31, 2010. She holds a Bachelor of Arts in Economics from Tufts University and a Masters in Business Administration from the Harvard Graduate School of Business.

Mrs. Nimocks is currently a board member for Encana Corporation, Rowan Companies Plc, and Owens Corning, all listed companies. Encana is a major natural gas exploration and production company; Rowan Companies provides drilling services for the oil and gas industry; and Owens Corning is a manufacturer of building products. In the non-profit sector, she chairs the board of directors of the Houston Zoo and serves as a Trustee of the Texas Children's Hospital.

Mrs. Nimocks is a citizen of the USA.



Karel de Gucht

Member Designation

Karel de Gucht served as the European Commissioner for Development and Humanitarian Aid in the first Barroso Commission (2009–2010) and for Trade in the second Barroso Commission (2010–2014).

Prior to that, Mr de Gucht was Belgium's Minister of Foreign Affairs (2004–2009) and Vice Prime Minister (2008–2009). In addition to this, he was the chairman in office of the Organization for Security and Cooperation in Europe (OSCE) (2006) and a member of the Security Council of the United Nations (2007–2008).

Karel de Gucht is a professor of Law at VUB (the Dutch-speaking Free University of Brussels), a member of the advisory board of CVC Capital Partners, a member of the board of directors of Proximus NV (Telecom) and the president of the board of IES, the Brussels Institute of European Studies.

Mr. de Gucht holds a master of Law degree from the VUB. He is a citizen of Belgium.



Michel Wurth

Non-executive director

Michel Wurth, 62, is a non-independent director of ArcelorMittal. He joined Arbed in 1979 and held a variety of functions before joining the Arbed Group Management Board (GMB) and becoming its chief financial officer in 1996. The merger of Acelaria, Arbed and Usinor, leading to the creation of Arcelor in 2002, led to Mr. Wurth's appointment as senior executive vice president and CFO of Arcelor. He became a member of ArcelorMittal's Group Management Board in 2006, responsible for Flat Carbon Europe, Global R&D, Distribution Solutions and Long Carbon Worldwide, respectively. He retired from the GMB in April 2014 and was elected to ArcelorMittal's board of directors in May 2014.

Mr. Wurth holds a law degree from the University of Grenoble, France, and a degree in political science from the Institut d'Études Politiques de Grenoble as well as a Master's of Economics from the London School of Economics, UK. He is also doctor of laws honoris causa of the Sacred Heart University, Luxembourg.

Mr. Wurth has served as chairman of the Luxembourg Chamber of Commerce since 2004. He is also non-executive chairman of Paul Wurth S.A. and of BIP Investment Partners and non-executive director of BGL BNP Paribas S.A., of SMS Group and of Brasserie Nationale. Paul Wurth S.A. is controlled by SMS Group, a leading equipment and engineering supplier for the steel and non-ferrous metal producing industry. BIP Investment Partners is a Luxembourg-based company, mainly invested in private equity; BGL BNP Paribas is a Luxembourg bank, majority owned by BNP of France; and Brasserie Nationale is a privately-owned brewery based in Luxembourg.

Mr. Wurth is a citizen of Luxembourg.



Karyn Ovelmen

Non-executive director

Karyn Ovelmen, 53, is a non-executive and an independent director of ArcelorMittal and a member of the Audit & Risk Committee. She is the Executive Vice President and Chief Financial Officer of Flowserve, a leading provider of flow control products and services for the global infrastructure market, a position that she has held since June 2015. Most recently she also served as Chief Financial Officer and Executive Vice President of LyondellBasell Industries NV from 2011 to May 2015, as Executive Vice President and Chief Financial Officer of Petroplus Holdings AG from May 2006 to September 2010, and as Executive Vice President and Chief Financial Officer of Argus Services Corporation from 2005 to 2006. Prior to that, she was Vice President of External Reporting and Investor Relations for Premcor Refining Group Inc.

Mrs. Ovelmen also spent 12 years with PricewaterhouseCoopers, primarily serving energy industry accounts. She holds a Bachelor of Arts degree from the University of Connecticut, and is a Certified Public Accountant (CPA) of AICPA.

Mrs. Ovelmen is a citizen of the USA.

Senior management

Our executive officers are responsible for the implementation of the company strategy, overall management of the business and all operational decisions.

ArcelorMittal's CEO and CFO work closely with a team of six executive officers to manage the business, supported by a management committee of senior leaders from across the company.



