

# Basis of Reporting

ArcelorMittal guidelines for sustainable development reporting metrics

April 2016

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This document sets out the main principles and methodologies used by ArcelorMittal in reporting data relating to our corporate responsibility and sustainability performance in the report's data table.

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 guidelines of the Global Reporting Initiative as well as industry guidelines from the World Steel Association (worldsteel).

## **Scope of reporting criteria**

We report on our performance against those metrics 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 GRI content index.

## **Scope and boundary-setting**

The sustainability report covers ArcelorMittal and its significant operating subsidiaries, excluding joint ventures and associates where we do not have operating control. A list of our significant operating subsidiaries, joint ventures and associates can be found in ArcelorMittal's [Form 20F](#).

All data is reported for the period 1<sup>st</sup> January to 31<sup>st</sup> 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 20F.

Health, safety and environmental data is specific to our steel or mining operations as indicated, except where it is clearly combined.

Other data, unless otherwise stated in the 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 this is where our material impacts lie. More details on the boundary for each outcome are provided in our GRI index and in our basis of reporting document which can be found on our website.

In accordance with GRI G4, the boundary of each material aspect has been stated in the [GRI index](#) on our website, referring to the stage in the value chain for which it is material.

## **Changes to scope and boundaries**

New acquisitions are included from the date of acquisition. Disposals are excluded from the date of disposal.

# Reporting methodology by metric

## Outcome 1: safe, healthy, quality working lives for our people

### *Safety metrics 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 are included within the perimeter for health and safety data. In 2014 there were the following exceptions: London office; Paris-St Denis office (together these comprise some 250 employees) and our Berislav site in Ukraine.

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

**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).

### **Metric: Fatalities**

**Definition:** 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.

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.

Unit: Number of people

### **Metric: Lost time injury rate**

Definition: 
$$\frac{\text{Fatalities} + \text{number of incidents with lost time}}{\text{Person hours worked}} \times 10^6$$

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.

Unit: per million hours worked

### **Metric: Accident severity rate**

Definition: 
$$\frac{\text{number of days lost for injury}}{\text{person hours worked}} \times 10^3$$

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.

Unit: days per thousand hours worked

### **Metric: Absenteeism rate**

$$\frac{\text{Total time off for illness}}{\text{theoretical hours worked}} \times 100$$

Figures reported express the percentage of work time spent off for illness.

Time off is expressed in hours from the first day of illness, up to maximum of six months per case.

Absenteeism rates can give an indication of health levels among employees, but it is recognised that other factors.

Unit: %

**Metric: manager turnover rate:**

Total number of managers leaving the business  
Average management population during the year  
Unit %

**Metric: Industrial operations certified to OHSAS 18001**

Definition: Sites which, through audit by an external certified body, have been granted the OHSAS 18001:2007 certificate from that certified body

Unit: %

**Metric: % of man-days lost to labour disputes**

Definition: The total number of man-days lost to labour disputes/(total number of employees x 5 day working week x 48 weeks per year)

Unit: %

NB: This is reported as a material aspect of our operations at local level, and is covered in our local sustainability reports.

**Metric: Employees covered by collective bargaining agreements**

Unit %

**Metric: Number of strikes exceeding 1 week in duration**

Definition: A strike is defined as a work stoppage caused by mass refusal of employees to perform work, in response to a labour dispute.

Unit: Number

**Metric: No. employees in GEDP**

This metric has been replaced by the following, broader, metric to include those performance and development management programmes not included within the Global Employee Development Programme:

**Metric: proportion of employees participating in performance and development management programmes**

Definition:  $\frac{\text{The total of (a + b)}}{\text{Total no. exempt employees}} \times 100$

where

a = Number of Exempts using the Global Employee Development Programme (GEDP) process

b = Number of Exempts using local performance & development management process

Exempt employees are those targeted by Group Corporate Leadership Development including: all ArcelorMittal Managers and above, expatriates, globally mobiles and talents below manager level. Each business unit manages exempt population in GEDP beyond this scope. 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. In 2014 the total number of exempts was approximately 25,000 employees.

This metric changed in 2013. In previous years, we reported on the number of employees participating in the GEDP. In order to express our employee development process more accurately, we now report on the above, broader, metric.

Unit: percentage

**Metric: Training hours at ArcelorMittal University**

This metric was replaced in 2014 by the following metric, in order to reflect the true level of training available to our employees at site level.

