“American Steel Experts” Dialogue in the framework of the IEA Global Sustainable Technology Roadmap for Iron & Steel

São Paulo – 22nd Aug 2018
• ArcelorMittal Brasil
• Carbon Governance
• Early Action
• Going Forward
• Final Thoughts
ArcelorMittal is the world's leading steel and mining company, with a presence in 60 countries and an industrial footprint in 18 countries.
ArcelorMittal Brasil

In numbers

- More than 30 units for production and processing of steel.
- Annual steel production capacity: 12.5 million tons.
- Annual iron ore production: 7.1 million tons.
- Present in the segments of flat and long steel, carbon, mining, production and distribution of charcoal.
- Products used in such segments as automotive, appliances, civil and naval construction, among others
- Around 16,000 employees
- Sales of 9.7 million tons of products in 2017
- Consolidated net revenue in 2017: R$ 20.32 billion.
- EBITDA in 2017: R$ 2.55 billion.
Carbon Governance

Outcome, stakeholders’ expectations, internal policies
Our 10 Outcomes

6. Responsible energy user that helps create a lower carbon future

The chemistry of steel-making means it is a carbon-intensive industry - and as the world’s largest steel producer, we currently have one of the world’s largest corporate carbon footprints. Yet we see steel as having a vital role to play in a low-carbon, resource-efficient future. We’re embracing this opportunity through an approach that drives emissions reductions through technological innovation and collaboration with other industries, as well as energy efficiencies.
Since the 2015 Paris climate agreement identified an ambitious collective target of limiting global warming to 2 degrees or lower, expectations from stakeholders have advanced at an unprecedented level.

Priorities for our business and our stakeholders

- Safety
- Financial health
- **Climate change**

We’re expected to increase transparency on our:
- Energy consumption
- Carbon emissions
- Product performance
- Supply chain impacts
As the biggest steel and mining company worldwide, we do recognize that steelmaking is resource-intensive. Our environmental policy focuses on ten main key principles.

7. Management and Reduction where technically and economically feasible of the CO2 footprint of steel production.
At ArcelorMittal we are committed to:

**Efficiency**
by establishing and implementing effective energy management programmes to reduce the specific consumption of energy in our processes.

[...] support manufacturing capabilities by internal benchmarking of energy efficiency and transforming our best practices into standards.
Early Action

Monitoring and reporting, Internal Benchmarking, CDM and carbon emission reduction projects
ArcelorMittal Brasil Carbon Timeline

1997
- COP3 Japan Kyoto Protocol is adopted

2005
- CDP Global Reporting

2006
- CDM Project Electric Power Cogeneration by LDG Recovery registered

2007
- National Plan on Climate Change

2008
- Global Target 8% Carbon Intensity reduction by 2020

2009
- Sectorial Plans Decree 7390:2010

2010
- PNMC - National Policy for Climate Change

2012

2015
- Paris Agreement Brazilian NDC (approved in 2016)

2016
- Mapping and quantification of 6 other GHG emission reduction projects in ArcelorMittal Brazil

2018
- 2 Charcoal production projects approved in the Sustainable Steelmaking initiative

Internal global GHG inventories and benchmarking

CDM Project
- Electrical Energy in SOL Coqueria by HRCP registered

Internal Carbon Pricing proposal

Brazilian GHG Protocol founder
Reporting and Transparency

Participant since 2005, reporting CO2 emissions, reduction targets and strategies to achieve them.

CO₂ information externally audited by Deloitte.


Corporate Sustainability Report
GRI compliant
Total CO₂ emissions (Scopes 1, 2 and 3) and emission reductions.

Relatório de Sustentabilidade 2017
**Site:** ArcelorMittal Tubarão  
*Registration Date: 15 May 06*  
*Crediting Period: 01 Sep 04 - 31 Aug 14 (Fixed)*  
*Methodology: ACM0004*

The project aimed to recover LDG from the steelmaking shop and produce electric power in thermal electrical plants on site.

- **1st CDM project registered in a large-scale integrated steel plant**
- **Additionality demonstrated by investment analysis.**

**Issued CERs: 353,573 tCO₂**

**End of crediting period**

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### (Project 184) Electric Power Co-Generation by LDG Recovery
Site: ArcelorMittal Tubarão
Registration Date: 16 Aug 12
Credititing Period: 01 Sep 12 - 31 Aug 22 (Fixed)
Methodology: ACM0012 ver. 4

The project aims to generate electrical energy from recovered waste heat from the coke production process implemented at SOL Coke Plant. The Heat Recovery system implemented was the first of its kind in Brazil.