Lakshmi N Mittal

Chairman and Chief Executive Officer

Lakshmi N Mittal, 66, is the Chairman and Chief Executive Officer of ArcelorMittal. Mr. Mittal started his career in steel in 1976 by founding Ispat Indo, a company that is still held privately by the Mittal family. He founded Mittal Steel (formerly the LNM Group) in 1989 and guided its strategic development, culminating in the merger in 2006 with Arcelor, to form ArcelorMittal, the world's largest steelmaker. He is widely recognised for the leading role he has played in restructuring the steel industry towards a more consolidated and globalised model.

Mr. Mittal is an active philanthropist and a member of various boards and trusts, including chairman of the board of Aperam and the boards of Goldman Sachs and Airbus N.V. (previously EADS NV). He is a member of the Foreign Investment Council in Kazakhstan, the World Economic Forum's International Business Council and the World Steel Association's Executive Committee. He also sits on the board of trustees of Cleveland Clinic in the USA.

In 1996, Mr. Mittal was awarded 'Steelmaker of the Year' by New Steel in the United States and in 1998 the 'Willy Korf Steel Vision Award' by World Steel Dynamics for outstanding vision, entrepreneurship, leadership and success in global steel development. He was named Fortune magazine's 'European Businessman of the Year 2004'. Mr. Mittal was awarded 'Business Person of 2006' by *The Sunday Times*, 'International Newsmaker of the Year 2006' by *Time Magazine* and 'Person of the Year 2006' by the *Financial Times* for his outstanding business achievements.

In January 2007, Mr. Mittal was presented with a Fellowship from King's College London, the college's highest award. He also received in 2007 the Dwight D. Eisenhower Global Leadership Award, the Grand Cross of Civil Merit from Spain and was named AIST Steelmaker of the year. In January 2008, Mr. Mittal was awarded the Padma Vibhushan, India's second highest civilian honour, by the President of India. In September 2008, Mr. Mittal was chosen for the third 'Forbes Lifetime Achievement Award', which honours heroes of entrepreneurial capitalism and free enterprise.

In October 2010, he was awarded the World Steel Association's medal in recognition of his services to the Association as its Chairman and also for his contribution to the sustainable development of the global steel industry. In January 2013, Mr. Mittal was awarded with a Doctor Honoris Causa by the AGH University of Science and Technology in Krakow, Poland.

Mr. Mittal is a citizen of India.



Aditya Mittal

CEO ArcelorMittal Europe and Group CFO

Aditya Mittal, 40. Prior to the merger to create ArcelorMittal, Mr. Aditya Mittal held the position of President and Chief Financial Officer of Mittal Steel Company from October 2004 to 2006. He joined Mittal Steel in January 1997 and has held various finance and management roles within the company. In 1999, he was appointed Head of Mergers and Acquisitions for Mittal Steel. In this role, he led the company's acquisition strategy, resulting in Mittal Steel's expansion into Central Europe, Africa and the USA. Besides M&A responsibilities, Mr. Aditya Mittal was involved in post-integration, turnaround and improvement strategies. As Chief Financial Officer of Mittal Steel, he also initiated and led Mittal Steel's offer for Arcelor to create ArcelorMittal, the first 100 million tonnes plus steel company.

In 2008, Mr. Aditya Mittal was awarded 'European Business Leader of the Future' by CNBC Europe. In 2011, he was ranked 4th in the '40 under 40' list of Fortune magazine. He is a Young Global Leader of the World Economic Forum, a board member at the Wharton School and a board member at Iconiq Capital.

Mr. Aditya Mittal holds a Bachelor's degree of Science in Economics with concentrations in Strategic Management and Corporate Finance from the Wharton School in Pennsylvania, USA. Mr. Aditya Mittal is the son of Mr. Lakshmi N Mittal.

Mr. Aditya Mittal is a citizen of India.



Brian Aranha

Executive vice president, head of strategy, CTO, R&D, CCM and global automotive

Brian Aranha, 61, is executive vice president, head of strategy, CTO, R&D, CCM and global automotive. He is also in charge of automotive joint ventures in China and India.

Mr. Aranha joined Dofasco in 1979 as a member of the company's research and development department. In 1989, he was appointed to the American Iron & Steel Institute (AISI) in Washington, D.C., and in 1991, he was part of a Canadian consortium conducting a study for the World Bank on restructuring the Polish steel industry.