**Metric: Training hours per employee**

Definition: The number of full time employee training hours divided by the number of employees. Previously we reported the number of full-time employee training hours at the ArcelorMittal University only, excluding all training provided at site level. The new metric reports the number of training hours per employee. This figure is derived from the total number of hours spent on training initiatives occurring across the whole group (in 2013, this was from consolidated data for 70% of our sites) divided by the total 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.

Unit: hours

**Metric: % of managers that are female**

Definition:  $\frac{\text{No. female managers from GEDP population}}{\text{Total no managers in GEDP population}} \times 100$

Unit: %

**Metric: Total number of employee grievances reported**

**Metric: % of employee grievances received that were resolved**

Definition: The number of allegations or concerns raised by our employees, highlighting concerns relating to the impact of the company on employee safety, welfare, human rights or wellbeing.

Reports that relate to financial misconduct either by or against an ArcelorMittal employee or stakeholder are considered as whistleblowing incidents and are reported separately under our whistleblowing procedure and not included here.

We believe that this detailed level of reporting on grievances through local grievance mechanisms is more meaningfully reported at local level, and so is included in our local sustainability reports only.

Unit: Number and %

### *Environmental metrics scope and boundary:*

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 only. Service centres, distribution centres and offices are excluded from the perimeter.

Data is submitted by local site management to the Environment team, Chief Technology Officer's department (CTO), which consolidates the data into the metrics provided in the Annual Review and on the sustainability pages of our website.

#### **Metric: Industrial operations ISO14001**

Definition and boundary: sites additional to those within the usual perimeter for our environmental data are included in this figure, such as ArcelorMittal distribution solutions (Construction, wire, etc). This is because, although their impact is not material to our consolidated footprint, the expectations of our customers demand certification.

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

Calculation: Number of sites certified to ISO 14001 as a % of all such sites with the perimeter defined.

## Outcomes 4: efficient use of resources and high recycling rates

#### **Metric: Steel scrap recycled**

Definition and boundary: sum in metric tonnes of external scrap (pre and post-consumer scrap) and internal scrap generated and 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.

Unit: metric tonnes

#### **Metric: CO2 avoided from use of scrap**

Calculation: quantity of steel scrap recycled x upstream emission factor of 1.3 t CO<sub>2</sub>/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<sub>2</sub> 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-

Unit: metric tonnes

**Metric: recycling input rate**

This is based on the metric defined in 'Recycling rates for metals', Eurofer and Eurometaux, Dec 2012, calculated as:

$$\frac{\text{total scrap}}{\text{primary and secondary metal input,}}$$

in which the denominator is equivalent to our total crude steel produced.

**Metric: production residues and by-products reused (steel)**

Definition and boundary: 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.

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 metric tonnes of residues reused at site level and externally compared the production of the year of residues

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 team, Chief Technology Officer's department (CTO)

Unit: %

**Metric: production residues and by-products reused (mining)**

Definition and boundary: Production residues and by-products reused include 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 reused at site level and externally compared the production of the year of residues.

Data is collected from ArcelorMittal production sites by means of a standard template, which requests information on production / use as yearly flow.

Where local site data is not available, estimates are made based on the production of reference product ratio of the prior year, and applying this to the current year production/use data.

Data is submitted by local site management to the Environment team, Chief Technology Officer's department (CTO)

Unit: %

### **Slag re-used (not currently disclosed)**

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<sub>2</sub> per tonne of steel. This is based on an integrated steel plant and includes all direct and indirect CO<sub>2</sub> 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/s40831-016-0046-8

Units: tonnes (of BF slag)

### **Metric: Slag to cement industry and CO<sub>2</sub> avoided**

Blast furnace slag is used by the cement industry in place of clinker. This averts the emission of 766kg CO<sub>2</sub> per tonne of steel from the production process of clinker.

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>

Units: tonnes (of BF slag)

## **Outcome 5: trusted user of air, land and water**

### **Metric: Environmental and energy capital expenditure**

Definition: Any investment in environmental improvements, such as water treatment facilities, de-dusting equipment and technology upgrades. This excludes environmental operating expenditures that are incurred as a result of continuous improvement.

Unit: USD (million)

### **Metric: dust (steel)**

*Definition and boundary:* The dust emission 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 dust emission (steel) includes 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.

Data is submitted by local site management to the Environment team, Chief Technology Officer's department (CTO).

