Basis of Reporting 2019

ArcelorMittal

Contents

Our reporting

Our Basis of Reporting 2019 is a central element in our commitment to engage stakeholders and communicate our financial and non-financial performance. It forms part of our wider approach to reporting at a global and local level, supported by reports that provide details on specific areas of our work or are designed for the use of specific stakeholder groups. Please find details of our other reporting below.

Integrated Annual Review — Download

Reporting Index — Download

Fact Book — Download

Climate Action Report 1 — Download

20-F — Download

Annual Report — Download

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Basis of Reporting

Guidelines for ArcelorMittal sustainable development indicators

This document sets out the main principles and methodologies used by ArcelorMittal in reporting data relating to our corporate responsibility and sustainability performance in our Fact Book.

We provide guidelines for our operations to help them understand how to report this data both for internal reporting and consolidation at group level, and for their own local sustainability reporting.

We seek to follow best practice in reporting. We draw on the standards of the Global Reporting Initiative and the Sustainability Standards Accounting Board, as well as industry guidelines from the World Steel Association (worldsteel).

Scope of reporting criteria

We report on our performance against those indicators that best communicate the most material aspects of our sustainability performance at the level where it is most meaningful to report – global or local – as outlined in our Reporting Index.

Scope and boundary-setting

Our sustainability indicators cover ArcelorMittal and its significant operating subsidiaries, excluding joint ventures and associates where we do not have operating control – where we do have operating control of a JV our headcount includes full time employees. A list of our significant operating subsidiaries, joint ventures and associates can be found in ArcelorMittal's Form 20-F.

All data is reported for the period 1st January to 31st December.

All financial figures refer to United States Dollars ($) unless stated otherwise. All other currencies have been converted to $ using an average exchange rate for the year, as used in preparing our Form 20-F.

Health, safety and environmental data is specific to our steel or mining operations as indicated, except where it is clearly combined. For health & safety it covers occurrences among both our employees and contractors.

Other data, unless otherwise stated in this Basis of Reporting document, covers both our steel and mining operations. The boundary of operations that such data covers is broader for health and safety data than environmental data. The latter covers only major industrial operations, since we believe this

is where our material impacts lie. More details on the boundary for each outcome are provided in this document and our Reporting Index.

Restating data

Each year the environmental data we publish is provisional with the best available data at the time of publication. We restate previous year's data each following year after a full review of our data is complete.

Reporting methodology by indicator

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

Safety indicators scope and boundary

Scope includes all companies within the ArcelorMittal Group and permanent or temporary employees, as well as contractors (direct or indirect) who perform work on ArcelorMittal sites.

Almost all operational sites within our consolidated financial statements are included within the perimeter for health and safety data. In 2018 there were the following exceptions: London office; Paris-St Denis office (together these comprise some 250 employees).

Any acquisitions or divestments are included within the scope of reporting from/until the date of the transaction.

ArcelorMittal Internal assurance undertook a review of data processes in a limited number of sites for 2019 data.

Temporary employment: Employees hired on a temporary basis by the company are included in all health and safety statistics. Temporary employment may include: contracts limited in time, temporary jobs, holiday jobs, student jobs or traineeships.

Contractor: ArcelorMittal considers contractors to be all companies contracted (directly or indirectly) by ArcelorMittal to perform work on a site where ArcelorMittal has operating control. This definition includes the personnel of a service provider, subcontractors, etc, whether with a permanent or temporary employment. This also includes transport of incoming and outgoing products as far as ArcelorMittal has a direct or indirect contract with the transporting company (i.e. loading, unloading and transport on ArcelorMittal sites).

Indicator	Definition	Unit
Fatalities	A death caused by work that occurs on company property or while travelling on company business. This also includes contractors on our site or when transporting our goods (when a service contract with ArcelorMittal exists), that results in a fatality. If as a result of an official enquiry or medical investigation the cause of death is declared as not work-related the figure will not be included in our reporting. An incident that occurs while travelling to or from the normal place of work is not to be included in the statistics. An incident that occurs while travelling on company business is to be included in the statistics, wherever this is happening and thus covers all the time from leaving home or normal working place, wherever the business trip is starting, until returning home or to the normal place of work, unless due to specific activities that are not linked to the business trip.	Number of people
Fatality rate	Number of fatalities as defined above per 100 million hours worked including employees and contractors.	Per 100 million hours worked

Reporting methodology by indicator

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

Indicator	Definition	Unit
Lost time injury rate	$\frac{\text{Fatalities + number of injuries with lost time}}{\text{Person hours worked}} \times 10^6$ Figures reported express the frequency of injuries per million hours worked. A work-related injury is one that results in the loss of at least one full working day (beyond the date of the injury) and is measured from the first day after the event. Any absence, beyond the day of the injury occurring or the consequence of the incident, is automatically a lost-time injury. This is independent of medical advice to stay at home or do adapted work – the reality is to be used for reporting. The injury must be caused by a sudden, single instantaneous event, caused by the work and not the result of any pre-existing underlying medical conditions with a history of like symptoms – this is to be determined only by medical professional. An incident with lost time which spans over several months is only counted once, in the month of start of the absence. In case of a lost time injury which spans over a longer period, there is no limit to the number of absence days to be counted. An incident that occurs while travelling to or from the normal place of work is not to be included in the statistics. An incident that occurs while travelling on company business is to be included in the statistics, wherever this is happening and thus covers all the time from leaving home or normal working place, wherever the business trip is starting, until returning home or to the normal place of work, unless due to specific activities that are not linked to the business trip. Worked hours are calculated based on the number of actual hours worked or scheduled hours to be worked. The hours actually worked and those regarded as such include the time spent for training or other work required activities, but does not take into account holidays or other days off. Methodologies for calculating hours worked may differ for employees and contractors.	Per million hours worked