In 1992, Mr. Aranha returned to Dofasco as project manager responsible for the delivery improvement team. In 1993, he was appointed general manager of quality systems and became purchasing assistant director in 1998.

Mr. Aranha took on the role of director of the automotive business in 2001, a position that he held until being named vice president of commercial in 2003. He took up additional responsibilities as vice president of NAFTA automotive, after its integration into ArcelorMittal in 2007. He moved to Flat Carbon Europe in 2008 as chief marketing officer of industry.

Mr. Aranha holds a Bachelor of Applied Sciences and Engineering from the University of Toronto.

Mr. Aranha is a citizen of Canada.



Henri Blaffart

Executive vice president, group head of HR and corporate services

Henri Blaffart, 62, is executive vice president and has been a member of the Management Committee of ArcelorMittal since April 2013. He is head of group human resources (HR) and, in addition to his role, he also took responsibility for corporate services (including legal, capital goods, shipping, communication and corporate responsibility, IT council) in January 2014. Since June 2015, he has been responsible for the joint venture ArcelorMittal Tubular Jubail (AMTPJ). He is also chairman of the board of AMTPJ.

Before 2013, Mr. Blaffart was head of HR for the company's Flat Carbon Europe segment and a member of the segment Management Committee, a position he took up in April 2010. Previously, he was chief executive officer (CEO) of ArcelorMittal Lorraine in France, having first been head of primary for the same operation.

Henri joined the group in 1982 as strategy and research and development (R&D) Director in Liège, Belgium. He has held a number of other positions in the company including R&D director for construction and CEO of the former Arcelor's research division.

Mr. Blaffart qualified as a civil engineer at the University of Liège, Belgium and holds a master's degree in general management from the Ecole d'Entreprise pour le Perfectionnement au Management in Belgium.

Mr. Blaffart is a citizen of Belgium.



Jefferson de Paula

Executive vice president, CEO ArcelorMittal South America Long

Jefferson de Paula, 58, is executive vice president, Chief Executive Officer (CEO) ArcelorMittal South America Long and is also a member of the group's Management Committee.

With a career spanning over 32 years in the steel business, Mr. de Paula joined the group in 1993 and has held several positions including CEO of Long Carbon Americas; CEO Long Carbon South Division Europe; Chief Operating Officer (COO) of Sections, Rails, Piles, Special Sections Long Carbon Europe; Executive Director of ArcelorMittal Argentina (Acindar); COO ArcelorMittal Argentina (Acindar); and Plant General Manager at ArcelorMittal Vitória (Brazil) plant.

Mr. de Paula is also a member of the boards of ArcelorMittal in Argentina and Trinidad & Tobago as well as chairman of the advisory board of BBA (ArcelorMittal's wire drawing joint venture with Bekaert in Brazil). Mr. de Paula also serves as member of the FIEMG (State of Minas Gerais Industry Federation) Strategic Advisory Board.

Mr. de Paula is a citizen of Brazil.



Robrecht Himpe

Executive vice president, president and CEO AM/NS Calvert, CEO ArcelorMittal North America

Robrecht started his career at the Sidmar Gent hot strip mill in 1981, and became responsible for its cold rolling department in 1995. In 2001, he was appointed operational director of Bremen, before becoming operational director of Asturias in 2003.

In 2006, he became vice president FCWE upstream and then chief operating officer in 2007. In 2008, he pursued his career as CEO of Flat Carbon Europe, before being appointed as head and safety and chief technology officer, positions he held until December 2015.

In July 2016, he was appointed CEO ArcelorMittal North America, a role he has been holding in addition to his responsibilities as President and CEO of AM/NS Calvert.

Robrecht is an electro-technical engineer and a graduate of the University of Gent, Belgium.



Geert Van Poelvoorde

Executive vice president, CEO ArcelorMittal Europe Flat

Geert Van Poelvoorde, 51, is executive vice president, chief executive officer (CEO), ArcelorMittal Europe Flat Products, with additional responsibility for the ArcelorMittal Europe purchasing platform. He is also President of Eurofer. Mr. Van Poelvoorde started his career in 1989 as a project engineer at the Sidmar Ghent hot strip mill, where he held several senior positions in the automation and process computer department. He moved to Stahlwerke Bremen in 1995 as senior project manager.

Between 1998 and 2002 Mr. Van Poelvoorde headed a number of departments, and in 2003 he was appointed director of Stahlwerke Bremen, responsible for operations and engineering.