In 2014, we started to report these emissions per tonne of steel produced, so that the reader can take into account the steel production levels over the year when considering our annual performance data.

Unit: kg per tonne of crude steel produced

**Metric: dust (mining)**

Definition and boundary: 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 emissions (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.

Data is submitted by local site management to the Environment team, Chief Technology Officer's department (CTO).

Unit: tonnes

**Metric: SOx (steel)**

Definition and boundary: SOx emissions data 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 SOx emissions (steel) include all emissions of ducted SOx (i.e. from stacks and chimneys). SOx or sulfur oxide refers to many types of sulfur and oxygen containing compounds such as, SO<sub>2</sub>, SO<sub>3</sub>, 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.

Data is submitted by local site management to the Environment team, Chief Technology Officer's department (CTO).

In 2014, we started to report these emissions per tonne of steel produced, so that the reader can take into account the steel production levels over the year when considering our annual performance data.

Unit: kg per tonne of crude steel produced withing the reporting perimeter

**Metric: SOx (mining)**

Definition and boundary: 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.

SOx or sulfur oxide refers to many types of sulfur and oxygen containing compounds such as, SO<sub>2</sub>, SO<sub>3</sub>, etc. ArcelorMittal's SOx 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.

Data is submitted by local site management to the Environment team, Chief Technology Officer's department (CTO)

Unit: tonnes

### **Metric: NOx (steel)**

Definition and boundary: NOx emissions data 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 NOx emissions (steel) include all ducted emissions (i.e. from stacks and chimneys). NOx is a generic term for mono-nitrogen oxides NO and NO<sub>2</sub> (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.

Data is submitted by local site management to the Environment team, Chief Technology Officer's department (CTO)

In 2014, we started to report these emissions per tonne of steel produced, so that the reader can take into account the steel production levels over the year when considering our annual performance data.

Unit: kg per tonne of crude steel produced withing the reporting perimeter

### **Metric: NOx (mining)**

Definition and boundary: 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.

NOx is a generic term for mono-nitrogen oxides NO and NO<sub>2</sub> (nitric oxide and nitrogen dioxide). ArcelorMittal's NOx 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.

Data is submitted by local site management to the Environment team, Chief Technology Officer's department (CTO)

Unit: tonnes

### **Metric: Water intake (steel)**

Definition and boundary: water intake data 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.

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 is 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)

Unit: metric cubic meter per tonne of crude steel produced by the responding sites

**Metric: net Water consumption (steel)**

Definition and boundary: water intake and discharge data 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.

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)

Net water consumption is the difference between the water consumption per tonne of crude steel and the water discharge per tonne of crude steel.

Unit: metric cubic meter per tonne of crude steel

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

### **Metric: Total Energy consumption (steel only)**

Definition and boundary: The total 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 total Energy consumption also known as Primary Energy consumption because it takes into account some pre-processed flows (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 by the Environment team, Chief Technology Officer's department (CTO). Data is submitted by local site management and verified by the CTO.

Where local site data is not available, estimates are made based on the production of reference product 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.

Unit: Gigajoules (GJ) and GJ / tonnes crude steel for specific energy consumption

#### **Energy recovered:**

NB We also 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, and express this as a % of the total primary energy consumed. This indicates that where fuels are used in the steelmaking process for a chemical purpose, the energy they contain is not wasted: the waste gases from these processes are reused for their energy content.

Unit: %

**Metric: Total CO<sub>2</sub> emissions (steel)**

*Organisational boundary:* those business units of material significance within our operational control. New acquisitions are included from the date of acquisition. Disposals are excluded from the date of disposal. Joint ventures and subsidiaries are included only where they fall within our operational control.

For CO<sub>2</sub>e (steel), this includes all steel plants with a significant CO<sub>2</sub>e 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<sub>2</sub>e 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<sub>2</sub>. Therefore all references to CO<sub>2</sub>e (steel) refer in practice to CO<sub>2</sub>.

These waste gases may be emitted directly through our chimneys, burnt in a power plant to produce electricity or, where this is not possible, they must be flared. The power plant is sometimes owned by ArcelorMittal and at other times owned by a third party. 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.

**‘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<sub>2</sub>e emissions (or “CO<sub>2</sub>e 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).