Indicator	Definition	Unit
Total Recordable Injury rate	The TRIR includes a broader set of incidents than LTIFR, and does not require someone to be absent from work for their injury to be included. Calculation: the number of fatalities, lost time injuries, restricted work injuries (the person is still at work but cannot perform his usual work) and injuries for which people keep on performing his usual work but had to go through some medical care.	Rate is number of cases per million of worked hours
Proactive potential serious injuries and fatalities (proactive PSIFs)	Potential serious occurrences that were reported proactively that could have resulted in a permanent disability or a fatality. This is a leading indicator, and should be differentiated from those serious occurrences that were reported reactively ie after the accident took place. The higher the number, the more likely fatalities will be avoided.	Number
Accident severity rate	$\frac{\text{Number of days lost for injury}}{\text{Person hours worked}} \times 10^3$ Figures reported express the rate of accident severity per thousand hours worked. Injuries are defined as for lost time injuries above Worked hours are calculated as for lost time injury.	Days per thousand hours worked
Industrial operations certified to OHSAS 18001	The boundary for this metric was revised in 2019, since previous figures had not specified the rationale for excluding smaller sites. Calculation: % of major steel and mining sites which, through audit by an external certified body, have been granted the OHSAS 18001:2007 or the new ISO 45001 certificate from an authorized certification body. 'Major sites' refers to sites where more than one million hours are worked during the year and therefore excludes small sites and non-industrial sites such as London and St Denis, Paris. All major sites report figures on a monthly basis. This data is recorded and extracted from the databases H&S Cube (MD4BI)/ REX server. This OHSAS data was fully recorded/revalidated in 2019, following the previous audit in 2011-2012, through individual correspondence with each site.	%

Reporting methodology by indicator

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

Indicator	Definition	Unit
Employees covered by collective bargaining agreements	Percentage of employees, being exempts or non-exempts, covered by a Collective Labour Agreement (CLA).	%
Number of strikes exceeding 1 week in duration	A strike is defined as a work stoppage caused by mass refusal of employees to perform work, in response to a labour dispute	Number
Training hours per employee	The number of employee training hours divided by the full-time equivalent number of employees. This figure is derived from the total number of hours spent on training initiatives occurring across the whole group divided by the total full-time equivalent number of employees at those sites from which data has been consolidated. It includes ArcelorMittal University, online, on the job, onsite and external training programmes. This number excludes subcontractors and apprentices. It includes health and safety, leadership and management, induction, language, compliance, vocational, technical and functional training. Other training types are additionally specified.	Hours
Women in management positions (manager and above positions)	Percentage of Managers and above positions with women incumbent $\frac{\text{Number of female incumbents in manager positions}}{\text{Total no of incumbents in manager positions}} \times 100$	%
Manager turnover rate	Percentage of Managers and above people who have left the company on a voluntary basis during the year $\frac{\text{Managers who left on a voluntary basis}}{\text{Average management population during the year}} \times 100$	%

Indicator	Definition	Unit
Women recruited (exempt population)	Percentage of women recruited in exempt and above population during the year. Exempts and above include: Exempts, Managers, General Managers, Vice Presidents and Executive Vice Presidents. $\frac{\text{Managers who left on a voluntary basis}}{\text{Average management population during the year}} \times 100$ Exempt employees are monthly salaried employees, paid an agreed amount for the whole job, not eligible for overtime regardless the amount of time or efforts required to complete the work. Employees having their working time measured through clock machine or equivalent system are not exempts.	%
Women on key positions succession plans (general managers and above positions)	Definition: Percentage of women amongst all potential successors of General Managers and above positions. $\frac{\text{Number of female candidates on General Managers and above succession plans}}{\text{Total number of candidates on General Managers and above succession plans}} \times 100$	%

Reporting methodology by indicator

04 05 06

Outcomes 4, 5, 6:

Environmental indicators scope and boundary (unless stated otherwise):

The scope of our environmental data includes all companies within the ArcelorMittal Group conducting operations that generate impacts that are considered material to our environmental footprint This means all operational industrial sites listed in AM Factbook, with the exclusion of: all US Tubular, France Tubular; Kazakhstan Tubular (Aktau); Venezuela; Costa Rica; Estonia; Iasi (Romania); and Downstream Industeel plants: Saint-Chamond, Seraing, Dunkirk and Huy (Europe North); ArcelorMittal Italy Taranto (residues only) and Novi. For Basse-Indre (France) the total energy figure is estimated based on financial controlling data. Service centres, distribution centres and offices are excluded from the perimeter.

Sites that no longer belong to the ArcelorMittal Group at the time the data collection exercise is launched are no longer part of the perimeter of data reported for the corresponding year. In 2019, the perimeter excluded Ostrava and Galati.

New acquisitions are included from the date of acquisition unless stated otherwise.

Joint ventures and subsidiaries are included only where they fall within our operational control. The exception is Tameh, Poland.

Where local site data is not available, estimates are made based on the production to emissions ratio of the prior year, and applying this to the current year production data, unless otherwise stated.

Data is collected from ArcelorMittal production sites by means of a standard template, which requests information on the annual generation.

Data is submitted by local site management to the Group Environment department.

ArcelorMittal considers ISO14001 certification a factor that supports the quality of the data recorded at site level.

Each year the environmental data we publish is provisional with the best available data at the time of publication. We restate previous year's data each following year after a full review of our data is complete.

All intensity metrics, calculated on a 'per tonne of steel' basis refer to crude steel rather than finished steel.

Reporting methodology by indicator
Outcome 4: Efficient use of resources and high recycling rates