In 2005, he returned to ArcelorMittal Gent to take up the position of chief operating officer (COO) primary. In 2008 he became CEO of ArcelorMittal Gent with direct responsibility for primary operations. He was appointed CEO of the Business Division North within Flat Carbon Europe in 2009 and, since January 2014, CEO, Flat Carbon Europe.

Mr. Van Poelvoorde graduated from the University of Ghent, Belgium, with a degree in civil engineering and electronics.

Mr. Van Poelvoorde is a citizen of Belgium.



Simon Wandke

Executive vice president, CEO ArcelorMittal Mining

Simon Wandke, 58, is executive vice president and CEO of ArcelorMittal Mining. He has over 30 years' experience in the international mining and minerals industry and joined the company in January 2011 as chief commercial officer. Mr. Wandke's career began in 1981 at BHP Billiton, where he held positions in mines in Australia and Indonesia and other commercial offices globally rising to VP level. In 2002 he joined Destra Consulting Group LLC as a Partner. In 2006 he was appointed chief marketing officer and a member of the core team to list Ferrexpo plc in 2006 and, until joining ArcelorMittal, was based in Hong Kong, Switzerland and the UK.

Simon is a graduate of the Australian Institute of Company Directors with a Diploma in Company Directorship. He also holds a Graduate Diploma in Corporate Finance from Swinburne University, Australia, as well as a B.A., Psych, Marketing (Commerce) from the University of Melbourne, Australia.

Mr. Wandke is a citizen of the UK and Australia.

Governance structure

Corporate governance

Read our full corporate governance report.

[Read more ▶](#)

ArcelorMittal is a public limited liability company (société anonyme) incorporated in Luxembourg. It is governed by a board of directors in accordance with the requirements set out in the company's articles of association. The board of directors is in charge of the overall governance and direction of ArcelorMittal. It delegates daily management of the company and implementation of strategy to a group of executive officers, headed by the only executive board director, Lakshmi Mittal, our Chairman and CEO.

Our board of directors comprises a large majority of independent directors, with seven independents out of a total of 11 members. To ensure proper checks and balances are in place, a lead independent director – who presides over the independent directors – sets the agenda for board meetings with the Chairman and leads the independent directors in regular executive sessions. Our lead independent director is Lewis B Kaden.

Our Appointments, Remuneration and Corporate governance committee comprises three directors, all of whom are independent. Our Audit & Risk committee has five directors, all of whom are independent.

Group structure

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.

[Read more](#)



Business ethics



“ Integrity and reputation are key assets that must be preserved at all times. ”

Lakshmi Mittal

Chairman and CEO

Good corporate governance goes beyond regulatory requirements and extends to the commitment of individual employees to be good corporate citizens, acting with integrity in everything they do. We must strive to create a positive culture in which everyone wants and knows how to do the right thing.

Our commitment to integrity starts with our 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 - \(Peace, justice and strong institutions\)](#).

Compliance and our code of business conduct

Our code of business conduct brings together for employees what acting with integrity means in practice. It applies to all directors, officers and employees of ArcelorMittal and our subsidiaries worldwide, and employees undergo training on our code and other aspects of compliance every three years. In 2016, 81% of all employees had received up-to-date training in the code of business conduct.

We continually monitor legal requirements and best practice in the USA, the European Union and Luxembourg to make improvements to our corporate governance standards and procedures when necessary.

Good governance

Read more about how transparent good governance supports our 10 outcomes.

[Read more ▶](#)

Partnership with Transparency International in Brazil



May 2016: in Brazil, where transparency is of particular concern to stakeholders, we announced a partnership with the NGO Transparency International....

[Read more ▶](#)

30

whistleblowing
hotlines

Confidential reporting of breaches

Both employees and other stakeholders can report any breaches of our policies and standards via the confidential whistleblowing facility on our corporate website. We also have confidential whistleblowing hotlines in 30 major countries of operation. From these systems in 2016, we received 153 complaints relating to alleged fraud, of which none were found to be significant.

Performance table

Metric	Unit	2016	2015	2014
Employees trained on code of business conduct	%	81	82	76
Employees trained on anti-corruption	%	76	80	82
Employees trained on human rights	%	84	81	76
Whistleblowing lines	Number	30	30	30

Human rights

Our human rights policy was first developed in 2010, and in 2016 we reviewed it in line with the United Nations Guiding Principles on Business and Human Rights and the UK Modern Slavery Act. The policy will be revised in 2017.