Other carbon emission reduction projects

<table>
<thead>
<tr>
<th>Site</th>
<th>Project</th>
<th>Methodology</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tubarão</td>
<td>LDG Recovery for Electric Power Generation*</td>
<td>CDM ACM0012 v.04</td>
</tr>
<tr>
<td>Tubarão</td>
<td>Electric Power Cogeneration in Heat Recovery Coke Production*</td>
<td>CDM ACM0004 v.01</td>
</tr>
<tr>
<td>Juiz de Fora</td>
<td>Pig iron production via renewable reducing agent and methane abatement during carbonization</td>
<td>CDM AMS II.D v 13.0</td>
</tr>
<tr>
<td>Juiz de Fora</td>
<td>BF gas reuse on hot rolling reheating furnaces</td>
<td>CDM AM0082 v.01</td>
</tr>
<tr>
<td>Monlevade</td>
<td>Partial coal and coke substitution with natural gas in Blast Furnace</td>
<td>CDM ACM0009 v.05.0</td>
</tr>
<tr>
<td>Tubarão</td>
<td>Hot Rolled Coil transport via coastal shipping</td>
<td>CDM AM0090 v.01.1.0</td>
</tr>
</tbody>
</table>

*Approved Registered CDMs

Calculated GHG Emission Reductions

Calculated reductions corresponded to ~6% of total CO₂ direct emissions (Scope 1) in 2017
Going Forward

Contributing to National NDC, Improving Inventory accuracy, MAC Curve and Carbon Pricing
Brazilian NDC and National Inventory
Steel industry’s participation

NDC Targets
-37% of CO₂e by 2025
-43% of CO₂e by 2030

Main actions
- Zero illegal deforestation and 12 million ha reforested by 2030
- 18% of biofuels in national fuel matrix and 45% of renewable energies in national mix, excluding hydro power
- For industries: clean technologies and energy efficiency

NDC Targets
Base year 2005
2,043 MtCO2e

In 2015
1,368 MtCO₂e
GWP/SAR

AFOLU 24%
Land use change
24%

Agriculture 31%

Enteric fermentation 17.6%
Agricultural soils 11.1%
Manure management 1.2%
Others 1.1%

Industrial processes 7%
Iron & Steel 3.7%
Cement 1.7%
Others 1.6%

Energy 33%
Fossil fuel combustion 31.3%
Fugitive emissions 1.7%

Waste 5%
Solid waste disposal 2.5%
Wastewater treatment 2.5%

~6% Industrial Use (~3% Steelmaking)
~7% Steel industry's
~2% ArcelorMittal Brasil
Ongoing Actions

- Improving site and corporate level GHG Inventories through automation using cloud software

- Construction of a CO₂ emissions reduction Marginal Abatement Cost (MAC) Curve

- Promoting Energy Efficiency projects and monitoring of associated GHG emission reductions
  - ISO 50.001 Gap analysis
  - Plan 2030

PLANO MEIO AMBIENTE 2030

ENERGY EFFICIENCY MASTER PLAN 2030

Long-term plan aiming at increasing energy efficiency, maximizing fuel utilization and promote carbon reduction in ArcelorMittal Tubarão
Ongoing Actions

Internal Carbon Pricing

Assessment and design of an internal carbon pricing mechanism in order to influence the investment decision making process

Main challenges

• Awareness from internal stakeholders regarding climate change scenarios and implications for the business
• Uncertainties regarding national government position on a potential national carbon pricing mechanism
• Mixed signals from government policies going against national targets, such as roll back on policies against deforestation

Actions

• Internal and external Benchmarking
• Partnership with Fundação Getúlio Vargas (Simulated ETS, EPC)
Promoting carbon reduction downstream

S-in motion®
Steel solutions for lighter cars

- Saving weight
- Safer cars
- Sustainable
- Strength
- Steel solution

Steligence® proposes that buildings need to be considered as integrated, almost ‘living’ entities, embedded in the urban environment.
Final thoughts

- ArcelorMittal understands the significant threat posed by Climate Change to the planet and the necessity of a transition to a low carbon economy;
- **Steel is a vital element for the circular, low carbon economy** of the future;
- A **balanced set of policies**, that incentivizes long-term investment in carbon efficiency and low-carbon technology, while preventing carbon leakage is essential for industry engagement;
- There is no simple solution and collaboration from government, NGOs, society and businesses is necessary;
- Brazilian steel → advantages in charcoal route and low carbon electric grid need to be valued.
Thank you!

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Environmental Management
ArcelorMittal Brasil