04 Outcome 4: Efficient use of resources and high recycling rates

Indicator	Definition and boundary	Unit
Production residues and by-products reused (steel)	Production residues and by-products reused includes all major steel plants, including those with a coke battery, blast furnace/ convertor and electric arc furnace. Mines, service centres, transportation, office buildings and units with low energy intensity (such as welded tubes units) are excluded from this calculation. ArcelorMittal's production residues and by-products reused is the quantity in tonnes of residues used or re-used during the year compared to the total annual production of residues.	%
Production residues and by-products reused (mining)	Production residues and by-products reused includes all our mining operations, including beneficiation plants, pellets and boilers and power plants. New acquisitions are included from the date of acquisition. Disposals are excluded from the date of disposal. ArcelorMittal's production residues and by-products reused is the quantity in tonnes of residues re- used at site level and externally compared to the annual production of residues.	%
Blast furnace slag re-used	The amount of slag re-used denotes in absolute terms that portion of our residues that was slag and was reused in the blast furnace (BF) stage of our steelmaking operations in place of raw materials. This has the effect of avoiding the emissions of an estimated 550kg CO_2 per tonne of steel. This is based on an integrated steel plant and includes all direct and indirect CO_2 associated with the decarbonation of limestone at sinter plant, and the blast furnace. Source: The Carbon Cost of Slag Production in the Blast Furnace: A Scientific Approach, Karl Buttiens · Joel Leroy · Patrick Negro · Jean-Sébastien Thomas · Kyle Edwards · Yann De Lassat, J. Sustain. Metall. (2016) 2:62-72, DOI:10.1007/s 40831-016-0046-8. The 550kg CO_2 per tonne emitted in the formation of slag is already included in the carbon emissions associated with steel production. However, when it is used in place of Portland cement, CO_2 is avoided since that amount of Portland cement is no longer produced (see below).	Tonnes (of BF slag)
Blast furnace slag to cement industry	Blast furnace slag is used by the cement industry in place of clinker. This averts the emission of 766kg CO_2 per tonne of cement* from the production process of clinker. The data is collected from the by-product sales team and their sales data system. *Source: Annex 1, the "(EU) COMMISSION DECISION of 27 April 2011 determining transitional Union- wide rules for harmonised free allocation of emission allowances pursuant to Article 10a of Directive 2003/87/EC of the European Parliament and of the Council (notified under document C(2011) 2772) (2011/278/EU). http://eur-lex.europa.eu/legal-content/EN/ALL/?uri=CELEX:32011D0278	Tonnes (of BF slag)
Steel scrap recycled	External scrap (pre and post-consumer scrap) and internal scrap generated are used internally during the process of steelmaking. The perimeter includes all steel sites within our perimeter for environmental data, except mining sites, which are excluded. Data is collected from ArcelorMittal production sites by means of a standard template, which requests information on production/use as yearly flow.	Tonnes

Reporting methodology by indicator

05 Outcome 5:
Trusted user of air, land and water

Note:
Data coverage is not always 100% of steel producing sites because some sites may not provide data. In this case we divide total emission by the production of the sites that have provided data; therefore it is in 'xx' per ton of crude steel of 'responding' sites.

Indicator	Definition and boundary	Unit
Industrial operations certified to ISO 14001 (steel) (mining)	The % of our steel or mining plants certified to ISO 14001. This figure is validated periodically, most recently in 2019, and before that in 2014, through individual correspondence with each site. Boundary: perimeter if sites on which we report environmental data.	%
Approvals for environmental capital expenditure	Any investment in projects that deliver environmental benefits, such as water treatment facilities, de-dusting equipment and technology upgrades approved during the reporting year. Following capex budget approval, the Investment Allocation Committee (IAC) is responsible for final approval of investment files and allocates capex to be spent. The investment figure refers to allocations made in the year towards multi-year investment projects. The figure cannot be related to the annual capex spend of one given year. This excludes environmental operating expenditures that are incurred as a result of maintenance. Capex allocations to projects delivering carbon and/or energy benefits are reported separately under outcome 6.	USD (million)
Dust (steel)	The dust emission includes all major steel plants, including those with a coke battery, blast furnace/convertor and electric arc furnace and power plant. Mines, service centres, transportation, office buildings and units with low energy intensity (such as welded tubes units) are excluded from this calculation. New acquisitions are included from the date of acquisition*. Disposals are excluded from the date of disposal. ArcelorMittal's dust emission (steel) include all emissions of ducted dust (i.e. from stacks and chimneys). Data is collected from ArcelorMittal production sites by means of a standard template, which requests information on emission as yearly flow process by process and cover the whole site. Where local site data is not available, estimates are made based on the production to emissions ratio of the prior year, and applying this to the current year production data. Data is submitted by local site management to the Group Environment department.	kg per tonne of crude steel produced
Dust (mining)	The dust emission includes all our mining operations including beneficiation plants, pellets and boilers and power plants. New acquisitions are included from the date of acquisition. Disposals are excluded from the date of disposal. ArcelorMittal's dust emission (mining) include all emissions of ducted dust (i.e. from stacks and chimneys). Data is collected from ArcelorMittal mine sites by means of a standard template, which requests information on emission as yearly flow process by process and cover the whole site. Where local site data is not available, estimates are made based on the production to emissions ratio of the prior year, and applying this to the current year production data. Data is submitted by local site management to the Environment department.	Tonnes

*NB In November 2018 ArcelorMittal acquired the Italian company ILVA with 4 "industrial sites: Taranto steel plant, Taranto Energia (the power plant), Genoa and Novi Ligure; these were excluded in 2018 data whilst they are integrated into the group; they will be included in 2019 data collection.

Reporting methodology by indicator

Outcome 5: Trusted user of air, land and water

Indicator	Definition and boundary	Unit
SO_x (steel)	SO_x emissions data includes all major steel plants, including those with a coke battery, blast furnace/convertor and electric arc furnace and power plant. Mines, service centres, transportation, office buildings and units with low energy intensity (such as welded tubes units) are excluded from this calculation. New acquisitions are included from the date of acquisition.* Disposals are excluded from the date of disposal. ArcelorMittal's SO_x emissions (steel) include all emissions of ducted SO_x (i.e. from stacks and chimneys). SO_x or sulfur oxide refers to many types of sulfur and oxygen containing compounds such as, SO_2, SO_3, etc Data is collected from ArcelorMittal production sites by means of a standard template, which requests information on emission as yearly flow process by process and cover the whole site. Where local site data is not available, estimates are made based on the production to emissions ratio of the prior year, and applying this to the current year production data. Data is submitted by local site management to the Group Environment department.	kg per tonne of crude steel produced

Indicator	Definition and boundary	Unit
SO_x (mining)	The dust emission includes all our mining operations including beneficiation plants, pellets and boilers and power plants. New acquisitions are included from the date of acquisition. Disposals are excluded from the date of disposal. SO_x or sulphur oxide refers to many types of sulfur and oxygen containing compounds such as, SO_2, SO_3, etc. ArcelorMittal's SO_x emissions (mining) include all ducted emissions (i.e. from stacks and chimneys). Data is collected from ArcelorMittal mine sites by means of a standard template, which requests information on emission as yearly flow process by process and cover the whole site. Where local site data is not available, estimates are made based on the production to emissions ratio of the prior year, and applying this to the current year production data. Data is submitted by local site management to the Group Environment department.	Tonnes