This methodology is compliant with Worldsteel Association methodology (CO<sub>2</sub> Emissions Data Collection, User Guide, Version 7 available at [https://co2.worldsteel.org/Contents/Data%20Collection%20User%20Guide\\_v7%20-150729\\_final.pdf](https://co2.worldsteel.org/Contents/Data%20Collection%20User%20Guide_v7%20-150729_final.pdf)).

**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 power that power plants would normally utilize, we would be under-reporting the emissions for which we are responsible. The CO<sub>2</sub>e per tonne of steel of a power plant that reports its direct emissions only can be twice that of one that reports its full process emissions.

**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<sub>2</sub>e equivalent emission factors of electricity are applied.

**Scope 3:** (Other indirect emissions): the other upstream CO<sub>2</sub>e included in our boundary emissions related to the procurements of preprocessed 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 team, Chief Technology Officer's department (CTO). 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.

Our CO<sub>2</sub>e (steel) data at site and group level is assured by Deloitte Audit.

*Data conversion:* and then converted to CO<sub>2</sub>e with standard emission factors<sup>1</sup> 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). These were updated for our 2014 report: on average electricity was less carbon-intensive in 2014 than previously in our steel-producing countries, and this had a downward effect on our CO<sub>2</sub>e emissions per tonne of steel produced. 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.

Unit: million tonnes CO<sub>2</sub>e; tonnes CO<sub>2</sub>e/tonne crude steel

**Metric: Total CO<sub>2</sub>e emissions (mining and steel)**

*Boundary:* For CO<sub>2</sub>e (mining), the organisational boundary includes all our mining operations; our CO<sub>2</sub> emissions relate predominantly to our use of electricity and our CH<sub>4</sub> emissions from coalbed methane. Transportation activities are currently excluded. See metric "Total CO<sub>2</sub>e emissions (steel)" for steel boundary.

ArcelorMittal's total CO<sub>2</sub>e emissions (or "CO<sub>2</sub>e footprint") =

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<sup>1</sup> These factors are detailed in Appendix 1.

- Scope 1 (process CO<sub>2</sub>e emissions from steel + CO<sub>2</sub> from mining + CH<sub>4</sub> from mining) +
- Scope 2 (indirect emissions from “net” purchased electricity + electricity purchased at mining sites)
- Scope 3 (other indirect emissions as defined above)

CH<sub>4</sub> emissions reported in tonnes of CH<sub>4</sub> are multiplied by the warming potential (21) to get the equivalent CO<sub>2</sub>e emissions in tonnes.

*Collection of data:* Data is submitted by local site management to the Environment team, Chief Technology Officer’s department (CTO). ArcelorMittal requires production sites to fill in a standard template, which requests information on material use, energy, utility flows and CH<sub>4</sub> emissions (for coal mines) at the site level. This data is obtained from procurement, delivery, inventory information and air analysis (for CH<sub>4</sub>) at site level and is used to calculate net use and then converted to CO<sub>2</sub> 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.

CH<sub>4</sub> emissions reported in tonnes of CH<sub>4</sub> are multiplied by the warming potential (21) to get the equivalent CO<sub>2</sub>e emissions in tonnes.

Unit: million tonnes CO<sub>2</sub>e

### **Metric: CO<sub>2</sub> emissions per tonne of steel**

This metric is calculated using our total CO<sub>2</sub>e emissions divided by our crude steel production. It does not account for the route by which the steel is produced. However, changes in the balance of production between electric arc furnace and blast furnace routes from year to year can heavily influence our global carbon intensity metric.

### **CO<sub>2</sub> intensity target**

We track our progress in CO<sub>2</sub> intensity against our target (8% reduction by 2020 against a 2007 baseline) by comparing our CO<sub>2</sub> emissions per tonne of steel produced in relation to a constant perimeter: sites that operated in 2007 and are still operating in the current year. Sites that have been sold or closed are no longer included in this perimeter and therefore their performance is not considered when we track our progress.

## Outcome 7: Supply chains that our customers trust

### **Metric: Number of suppliers assessed against the code for responsible sourcing**

Definition: 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 global suppliers. Figures from previous years included some local levels of supplier engagement. From 2014, we have also reported the % of our global procurement spend covered by those suppliers assessed against the code.

Unit: Number

## Outcome 8: Active and welcomed member of the community

### **Metric: Economic contribution**

Definition: Economic contribution is based on wages and salaries, supplier and contractor payments, mining royalties, corporate income tax and local taxes, capex, dividends, R&D and ArcelorMittal Foundation projects. Although expenditure on R&D, capex and Foundation projects are subcategories of certain other categories given, such as payments to suppliers, they are notable contributions to society in terms of intellectual and manufactured capital, and are therefore extracted in order to provide more detail.