We require all relevant employees to undergo human rights training every three years. We focus additional resources on any areas where we see particular compliance risks. For example, in December, we held workshops on integrity and human rights for employees in Kazakhstan.

We provide our stakeholders – employees, contractors, community members – with the facility to raise a grievance of any kind with the company via a confidential grievance mechanism at site level, or country-level whistleblowing lines. We also have a central whistleblowing line on our corporate website. In 2016, our global assurance team received 80 complaints relating to workforce issues*, of which 22 were substantiated. During the year we resolved 63 complaints, some of which were received the previous year.

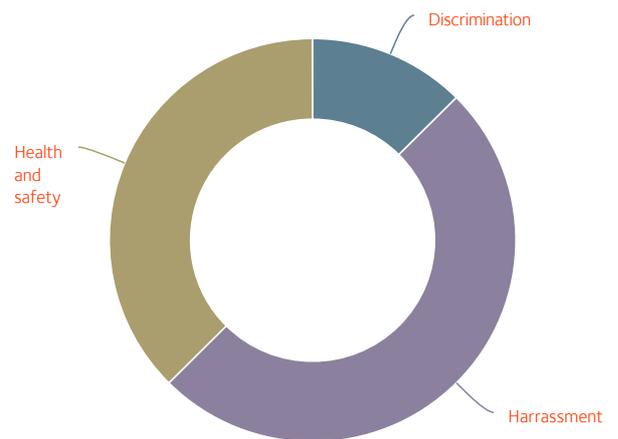


Human rights training

84%

of employees trained in human rights

Complaints relating to workforce issues



Human rights statement

In June 2017, we will publish a human rights statement in line with the UK Modern Slavery Act.

Due diligence review

Following our review of our human rights due diligence systems in 2015, we undertook further work in 2016. In summary, we:

- Carried out dashboard assessments of SD outcomes 1 (people) and 8 (communities) in all countries.
- Continued to map social and environmental hotspots, both in our operations and our supply chain.
- Drew up a gap analysis of our due diligence systems.
- Drafted revisions to our human rights policy in line with the UK Modern Slavery Act.

As a result we are preparing an action plan to improve the implementation of the Company's human rights standards, focusing particularly on where human rights risks are most salient – in the raw materials part of our supply chain. This focus on has led us to play a leading role in the development of a sustainability certification scheme for raw materials, the Initiative for Responsible Mining Assurance (IRMA).

Stakeholder relations

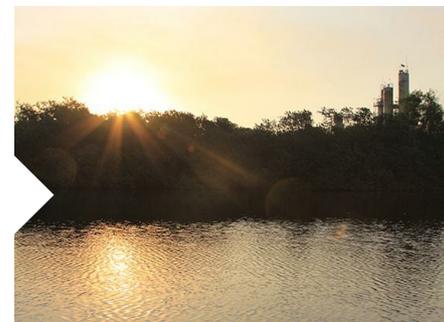
Stakeholder engagement

Throughout this report we demonstrate our aim to be open and honest with all our stakeholders, taking their interests into account and engaging with them regularly.

We identified [our key stakeholders in an exercise](#) undertaken in 2014. As outlined in [our value creation model](#), they are: customers, workforce, governments, investors and communities. The top non-financial issues raised by these stakeholders continue to be safety and climate change.

We carry out reputation surveys of all our key stakeholder groups at country level, using a third party to ensure rigour and objectivity in the approach. This year we undertook these in France and in the US. Among our employees, we carry out a Speak Up! survey every two years across all our sites. Each business unit measures the satisfaction of its customers. And we engage on a continuous basis with investors, not only through our continuous [reporting](#) but via roadshows, roundtables and one-to-one conversations.

On particular issues we may make focused efforts to engage stakeholders. In 2016, for example, as part of our work towards our carbon strategy, we consulted widely with a variety of stakeholders as discussed in outcome 6.



Climate change

10 key expectations of stakeholders on climate change



Stakeholders relations

Read more about how we work with stakeholders



76%

country sustainability reports aligned with GRI G4 guidelines

Transparency through reporting

Reporting is central to our promise of openness with stakeholders. We are committed to applying best practice standards in corporate governance, in our dealings with shareholders and other stakeholders, and with respect to transparency and quality of disclosure and reporting. Our journey to integrated reporting through this Annual Review is central to this. We published 17 country sustainability reports in 2016, alongside our disclosures to the Carbon Disclosure Project on climate change and water, and a number of investor and customer surveys.