Reporting methodology by indicator

Outcome 5: Trusted user of air, land and water

Indicator	Definition and boundary	Unit
NO_x (steel)	NO_x emissions data includes all major steel plants, including those with a coke battery, blast furnace/convertor and electric arc furnace and power plant. Mines, service centres, transportation, office buildings and units with low energy intensity (such as welded tubes units) are excluded from this calculation. New acquisitions are included from the date of acquisition*. Disposals are excluded from the date of disposal. ArcelorMittal's NO_x emissions (steel) include all ducted emissions (i.e. from stacks and chimneys). NO_x is a generic term for mono-nitrogen oxides NO and NO_2 (nitric oxide and nitrogen dioxide). Data is collected from ArcelorMittal production sites by means of a standard template, which requests information on emission as yearly flow process by process and cover the whole site. Where local site data is not available, estimates are made based on the production to emissions ratio of the prior year, and applying this to the current year production data. Data is submitted by local site management to the Group Environment department.	kg per tonne of crude steel produced

*NB In November 2018 ArcelorMittal acquired the Italian company ILVA with 4 "industrial sites: Taranto steel plant, Taranto Energia (the power plant), Genoa and Novi Ligure; these were excluded in 2018 data whilst they are integrated into the group; they will be included in 2019 data collection.

Indicator	Definition and boundary	Unit
NO_x (mining)	The dust emission includes all our mining operations including beneficiation plants, pellets and boilers and power plants. New acquisitions are included from the date of acquisition. Disposals are excluded from the date of disposal. NO_x is a generic term for mono-nitrogen oxides NO and NO_2 (nitric oxide and nitrogen dioxide). ArcelorMittal's NO_x emissions (mining) include all ducted emissions (i.e. from stacks and chimneys). Data is collected from ArcelorMittal mine sites by means of a standard template, which requests information on emission as yearly flow process by process and cover the whole site. Where local site data is not available, estimates are made based on the production to emissions ratio of the prior year, and applying this to the current year production data. Data is submitted by local site management to the Group Environment department.	Tonnes

Reporting methodology by indicator

Outcome 5: Trusted user of air, land and water

Indicator	Definition and boundary	Unit
Fresh water intake (steel)	Fresh water refers to all the sources of water intake: ● Fresh surface water ● Fresh groundwater ● Brackish surface water ● Brackish ground water ● Sea water ● Rain water ● Piped water (industrial – non-potable) ● Piped water potable Water data is collected per water network. Mines, service centres, transportation, office buildings and units with low energy intensity (such as welded tubes units) are excluded from this calculation. New acquisitions are included from the date of acquisition. Disposals are excluded from the date of disposal. Data is collected from ArcelorMittal production sites by means of a standard template, which requests information on emission as yearly flow process by process and cover the whole site. When local site data for intake is not available and when site data for discharge water is known, water intake flow if considered equal to discharge flow plus a standard amount depending on the site category (integrated/EAF). Data is submitted by local site management to the Environment team, Chief Technology Officer's department (CTO)	Metric cubic meter per tonne of crude steel produced

Indicator	Definition and boundary	Unit
Net water use (steel)	**Definition:** Net water use is the difference between the water intake per tonne of crude steel and the water discharge per tonne of crude steel. **Scope:** Water intake and discharge data includes all major steel plants, including those with a coke battery, blast furnace/ convertor and electric arc furnace and power plant. Mines, service centres, transportation, office buildings and units with low energy intensity (such as welded tubes units) are excluded from this calculation. New acquisitions are included from the date of acquisition. Disposals are excluded from the date of disposal. Data is collected from ArcelorMittal production sites by means of a standard template, which requests information on emission as yearly flow process by process and cover the whole site. Data is submitted by local site management to the Environment team, Chief Technology Officer's department (CTO)	Metric cubic meter per tonne of crude steel

Reporting methodology by indicator

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

Indicator	Definition and boundary	Unit
Approvals for energy efficiency capital investment projects	All capital investments aimed at energy or CO_2e improvements. This excludes energy operating expenditures. This is reported separately to environmental investments to improve air, land and water outcomes, reported in outcome 5.	USD (million)
Primary Energy consumption (steel only)	The primary energy consumption or energy footprint calculation includes all major steel plants, including those with a coke battery, blast furnace/ convertor and electric arc furnace. Mines, service centres, transportation, office buildings and units with low energy intensity (such as welded tubes units) are excluded from this calculation. New acquisitions are included from the date of acquisition*. Disposals are excluded from the date of disposal. ArcelorMittal's primary energy consumption (or "energy footprint") = energy from fuels + equivalent energy for pre-processed flows (electricity, industrial gas pellets and burnt fluxes). Data is collected from ArcelorMittal production sites by means of a standard template, which requests information on material use, energy and utility flows at the site level. Site level data is obtained from procurement, delivery and inventory information. This data is used to calculate net use, and converted to energy with standard factors from energy contents or equivalent energy value for pre-processed flows (electricity, steam, hot water, compressed air, industrial gases, pellets and burnt fluxes). These standard factors are preferably measured or otherwise derived from standard values from ArcelorMittal's experience. The data is collated at group level and verified by the Group Environment department. Where local site data is not available, estimates are made based on the production to emissions ratio of the prior year, and applying this to the current year production data. **Reporting method:** The net use of materials and energies at site level (procurements – deliveries – inventory change) associated with net calorific values or equivalent energy value for pre-processed flows (electricity, steam, hot water, compressed air, industrial gases, pellets and burnt fluxes) gives an estimate of the energy impact of the Group. In particular: ● Energy from fuels (condensed and gases) is accounted with their net calorific value, also named lower heating value (LHV) or lower calorific value (LCV). ● Electricity is accounted with a standard equivalent energy, taking into account power plant efficiency and not only unit conversion from MWh to GJ. ● Steam and hot water are accounted with a standard equivalent energy based on ArcelorMittal experience. ● Energy from pellet is accounted with a standard value based on IISI study on "Energy use in the steel industry". ● Energy for industrial gas and burnt fluxes is accounted with standard values based on ArcelorMittal experience.	Million GJ (PJ) and GJ/tonnes crude steel for specific energy consumption Publicly assured by DNV GL

*November 2018.

