ClimateWorks AUSTRALIA

ClimateWorks FOUNDATION

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ENERGY PRODUCTIVITY INDEX FOR COMPANIES

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STEEL SECTOR SUMMARY

ABOUT THIS SUMMARY

This sector summary is one of a series of six sector fact sheets to be used in conjunction with the guide for investors titled, *Could boosting energy productivity improve your investment performance?* These companion pieces are the result of analysis under the *Energy Productivity Index for Companies* project, designed to help investors identify key sectors and portfolio companies within those sectors, where improving energy productivity can deliver significant benefits to companies and their value as investments.

RESULTS SNAPSHOT

> Given high energy costs and low profit margins, companies in this sector are relatively exposed to energy-related risks

> Hyundai Steel demonstrated the best overall energy performance by delivering the highest weighted average score across all measures

> Arcelor Mittal produces 3x more steel per GJ of energy used compared to the least productive company

> Changes in energy productivity of companies in recent years were varied, showing improvements of up to 21% or deteriorations of up to -7% per annum

> One driver of relative energy productivity between companies is the share of steel production which comes from recycled scrap (much more energy efficient than primary steel production). This, however, does not explain all differences observed in energy productivity between companies

> United States Steel Corporation and Hyundai Steel achieved the highest energy savings in the sector, equivalent to 2.1% and 1.2% of their annual energy costs per year, respectively

> Achieving energy savings equivalent to the average of those two companies (top 20%) could deliver up to an 11% boost to lower performing steel companies' annual profits

> US $137 million annual savings were achieved across the sector through energy efficiency improvements

> Sector improvements required an estimated US $371 million in capital investment. When annualised, this is approximately equivalent to 46% of annual cost savings

> Improvements implemented by reporting companies also achieved significant emissions reductions. For each 1% reduction in energy costs achieved, emissions were reduced by 2.2%

Summaries available for six sectors

AIRLINES | AUTOMOBILES | CHEMICALS | CONSTRUCTION MATERIALS | PAPER | STEEL

COMPARING COMPANIES IN THE STEEL SECTOR

The Energy Productivity Index compares companies in each sector based on three measures – **Resilience to energy cost**, **Energy productivity outcome**, and **Energy efficiency performance**.

Steel company scores against key measures

Company	General Rating	Energy cost resilience	Energy productivity outcome	Energy efficiency performance
Hyundai Steel	93%	72%	95%	100%
United States Steel Corporation	62%	38%	26%	100%
Arcelor Mittal	51%	53%	57%	45%
JSW Steel	41%	50%	0%	70%
China Steel	38%	43%	49%	27%
Tata Steel	26%	32%	57%	0%
POSCO	18%	47%	25%	0%
19 companies	Incomplete/insufficient data provided to CDP to conduct analysis (Alba SE, APERAM, Arrium, Bekaert NV, BlueScope Steel Ltd, Cia. Siderurgica Nacional - CSN, Essar Steel Group, Fortescue Metals Group, Gindalbie Metals, Highveld Steel And Vanadum Corporation Limited, Hill & Smith Holdings, Höganäs AB, JFE Holdings, Inc., KARDEMİR KARABÜK DEMİR ÇELİK SANAYİ VE TİCARET A.Ş., Kobe Steel, SSAB, Sumitomo Metal Industries, Ltd., Sundance Resources, Welspun-Gujarat Stahl Rohren).			
Non reporters	All other companies did not respond to CDP			
6 companies	Reviewed but excluded from analysis (ACERINOX, Arcelor Mittal South Africa Ltd, Cliffs Natural Resources Inc, Outokumpu Oyj, Sims Metal Management Limited, United Industries).			

Satisfactory data

- Positive results; could discuss potential to optimise
- Request clarification of results and discuss potential to improve

Insufficient data

- Results provisional due to data uncertainty. Request additional data to confirm rating
- Data provided is insufficient to conduct analysis; require more information

Not included in analysis

- Out of scope; different type of activity, or low energy cost making analysis too uncertain

For further details on identifying companies to engage with and how to measure a company's performance against its competitors, refer to section 03 of the **Guide for Investors**.