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.

Unit: USD (million)

### **Metric: Number of local stakeholder engagement plans**

Definition: the number of stakeholder engagement plans (SEPs) establishing an annual action plan on engagement with local stakeholders.

SEPs should be established according to the ArcelorMittal [External Stakeholder Engagement Procedure](#) on an annual basis. Ideally, there should be a unique plan for each site in recognition that the stakeholder set and priorities may differ from site to site, even if within the same country. The plan should be shared with management, and communicated in an appropriate manner with each stakeholder group.

Due to a realignment of the coverage of stakeholder engagement plans at a local level, we have not reported on this metric in 2014. These plans will become part of the local sustainable development plans managed by local sustainable development committees. During 2015 we will develop a more meaningful way to report against our progress on these plans.

Unit: number

### **Metric: Number of local grievance mechanisms**

Definition: the number of confidential mechanisms established to receive, process and respond to grievances from local stakeholders.

Due to a realignment of the coverage of local grievance mechanisms at a local level, we have not reported on this metric in 2015.

Unit: number

### **Metric: Total number of community grievances reported**

### **Metric: % of community grievances received that were resolved**

Definition: The number of allegations or concerns raised by our stakeholders, either by employees, or community members or others, which were reported via local grievance systems, highlighting concerns relating to the impact of the company on the community. These may include issues of human rights, environmental impact, safety or economics.

Reports that relate to financial misconduct either by or against an ArcelorMittal employee or stakeholder are considered as whistleblowing incidents and are reported separately under our whistleblowing procedure and not included here.

We believe that this detailed level of reporting on grievances through local grievance mechanisms is more meaningfully reported at local level, and so is included in our local sustainability reports only.

Unit: Number and %

**Metric: Community investment**

Definition: The amount of money invested by ArcelorMittal to carry out social projects to benefit our communities. This includes funds allocated to (STEM) projects under outcome 9).

Unit: USD (million)

**Metric: number of beneficiaries of community investment projects**

Definition: the sum of individuals deriving direct social, environmental, health, educational benefit from those projects funded by the ArcelorMittal during the year that would not otherwise have enjoyed such benefit without ArcelorMittal funding.

Unit: number

**Metric: Employee volunteering hours**

Definition: Hours spent by ArcelorMittal employees supporting International Volunteer Work Day, Solidarity Holidays and other local volunteering actions. In 2013, this did not include any volunteer hours from solidarity holidays, as these did not run. No attempt has been made to compute a financial value for these hours, since guidance on the terms of volunteering across the company is decided by the local business unit and is therefore variable across the company.

This metric is no longer reported at group level.

Unit: hours

# Transparent good governance

**Metric: % of employees completed code of business conduct training, anti-corruption guidelines training, human rights policy training**

Definition: employees are required to undertake these trainings every three years. The percentage reported for the year relates to the number of employees who have a valid training certificate at the end of the period.

Units: %

**Metric: The number of board self-assessments**

Definition: The board self-assessment takes place at the level of the board of directors of the ArcelorMittal group's parent company.

Unit: Number

**Metric: number of whistleblowing incidents**

Definition: the number of incidents reported via our whistleblowing line.