Reporting methodology by indicator

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

Indicator	Definition and boundary	Unit
Energy recovered and reused on site (steel) as % of total primary energy consumed	We measure the amount of energy we recover from various stages in the steelmaking process in the form of waste gases for reuse, electricity from Turbine Top Gas Recovery at some blast furnaces, energy recovered from low temperature source like sinter cooler and express this as a % of the total primary energy consumed. This metric is an indication of energy efficiency: it demonstrates the extent to which the energy from fuels used in the steelmaking process for a chemical purpose are reused for their energy content rather than wasted. The recovery of waste gases for further use is a prime example not only of energy efficiency, but of CO_2 avoidance, since where such gases are not recovered they must be flared.	%
Energy from renewable sources as % of total primary energy consumed	Electricity generated from wind, solar, hydropower and other renewable sources expressed as a % of the total primary energy consumed.	%

Indicator	Definition and boundary	Unit
Electricity from renewable and recovered energy sources as % of total electricity consumed	Most of the energy consumed in steelmaking is not electricity but primary energy in the iron ore reduction process, where it is currently not feasible to reduce iron ore using renewable electricity. Therefore this indicator provides a narrower focus on the type of electricity used rather than primary energy. As well electricity from renewable sources, this indicator also includes that generated from other responsible sources: waste gases transferred to power plants, which would otherwise be flared emitting CO_2; pressure from blast furnace top gas (TRT); steam from the dry quenching of coke. We believe this is a good indicator of the use of renewable and responsible electricity. **Calculation:** Electricity from wind, solar, hydropower and other renewable sources (as per indicator above) plus electricity generated from energy recovered from waste gases, steam, top gas recovery or coke dry quenching processes, expressed as a % of total electricity consumed.	%
Energy sold by type (heat, steam or electricity) as % of total primary energy consumed	Heat and steam are produced on site at the boilers. A % of this is not required for use on site and therefore it is sold or given to local communities. At certain sites the power plant is owned by the steel mill, again only % of the electricity produced is required by the steel mill and the balance is sold for local requirements.	%

Reporting methodology by indicator

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

Indicator	Definition and boundary	Unit
Total CO_2e emissions (steel)	For CO_2e (steel), this includes all steel plants with a significant CO_2e impact, including those with a coke battery, blast furnace/convertor, electric arc furnace. Business units with low energy intensity (such as welded tubes units) as well as service centres, office buildings and transportation are excluded from the boundary of calculation. **Description of significant CO_2e emissions during steelmaking process:** An integrated steel mill has all the functions for primary steel production: iron making (conversion of ore to liquid iron), steelmaking (conversion of pig iron to liquid steel), casting (solidification of the liquid steel) and product rolling (finished shapes). Waste gases are produced mainly by the coke plant, blast furnace and basic oxygen furnace and contribute to the heat balance of the site. The only material greenhouse gas thus emitted is CO_2. Therefore, all references to CO_2e (steel) refer in practice to CO_2. These waste gases burnt internally (reused within the site); burnt in a power plant (internal or external) to produce electricity or, where this is not possible, they must be flared. Since these gases must be emitted within a short time (some minutes) after production, the decision on how they are emitted is driven entirely by the level of activity of the steel plant. We therefore consider the emissions from our waste gases to always be within our operational control. We differentiate as follows: **'Direct emissions'** are the actual emissions coming out of the chimneys of the sites. This data is based on a carbon balance at site level.	Million tonnes CO_2e Publicly assured by DNV GL

Indicator	Definition and boundary	Unit
	'Process emissions' are the aggregate of direct emissions + emissions resulting from the combustion of exported waste gas used in the power plant to generate electricity. Operational boundary: we report on Scope 1, Scope 2 and Scope 3 of the GHG Protocol as follows: ArcelorMittal's total CO_2e emissions (or "CO_2e footprint") is made up of the following categories: ● **Scope 1** (all ArcelorMittal process emissions, as defined above) ● **Scope 2** (indirect emissions from 'net' purchased electricity as defined below) ● **Scope 3** (other indirect emissions as defined below). **Scope 1:** (Process emissions): Our reporting under Scope 1 is conservative in order to allow a fair comparison of carbon data between the reporting sites and includes all our process emissions under our control. If we only considered direct and not full process emissions (ie excluded the external power plant emissions) we would effectively transfer our process emissions to the power plant and replace them with Scope 2 emissions for all the electricity we import from the power plant, based on the average carbon content of grid electricity. But since our waste gases are five times more carbon-intensive than the natural gas that power plants would normally utilize, we would be under-reporting the emissions for which we are responsible. The CO_2e per tonne of steel of a steel plant that report its direct emissions only can be half those of the one that reports its full process emissions including the ones used for power generation by an external power plant but which can be entirely consumed in the steel production operation.	

Reporting methodology by indicator

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

Indicator	Definition and boundary	Unit
Total CO_2e emissions (steel) continued	**Scope 2:** (Indirect emissions from 'net' purchased electricity): Electricity- related emissions are linked to the external procurement of electricity in excess of those quantities produced from waste gas exported to external power plants. For this calculation, country (or local if relevant) specific CO_2e equivalent emission factors of electricity are applied. **Scope 3:** (Other indirect emissions): the other upstream CO_2e included in our boundary emissions related to the procurements of pre-processed materials and utilities (such as, pellets, burnt fluxes, industrial gases) and exchange of intermediate products between sites (such as coke, DRI, pig iron). Upstream emissions do not include raw material extraction or transportation and only capture emissions produced during processing of materials. Transportation activities are currently excluded. **Collection of data:** Data is submitted by local site management to the Environment department. ArcelorMittal requires production sites to fill in a standard template, which requests information on material use, energy and utility flows at the site level. This data is obtained from procurement, delivery and inventory information at site level and is used to calculate net use. **Data conversion:** Data collected is then converted to CO_2e with standard emission factors[1] from carbon contents or upstream values for processed materials, utilities and intermediate products. These values are preferably measured directly; otherwise they are derived from standard values based on ArcelorMittal's experience (see Appendix 1). For scope 3 emissions, a unique upstream value is allocated to each pre-processed material, utility and intermediate product, based on the average performance of the producing sector. Where local site data is not available, estimates are made based on the production to emissions ratio of the prior year, and applying this to the current year production data.	