Sustainability performance

SD data table 2016¹

Metric	Unit	Performance		
		2014	2015	2016
Crude steel production	tonnes (million)	93.1	92.5	90.8
1. Safe, healthy, quality working lives for our people				
Number of employees - total		222,327	209,404	198,517
Number of contractors - total		53,137	45,914	43,044
Fatalities - total	number	23	27	17
Fatalities - steel	number	21	24	11
Fatalities - mining	number	2	3	6
Lost-time injury rate - total*	per million hours worked	0.85	0.81	0.82
Lost-time injury rate (mining)	per million hours worked	0.56	0.74	1.07
Lost-time injury rate (steel)	per million hours worked	0.91	0.82	0.78
Accident severity rate - total	per thousand hours worked	0.08	0.08	0.08
Accident severity rate (steel)	per thousand hours worked	0.08	0.08	0.07
Accident severity rate (mining)	per thousand hours worked	0.06	0.10	0.12
Absenteeism rate - total	%	2.17	2.54	1.84
Manager turnover rate	%	3.1	2.6	2.4
Industrial operations (including mining) certified to OHSAS 18001	%	97	97	98
Employees covered by collective bargaining agreements	%	-	90	89
Number of strikes exceeding one week in duration	number	2	0	0
No. training hours per employee	hours	50	58	51
Managers that are female	%	10	11	12
2. Products that accelerate more sustainable lifestyles				
Research and development spend	\$ (million)	259	227	239
Products for outcome 2 launched			17	37
Programmes for outcome 2 in development			15	19
Number of LCAs undertaken				6
3. Products that create sustainable infrastructure				
Products for outcome 3 launched				67
Programmes for outcome 3 in development				15
Number of LCAs undertaken				10
4. Efficient use of resources and high recycling rates				
Raw materials used by weight:				
- Iron ore	million tonnes	110.4	115.7	114.9
- Pulverised coal injection (PCI) and coal	million tonnes	45.9	43.9	46.3
- Coke	million tonnes	28.8	29.2	29
- Scrap and direct reduced iron (DRI)	million tonnes	39.8	36.8	33.7

Metric	Unit	Performance		
		2014	2015	2016
Steel scrap recycled	million tonnes	31.1	28.1	25.3
CO ₂ avoided from steel recycled	million tonnes	40.0	36.5	33.0
Production residues and by-products re-used (steel)	%	81.0	79.2	78.2
Production residues and by-products re-used (mining)	%	10.0	9.8	10.1
Blast furnace slag re-used	million tonnes	17.8	15.8	18.4
BF slag to cement industry	million tonnes	11.0	8.0	9.1
CO ₂ avoided from slag re-use in cement industry	million tonnes	8.0	6.1	7.0
5. Trusted user of air, land and water				
Environmental capital expenditure	\$ (million)	193	162	177
Industrial operations certified to ISO 14001 (steel)	%	98	98	98
Industrial operations certified to ISO 14001 (mining)	%		44	52
Air²				
Total dust emissions (steel)	thousand tonnes	55.2	60.0	60.6
Dust emissions (steel) per tonne	kg/tonne of steel	0.59	0.65	0.67
NO _x (steel)	thousand tonnes	106.70	109.20	113.4
NO _x (steel) per tonne	kg/tonne of steel	1.15	1.18	1.25
SO _x (steel)	thousand tonnes	181.19	167.7	169.4
SO _x (steel) per tonne	kg/tonne of steel	1.95	1.81	1.9
Total dust emissions (mining)	thousand tonnes	5.3	5.1	6.8
Total NO _x (mining)	thousand tonnes	17.0	15.5	15.7
Total SO _x (mining)	thousand tonnes	13.2	9.4	9.0
Land				
Production residues to landfill/waste (steel)	%	6.5	7.9	7.8
Production residues to landfill/waste (mining)	%	33	36	40.4
Water				
Water intake (steel)	m ³ per tonne of steel	23.3	23.7	23.7
Net water use (steel)	m ³ per tonne of steel	4.7	5.3	5.0
6. Responsible energy user that helps create a lower carbon future				
Energy capital expenditure	\$ (million)	180	11	108
Energy intensity (steel)	GJ/t liquid steel	23.98	24.2	23.86
Primary energy consumption (steel)*	million GJ (PJ)	2,221	2,142	2,158
Total CO ₂ e footprint (steel and mining)	million tonnes CO ₂ e	206	205	204
- Scope 1 CO ₂ e (steel and mining)	million tonnes CO ₂ e	174	176	176
- Scope 2 CO ₂ e (steel and mining)	million tonnes CO ₂ e	17	16	14
- Scope 3 CO ₂ e (steel and mining)	million tonnes CO ₂ e	12	13	14
Total CO ₂ e footprint (steel)*	million tonnes CO ₂ e	195	198	194
Total CO ₂ e footprint (mining)	million tonnes CO ₂ e	11	7	10
CO ₂ intensity (steel)*	tonnes CO ₂ per tonne of steel	2.09	2.14	2.14
7. Supply chains our customers trust				