Unit: number

# APPENDIX 1:

## CO<sub>2</sub> and Energy footprint default values

**Table 1 - Electricity: CO<sub>2</sub> equivalent**

2012 figures	AM figures	Updated figures 31.03.2015	kg CO <sub>2</sub> / MWh	Upstream CO <sub>2</sub> based on power consumption for production in Kg CO <sub>2</sub> / 1000Nm <sup>3</sup>				
				Wh/Nm <sup>3</sup>				
				710	500	200	200	110
		OPS country name	Ut-01	Ut-05	Ut-06	Ut-07	Ut-08	Ut-09
533	504	World	535	380	268	107	107	59
151	219	Canada	173	123	87	35	35	19
453	700	Mexico	449	319	225	90	90	49
481	635	United States	514	365	257	103	103	57
212	220	Belgium	218	155	109	44	44	24
552	700	Czech Republic	588	417	294	118	118	65
69	91	France	69	49	35	14	14	8
475	590	Germany	473	336	237	95	95	52
385	500	Italy	411	292	206	82	82	45
340	220	Luxembourg	106	75	53	21	21	12
756	750	Poland	788	559	394	158	158	87
305	475	Spain	292	207	146	58	58	32
974	900	Bosnia-Herzegovina	861	611	431	172	172	95
853	900	Macedonia	820	582	410	164	164	90
461	900	Kazakhstan	462	328	231	92	92	51
481	700	Romania	475	337	238	95	95	52
429	900	Russia	421	299	211	84	84	46
460	900	Ukraine	434	308	217	87	87	48
549	500	Algeria	577	410	289	115	115	63
697	700	Morocco	718	510	359	144	144	79
914	900	South Africa	913	648	457	183	183	100
469	629	Liberia	466	331	233	93	93	51
397	282	Argentina	372	264	186	74	74	41
98	65	Brazil	81	58	41	16	16	9
676	500	Trinidad	697	495	349	139	139	77
265	213	Venezuela	233	165	117	47	47	26

Table 2 – CO<sub>2</sub> and energy upstream for utilities and high CO<sub>2</sub> intensive streams

Upstream Energy and CO <sub>2</sub>			Default Values	
Product code	Stream			Upstream Energy
	<b>Utilities</b>		<b>up CO<sub>2</sub></b>	<b>up En</b>
			<b>t/unit</b>	<b>GJ/unit</b>
Ut-01	MWh	Electricity	depend on country	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/Nm <sup>3</sup>	High Pressure Oxygen	figures based on Up energy and electricity country CO <sub>2</sub> equivalent	710.000
Ut-06	Wh/Nm <sup>3</sup>	Low Pressure Oxygen		500.000
Ut-07	Wh/Nm <sup>3</sup>	Nitrogen		200.000
Ut-08	Wh/Nm <sup>3</sup>	Argon		200.000
Ut-09	Wh/Nm <sup>3</sup>	Compressed air		110.000
Ut-10		Hydrogen		

 Upstream CO<sub>2</sub> for high intensive streams

Stream code	Stream type	Upstream CO <sub>2</sub> Emission factor (kg CO <sub>2</sub> per unit)	unit
CF-01	coke	250.0	t
CF-08	Petroleum coke	290.0	t
CF-09	Heavy oil	290.0	t
CF-10	Light oil	246.5	m <sup>3</sup>
CF-11	Diesel oil	246.5	m <sup>3</sup>
CF-12	LPG	6.6	GJ LCV
Ma-01	EAF electrodes	660.0	t
Ma-02	SR electrodes	660.0	t
Ma-09	Burnt lime	1150.0	t
Ma-11	Burnt dolomite	1150.0	t
Ma-14	Pellets	115.0	t
Ma-14	Pellets	115.0	t
Pr-01	Merchant sinter	275.0	t
Pr-02	Pig iron (BF and smelting reduction)	1830.0	t
Pr-03	DRI	820.0	t

 Table 3 – C content, CO<sub>2</sub> and ncv's (net calorific value)

**C content, CO<sub>2</sub> EF and ncv's**

		Default Values			
Product code	Stream	C content	C content	Calorific value	Calorific value
<b>Products</b>		<b>C [t/t]</b>			
PR-01	Merchant Sinter	0.0000			
PR-02   PR-04	Pig Iron	0.0470			
PR-03	DRI	0.0200			
PR-05 à Pr-34	Flat Steel	0.0004			
PR-05 à Pr-34	Long Steel	0.0010			
<b>Cond Fuels</b>		<b>C [t/t]</b>	<b>C [t/m<sup>3</sup>]</b>	<b>ncv [MJ/t]</b>	<b>ncv [MJ/m<sup>3</sup>]</b>
CF-01a à 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 à 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	
<b>Gas Fuels</b>		<b>C [kg/m<sup>3</sup>N]</b>		<b>ncv [MJ/m<sup>3</sup>N]</b>	
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	
<b>Materials</b>		<b>C [t/t]</b>		<b>Eq. Energy (MJ/t)</b>	
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				
<b>Residues</b>		<b>C [t/t]</b>	<b>C [t/m<sup>3</sup>]</b>	<b>ncv [MJ/t]</b>	<b>ncv [MJ/m<sup>3</sup>]</b>
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			

**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/103m3
High purity oxygen	6.540	GJ /103m3
Nitrogen	1.840	GJ /103m3
Argon	1.840	GJ /103m3
Compressed air	1.010	GJ /103m3

**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.*