Indicator	Definition and boundary	Unit
Total CO_2e emissions (mining and steel)	For CO_2e (mining), the organisational boundary includes all our mining operations; our CO_2 emissions relate predominantly to our use of electricity and our CH_4 emissions from coalbed methane. Transportation activities are currently excluded. See indicator "Total CO_2e emissions (steel)" for steel boundary. ArcelorMittal's total CO_2e emissions (or "CO_2e footprint") = – **Scope 1** (process CO_2e emissions from steel + CO_2 from mining + CH_4 from mining) + – **Scope 2** (indirect emissions from "net" purchased electricity + electricity purchased at mining sites) – **Scope 3** (other indirect emissions as defined above) CH_4 emissions reported in tonnes of CH_4 are multiplied by the warming potential (for 2019 the Global Warming Potential of CH_4 was updated to the latest factor disclosed by GIEC of 28; the change was applied retroactively to avoid any discrepancy from one year to another) to get the equivalent CO_2e emissions in tonnes. **Collection of data:** Data is submitted by local site management to the Environment department. ArcelorMittal requires production sites to fill in a standard template, which requests information on material use, energy, utility flows and CH_4 emissions (for coal mines) at the site level. This data is obtained from procurement, delivery, inventory information and air analysis (for CH_4) at site level and is used to calculate net use and then converted to CO_2 with standard emission factors from carbon contents or upstream values for processed materials, utilities and intermediate products. These values are preferably measured directly; otherwise they are derived from standard values based on ArcelorMittal's experience (see Appendix 1). A unique upstream value is allocated to each pre-processed material, utility and intermediate product (steel only), based on the average performance of the producing sector. Where local site data is not available, estimates are made based on the production to emissions ratio of the prior year, and applying this to the current year production data.	Million tonnes CO_2e Publicly assured by DNV GL

Reporting methodology by indicator

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

Indicator	Definition and boundary	Unit
CO_2e intensity (steel)	This indicator demonstrates the average greenhouse gases emitted in the production of one tonne of crude steel. It includes all those emissions included in Total CO_2e emissions defined above – scopes 1,2 and 3 – so as to include emissions from all the processes involved in the production of an 'average' tonne of steel, whether or not they are owned by the company.	Tonnes of CO_2e per tonne of steel Publicly assured by DNV GL
Ratio between different production routes (steel)	The three main production routes require different raw materials and this significantly impacts on their level of carbon emissions: Primary steel making through the BF–BOF route uses coke and coal to reduce iron ore, the most carbon intensive route; Scrap EAF is a secondary steelmaking route where electricity is used to melt scrap, and the emissions are based on the carbon intensity of the electricity; this route relies on sufficient supplies of scrap; in between these two routes is the DRI EAF route, DRI is iron ore reduced using natural gas and because it is then turned into steel in the EAF it can be mixed with varying proportions of scrap enabling it to be more carbon efficient than the BF-BOF route.	Ratio
CO_2 avoided through use of scrap	**Calculation:** quantity of steel scrap recycled [x] upstream emission factor of 1.3t CO_2/t scrap. The upstream emission factor corresponds to the energy consumption avoided in the basic oxygen furnace (BOF) as a result of the use of scrap. This energy is expressed in terms of the equivalent CO_2 from coke in the blast furnace(BF), since scrap used in the BOF corresponds to a reduction in metal production in the BF, and so a reduction in coke consumption.	Million metric tonnes

Indicator	Definition and boundary	Unit
% sites performing better than ArcelorMittal carbon efficiency benchmark	**Scope:** this covers all steel plants with a significant CO_2 impact, including those with a coke battery, blast furnace/convertor, electric arc furnace, DRI. The processes considered are those in the supply chain from raw materials to hot rolled products; cold process and finishing are excluded. **Definition:** The Carbon efficiency key performance indicator goes beyond the determination of an emissions inventory. An inventory gives a snapshot of the situation but, owing to the large influence of the production structure on the level of the emissions, falls short of providing reliable and fully comparable information in terms of CO_2 efficiency. KPIs need to establish a fair comparison between different sites and give reliable information on the actual variation of performance. A measure of carbon efficiency allows such a comparison of emission performance between sites and can give an estimate of the potential for improvement compared to a benchmark – which at ArcelorMittal we call the Achievable Reference Performance (ARP). For external disclosure purposes, we report the percentage of sites for which the carbon efficiency is better than (lower than) the ARP. **Calculation:** This KPI is calculated following standard EN 19694 for all worldwide ArcelorMittal sites participating. Data is collected from ArcelorMittal production sites by means of a standard template, which requests information on material use, energy and utility flows at the site and shop (process) levels; it is the same template used for the CO_2 and Energy data collection.	

Reporting methodology by indicator

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

Indicator	Definition and boundary	Unit
% sites performing better than ArcelorMittal carbon efficiency benchmark continued	The data is collated at group level and verified by the Environment department. In assessing the carbon efficiency performance of a plant, the following principles are used: **a)** a plant operating better than the reference receives a CO_2 bonus equal to the difference from the reference and its product enters the following steps at reference level; **b)** a plant operating worse than the reference receives a CO_2 penalty and the product enters the following steps also at reference level; **c)** bonuses and penalties are added up separately over the whole production route; **d)** the net difference between total bonus and total penalty gives the offset to reference operation of the facility; **e)** the total penalty gives the CO_2 savings potential of the facility from improving operations inferior to the reference (provided that the performance of those areas superior to the reference is maintained). **f)** raw material effect is corrected (slag and scrap). Further demonstration of this methodology can be obtained by contacting ArcelorMittal: crteam@arcelormittal.com.	