Metric	Unit	Performance		
		2014	2015	2016
Global procurement suppliers evaluated against code for responsible sourcing	number	181	424	387
8. Active and welcomed member of the community				
- Community investment spend (including STEM spend) ³	\$ (million)	17	19	
9. Pipeline of talented scientists and engineers for the future				
Investment in STEM projects ⁴	\$ (million)	-	8	6
10. Our contribution to society measured, shared and valued				
Estimated direct economic contribution ⁵	\$ (million)	78,839	63,297	56,202
of which:				
- Total tax contribution				3,976
- Income tax	\$ (million)	337	398	296
- Royalties ⁶	\$ (million)	73	73	9
- Local taxes	\$ (million)	544	465	445
- Employee salaries, wages and pensions	\$ (million)	12,718	10,880	7,637
- Supplier and contractor payments	\$ (million)	59,062	46,569	40,489
- Capital expenditure	\$ (million)	3,665	2,707	2,444
- Other payments	\$ (million)	2,423	2,205	1,656
Number of country level corporate responsibility/sustainability reports	number	19	19	17
Country level reports adhering to GRI	%	63	74	76
Transparent good governance				
Number of Board self-assessments		1	1	1
% of employees completed code of business conduct training	%	76	81	81
% of employees completed anti-corruption training	%	82	80	76
% of employees completed human rights training	%	76	81	84
Number of operations with a local confidential whistleblowing system	number	30	30	30
Whistleblowing complaints received via Internal Audit	number	99	175	153

* Assured by [Deloitte Audit](#)

¹ The indicators in this table have been developed over the period 2007–2016 as part of our approach to reporting under the four pillars of investing in our people, making steel more sustainable, enriching our communities, and transparent governance. This data table has evolved in line with the requirements of the Global Reporting Initiative. In 2014, we adopted 10 new sustainable development outcomes, and although these indicators were not selected to measure progress against these outcomes, they are listed here under our 10 outcomes. Environmental data presented in this table are provisional except where assured by Deloitte Audit.

² From 2014 onwards we report dust, NO_x and SO_x emissions per tonne of steel produced as a more meaningful indicator than the absolute volume generated. Absolute volumes can be calculated using the Total production figures at the top of this table.

³ Whilst we undertake a review of our community investment reporting, this data is not reported at group level for 2016. Country level information can be found in each country sustainability report.

⁴ STEM = Science, technology, engineering and maths.

⁵ Further details of the estimated direct economic contribution are found in [OUTCOME 10](#), which details our contribution to society. In 2016, the company undertook a review of all the taxes paid at a local level besides income tax. The total tax contribution published here are the result of that work, and represent a wider scope than reported in previous years. Details can be found in our [Basis of Reporting](#).

⁶ 'Royalties' in 2016 are according to the scope of extractive industry reporting under the EU Accounting Directive 2013/34/EU, which is narrower than scope used in previous years. Other forms of royalty are now included elsewhere as appropriate.

Independent assurance report on selected environmental performance indicators published in the Fact book 2016 of ArcelorMittal, Société Anonyme, for the year ended December 31, 2016

To the Management of
ArcelorMittal, Société Anonyme
24-26, boulevard d'Avranches
L-1160 Luxembourg
Grand-Duchy of Luxembourg

Objectives and scope of work performed

This report has been prepared in accordance with the terms of our engagement letter dated February 22, 2017 to provide limited assurance on selected environmental performance indicators (the "Indicators") published in the Fact book 2016 of ArcelorMittal, Société Anonyme, (the "Company", "ArcelorMittal" or "Group") for the year ended December 31, 2016 (the "Report").