A note about project scope and limitations:
Analysis undertaken was limited by the availability and quality of company data. Energy data used in the analysis was primarily sourced from CDP, complemented with other voluntary company reporting where required. This leads to potential limitations as outlined on page 2 of the Guide for Investors.

Guide for Investors and Technical Report available at **energyproductivity.net.au**

Using data from CDP, companies were scored and ranked based on their performance against seven metrics (presented in the table below) which underpin the measures shown on the previous graph.

Performance against each metric

Data is sourced from 2013-15 CDP responses and financial reports for corresponding years unless otherwise specified.

		Energy cost resilience		Energy productivity outcome		Energy efficiency performance			Additional information
Weights		10%	10%	20%	15%	15%	15%	15%	
Company	General Rating	Energy cost estimate, % opex (latest)	Profitability, EBIT / Revenue	Energy productivity, tonne / GJ	Energy productivity, Average annual % change (earliest to latest)	Savings per year, % est. energy cost	Potential financial uplift (% EBIT) if reach top quintile	Potential financial uplift (% EBIT) if reach second quintile	Emissions reduction from energy efficiency activities, % gross scope 1 & 2 emissions
& Hyundai Steel	93%	5-10%	6.8%	0.11	8.0%	1.17%	0.4%	0.0%	0.4%
United States Steel Corporation	62%	5-10%	-1.3%	0.07	-1.3%	2.11%	0.0%	0.0%	2.4%
Arcelor Mittal	51%	5-10%	3.1%	0.14	-5.8%	0.37%	3.1%	0.4%	0.2%
JSW Steel	41%	35-40%	11.2%	0.05	ID	0.71%	2.9%	0.0%	3.1%
China Steel	38%	20-25%	6.2%	0.06	21.3%	0.40%	4.9%	0.6%	0.5%
Tata Steel	26%	40-45%	6.4%	0.12	-7.5%	0.14%	10.9%	3.0%	1.0%
POSCO	18%	15-20%	5.2%	0.05	0.9%	0.07%	5.0%	1.6%	0.0%

Performance legend

Cells colour-coded based on 0-100% scores attributed to companies for each metric*

	High > 75%	> 50%	> 25%	Low < 25%
Energy cost resilience				
Energy productivity outcome				
Energy efficiency performance				

Low quality/uncertain data

Insufficient Data ID

& Low energy cost range (0-5%) in some years, assumed to be 5%

* Detailed translation of metrics into scores is presented in the Technical Report (energyproductivity.net.au/resources)

STRONG ENERGY SAVINGS FOR STEEL

Despite operating in an energy intensive sector, steel company Arcelor Mittal is demonstrating that greater energy efficiency is not only possible, it delivers clear financial benefit. They have strengthened energy management across the business and focused in particular on identifying opportunities to reduce energy losses through better monitoring of their energy use. As a result of those efforts and investments in R&D, they achieved close to US $200 million in energy savings in 2014.

Reference: corporate.arcelormittal.com/~/media/Files/A/ArcelorMittal/sdr-2015/sdr-report-pdf-files/sustainability-report-final.pdf

ENGAGING WITH COMPANIES

1. Seek clarification on a company's performance

Start with metrics that are incomplete or appear to indicate lower performance. As an indication of a company's current efforts, energy efficiency activities that have been implemented by others in this sector are presented below to help identify whether a company is considering all areas worth investigating.

2. What to ask of companies where low performance is identified

Once a company's performance has been confirmed (or re-assessed after additional information), investors can suggest a range of internal energy management practices which could improve that company's performance.

3. Ways to engage with underperforming companies

Where further engagement with companies is required, refer to section 04 of the **Guide for Investors** which suggests questions that companies could be asked and internal energy management practices they might consider.

More than 60% of the energy efficiency opportunities implemented by companies in the steel sector have a less than 3 year payback, or an equivalent of about 50% internal rate of return.

Energy savings shown as percentage of energy cost, coloured by payback period

Energy efficiency improvements detailed in callout boxes