Indicator	Definition and boundary	Unit
Carbon footprint intensity improvement since 2007 against target	ArcelorMittal's current group target was established in 2007: to reduce average carbon footprint intensity of steel by 8% by 2020 against a 2007 baseline. This target relates to those sites we operate today that we owned in 2007, and therefore excludes the effects of any acquisitions and divestments on our performance. Carbon footprint intensity is calculated using the same methodology as described above under CO_2e intensity (steel) and reference steel production data for the year. Each year, the baseline CO_2 per tonne of steel is recalculated according to the current boundary: when sites are sold, their emissions and production volumes are removed from the data used. Where these are sites with above average carbon intensity, the CO_2 intensity baseline falls and the target challenge intensifies. In 2019, the baseline was recalibrated by excluding data from several sites. Two major sites – Ostrava and Galati – and a number of smaller sites – Piombino, Skopje, Ostrava Tubes, three cold-rolling lines at Liège and Dudelange. This resulted in a reduction of the baseline emissions intensity against which the 8% reduction is needed.	

Reporting methodology by indicator

07 Outcome 7: Supply chains that our customers trust

Indicator	Definition and boundary	Unit
Number of suppliers assessed against the code for responsible sourcing	Number of ArcelorMittal suppliers completing an annual responsible sourcing self-assessment questionnaire. Following a realignment of the company's purchasing structure in 2013, data on the companies we actively engage with on responsible sourcing now only cover our suppliers managed centrally via the European Purchasing Organisation.	Number

08 Outcomes 8 & 9: Active and welcomed member of the community

09 Pipeline of talented scientists and engineers for tomorrow

Scope: all sites and global R&D.

Indicator	Definition and boundary	Unit
Community investment spend (including STEM spend)	The amount invested by ArcelorMittal to carry out social projects to benefit our communities. This is broken down in when collected into voluntary spend, mandatory spend, in kind donations and STEM spend. Mandatory spend is that which is required as part of contractual agreements with our host government, such as contributions to community development funds, resettlement-related programmes, and local infrastructure. STEM spend is the amount of money invested by ArcelorMittal to support educational projects to build skills needed for the 21st century economy e.g. science, maths, engineering, technology.	USD (million)

Reporting methodology by indicator

10 Outcome 10: Our contribution to society measured, shared and valued

Indicator	Definition and boundary	Unit
Direct economic contribution	Direct economic contribution is the sum of the wages and salaries paid, supplier and contractor payments, taxes paid, capital reinvested in the business, dividends, interest payments and R&D. It does not include indirect contributions to the economy, such as through indirect job creation through the supply chain. Data is derived from financial records for the year in review, with additional data collection on specific elements as described below. **Employee salaries, wages and pensions** [–] comprises all employer costs as reported in our 20f, plus payments to pension plans. In 2016 for the first time this figure excludes employee payroll taxes, reported separately. **Supplier and contractor payments** [–] exclude any taxes, R&D or capital expenditure included in other categories. **R&D spend and capex** – although these are subcategories of certain other categories given, such as payments to suppliers, they are notable contributions to society in terms of intellectual, financial and manufactured capital, and are therefore extracted here in order to provide more detail. **Dividends** – includes dividends paid to ArcelorMittal shareholders and those dividends paid to non-controlling interests.	USD (million)

Indicator	Definition and boundary	Unit
Total tax contribution	In 2016, the company undertook a review of all the taxes paid at a local level besides income tax. The figures published in the 2016 Annual Review (outcome 10) are the result of that work, and represent a wider scope than reported in previous years. Details of the elements making up this figure, are set out below: **'Corporate income tax'** comprises all taxes that are based on the taxable profits of a company. **'Payroll taxes'** comprise two parts: (i) **Employee payroll taxes:** payroll and employee taxes withheld from employee remuneration, and paid to governments, i.e. tax collected by ArcelorMittal and remitted to governments on behalf of employees. (ii) **Employer payroll taxes:** payroll and employer taxes payable as a result of a company's capacity as an employer. **'Local taxes'** comprises: (i) **property tax:** Land tax or property tax on real estate (ii) **environment tax:** any taxes generally levied as directly as possible on a pollutant or an action causing environmental damage, such as air emissions (dust, NO_x, SO_x, CO_2 except emission trading), water emissions (water discharge, water intake), residues (elimination of hazardous waste, elimination of non-hazardous waste, storage residues) and related fines. (iii) **energy tax:** taxes, contributions collected by energy suppliers, transport system operators net of any refund from government. **'Other taxes'** comprise: customs & excise duties, motor vehicle tax, government royalties, mining taxes, irrecoverable indirect taxes, and financial transaction tax. **'Government royalties'** are calculated according to the scope of extractive industry reporting under the EU Accounting Directive 2013/34/EU, which is narrower than the ArcelorMittal's scope used in previous years.	

Reporting methodology by indicator

Transparent good governance

Indicator	Definition and boundary	Unit
The number of board self-assessments	The board self-assessment takes place at the level of the board of directors of the ArcelorMittal group's parent company.	Number
Employees completed code of business conduct training	All employees are required to undertake this training every three years. The percentage reported for the year relates to the number of all employees who have a valid training certificate at the end of the period.	%
Employees completed anti-corruption guidelines training	Employees in relevant roles are required to undertake this training every three years. The percentage reported for the year relates to the number of relevant employees who have a valid training certificate at the end of the period.	%
Employees trained on human rights	Employees in relevant roles are required to undertake this training every three years. The percentage reported for the year relates to the number of relevant employees who have a valid training certificate at the end of the period. Relevant roles include CR, legal, HR, and all managers and above.	%
Number of operations with a local confidential whistleblowing system	Our whistleblowing system globally is provided by a third party in the language of the participating country. The number of operations relates to a number of countries which have a whistle blowing line operated by this third party. One whistleblowing line may serve many sites in the country.	Number
Whistleblowing complaints received via Internal Audit	Complaints received relate to those received via whistleblowing lines relating to fraud and corruption and referred to the Group Forensic team, which records and tracks each one until resolution.	Number