The selected environmental performance indicators under our assurance scope and marked with a "*" on the Sustainability Performance pages of the Report, are the following:

- Primary energy consumption (steel only)
- Total CO2e emissions (steel only)
- CO2e emissions per tonne of steel

The Indicators have been defined following ArcelorMittal's Basis of Reporting (<http://annualreview2016.arcelormittal.com>) and they have been selected by the Management of the Company.

Responsibility of the Management of the Company

The Management of the Company is responsible for the preparation of the Report in accordance with ArcelorMittal's Basis of Reporting and for the information and statements contained within it. The Management is responsible for determining the Company's sustainability objectives and for establishing and maintaining appropriate performance management and internal control systems from which the reported information is derived.

Our Independence and Quality Control

We have complied with the independence and other ethical requirements of the Code of Ethics for Professional Accountants issued by the International Ethics Standards Board for Accountants, as adopted for the audit profession in Luxembourg by the Commission de Surveillance du Secteur Financier ("the Code"). The Code is founded on fundamental principles of integrity, objectivity, professional competence and due care, confidentiality and professional behavior.

Deloitte Audit applies International Standard on Quality Control 1 and accordingly maintains a comprehensive system of quality control including documented policies and procedures regarding compliance with ethical requirements, professional standards and applicable legal and regulatory requirements.

Responsibility of the Réviseur d'entreprises agréé

Our responsibility is to conduct a limited assurance engagement solely on the Indicators selected by the Company and draw conclusions on the work we performed.

We carried out our procedures on the Indicators in accordance with the International Standard on Assurance Engagements 3000 (Revised) "Assurance Engagements Other Than Audits or Reviews of Historical Financial Information" ("ISAE 3000 Revised"). To achieve limited assurance the ISAE 3000 Revised requires that we review the processes, systems and competencies used to compile the Indicators on which we provide limited assurance. This is designed to give a similar level of assurance to that obtained in the review of interim financial information. It does not include detailed testing of source data or the operating effectiveness of processes and internal controls.

In order to draw our conclusion on the Report, we undertook the following procedures:

- Interviewed a selection of ArcelorMittal senior management who have operational responsibility for corporate responsibility matters, including the group Corporate Responsibility team, data owners and those with operational responsibility for sustainability performance related to the selected Indicators
- Visited seven sites across the world to review the systems to capture, collate and process source data for the Indicators listed above. The sites visited to examine relevant 2016 data and processes were:
 - Kryvyi Rih (ArcelorMittal Kryvyi Rih), Ukraine
 - Dunkerque (ArcelorMittal Atlantique Lorraine), France
 - Ostrava (ArcelorMittal Czech Republic), Czech Republic
 - Galati (ArcelorMittal Romania), Romania
 - Hamilton (ArcelorMittal Dofasco), Canada
 - Eisenhuttenstadt (ArcelorMittal Germany), Germany
 - Lázaro Cárdenas (ArcelorMittal México), Mexico
- Obtained an understanding through inquiries, analytical reviews, observation and other applicable evidence gathering procedures on a sample basis on the key structures, systems, processes, procedures and internal controls relating to
 - the selected key performance indicators
 - collation, aggregation, validation and reporting of performance data for the selected Indicators.

Limitations

The scope of our work has been limited to the aforementioned selected Indicators. Our conclusion below covers therefore only these Indicators and not all indicators presented or any other information included in the Report.

The process an organisation adopts to define, gather and report data on its non-financial performance is not subject to the formal processes adopted for financial reporting. Therefore, data of this nature is subject to variations in definitions, collection and reporting methodology with no consistent, accepted standard. This may result in non-comparable information between organisations and from year to year within an organisation as methodologies develop.

The accuracy and completeness of the information disclosed in the Report are subject to inherent limitations given their nature and the methods for determining, calculating or estimating such information. Our independent assurance report should therefore be read in connection with the Company's definitions of indicators as included in the Basis of Reporting document, which is available on <http://annualreview2016.arcelormittal.com>.

A limited assurance engagement is substantially less in scope than a reasonable assurance engagement and consequently does not enable us to obtain assurance that we would become aware of all significant matters that might be identified in a reasonable assurance engagement. Accordingly, we do not express an audit opinion.

Conclusion

Based on the procedures performed and evidence obtained, we are not aware of any material amendments that need to be made to the assessment of the selected environmental performance Indicators, marked with a "*" on the Sustainability Performance pages of the Report, for them to be in accordance with ArcelorMittal's Basis of Reporting.

For Deloitte Audit,
Société à responsabilité limitée
Cabinet de révision agréé



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April 26, 2017

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