APPENDIX: CO_2 and Energy footprint default values

Table 1 – Electricity: CO_2 equivalent

Updated figures 01.01.2020	kg CO_2/ MWh	Upstream CO_2 based on power consumption for production in Kg CO_2/1000Nm³ Wh/Nm³ 710	500	200	200	110
Country/region	Ut-01	Ut-05	Ut-06	Ut-07	Ut-08	Ut-09
World	506	359	253	101	101	56
Argentina	371	263	186	74	74	41
Belgium	193	137	97	39	39	21
Bosnia-Herzegovina	776	551	388	155	155	85
Brazil	106.1	75	53	21	21	12
Canada	150	107	75	30	30	17
Canada – Ontario	44	31	22	9	9	5
Canada – Quebec	2.0	1.4	1.0	0.4	0.4	0.2
Czech Republic	512	364	256	102	102	56
France	62	44	31	12	12	7
Germany	455	323	228	91	91	50
Italy	335	238	168	67	67	37
Kazakhstan	561	398	281	112	112	62
Liberia	289	205	145	58	58	32
Luxembourg	105	75	53	21	21	12
Macedonia	713	506	357	143	143	78
Mexico	471	334	236	94	94	52
Morocco	682	484	341	136	136	75
Poland	738	524	369	148	148	81
Romania	339	241	170	68	68	37
South Africa	944	670	472	189	189	104
Spain	265	188	133	53	53	29
Ukraine	418	297	209	84	84	46
United States	457	324	229	91	91	50
Venezuela	287	204	144	57	57	32

2013-2017 country Average IEA data except for Brazil (official country figure) and for Luxembourg (weighted average on consumption on France, Belgium and Germany EF).

Table 2 – CO_2 and energy upstream for utilities

Upstream energy and CO_2			Default values		
Product code		Stream		Upstream energy	
			Up CO_2	Up En	
	Utilities		t/unit	GJ/unit	
Ut-01	MWh	Electricity		9.208	
Ut-02	t	High pressure steam		3.350	
Ut-03	t	Low pressure steam		3.050	
Ut-04	t	Hot water		0.850	
Ut-05	Wh/Nm³	High pressure oxygen	Figures based on Up energy and electricity country CO_2 equivalent, see table 1	6.538	J/Nm³
Ut-06	Wh/Nm³	Low pressure oxygen		4.604	
Ut-07	Wh/Nm³	Nitrogen		1.842	
Ut-08	Wh/Nm³	Argon		1.842	
Ut-09	Wh/Nm³	Compressed air		1.013	
Ut-10		Hydrogen			

APPENDIX:
CO_2 and Energy footprint default values

Table 3 – C content, CO_2 and ncv's (net calorific value)

C content, CO_2 EF and ncv's		Default values			
Product code	Stream	C content	C content	Calorific value	Calorific value
	Products	**C (t/t)**			
PR-01	Merchant Sinter	0.0000			
PR-02 | PR-04	Pig Iron	0.0470			
PR-03	DRI	0.0200			
PR-05 to Pr-34	Flat Steel	0.0004			
PR-05 to Pr-34	Long Steel	0.0010			
	Cond Fuels	**C (t/t)**	**C (t/m³)**	**ncv (MJ/t)**	**ncv (MJ/m³)**
CF-01a to CF-01c	Coke	0.8800		30 135	
CF-02	Coke Breeze	0.8500		29 925	
CF-03	Coking coal	0.8200		32 230	
CF-04	Anthracite	0.7900		29 300	
CF-05 to CF-07	BF injection Coal	0.8000		31 140	
CF-08	Petroleum Coke	0.8500		31 935	
CF-09 | CF-14 | CF-15	Heavy oil (d=0.85)	0.8650		39 845	
CF-10 | CF-11	Light oil (d=0.85)	0.8450	0.7183	41 982	35685
CF-12	LPG	0.8218		46 030	
CF-13	Charcoal (d=0.25)	0.7000	0.1800	18 810	4703
CF-16	Used Plastics	0.7200		46 000	
CF-17	Used Tyres	0.6000		35 000	
	Gas Fuels	**C (kg/ m³N)**		**ncv (MJ/ m³N)**	
GF-01	Coke Oven gas	0.2390		19.685	
GF-02	Blast Furnace Gas	0.2390		3.185	
GF-03	Smelting Reduction Gas	0.4287		7.660	
GF-04	BOF Gas	0.4662		9.190	
GF-05	Natural Gas	0.5495		35.920	

Table 3 – C content, CO_2 and ncv's (net calorific value)

C content, CO_2 EF and ncv's		Default values			
Product code	Stream	C content	C content	Calorific value	Calorific value
	Materials	**C (t/t)**		**Eq. Energy (MJ/t)**	
Ma-01 | Ma-02	EAF Electrodes	0.9990			
Ma-03	Ferro Chromium	0.0650			
Ma-04	Ferro Manganese	0.0750			
Ma-06 | Ma-07	Scraps	0.0010			
Ma-08	Limestone	0.1200			
Ma-09	Burnt Lime	0.0065		3 600	
Ma-10	Crude Dolomite	0.1300			
Ma-11	Burnt Dolomite	0.0065		3 600	
Ma-12	Fine Iron Ore	0.0005			
Ma-13	Lump Ore	0.0015			
Ma-14	Pellets	0.0001			
Ma-15	Bedding				
	Residues	**C (t/t)**	**C (t/m³)**	**ncv (MJ/t)**	**ncv (MJ/m³)**
Res-01	Tar	0.9250		37 670	
Res-02	Benzole	0.9185		46 040	
Res-03	Naphtalenic oil		0.7183		35 685
Res-04	CDQ Dust	0.8800		30 135	
Res-05	Coke quenching breeze	0.8800		29 925	
Res-06 | Res-10	BF gas cleaning dust	0.4000		13 698	
Res-07	BF gas sludge	0.4000		13 698	
Res-09	DRI screening fines	0.0200			
Res-13	Flat steel scraps	0.0004			
Res-13	Long steel scraps	0.0010			

APPENDIX:
CO_2 and Energy footprint default values

Table 4 – Energy equivalent for the different streams

Stream type	Equivalent energy	Unit
Burnt lime	3600.000	MJ/t
Burnt dolomite	3600.000	MJ/t
Pellets	1250.000	MJ/t
Electricity	9.210	GJ/MWh
HP steam	3350.000	MJ/t
LP steam	3050.000	MJ/t
Hot water	850.000	MJ/t
Low purity oxygen	4.600	GJ/103m^3
High purity oxygen	6.540	GJ/103m^3
Nitrogen	1.840	GJ/103m^3
Argon	1.840	GJ/103m^3
Compressed air	1.010	GJ/103m^3

Note:
The values in this document are derived either from externally published sources or internal ArcelorMittal analysis by our research and development teams and the chief technology officer's department.

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