

ASSESSING THE ENERGY PRODUCTIVITY OF A COMPANY

A DO-IT-YOURSELF BENCHMARKING GUIDE FOR INVESTORS

ABOUT THIS DOCUMENT

As part of the 'Energy Productivity Index for Companies' project, ClimateWorks Australia developed an index analysing the energy productivity of 70 global listed industrial companies across six sectors - airlines, automobiles, chemicals, construction, paper and steel. The resulting Guide for Investors found that improving energy productivity can deliver significant benefits to companies and their value as investments.

Though comprehensive, the Guide could not analyse every publicly listed company in sectors included. And so this do-it-yourself document has been developed, outlining the steps investors can take to perform their own high level assessment of a portfolio company's energy productivity performance and energy efficiency ambition.

HOW ENERGY PRODUCTIVITY RATINGS ARE DETERMINED

Based on a number of metrics sourced from Carbon Disclosure Project (CDP) questionnaires as well as financial reports, the Guide for Investors produced an energy productivity (EP) ranking. For this report, the definition of energy productivity has been broadened to include 'resilience to energy costs', 'energy productivity outcome', and 'energy efficiency performance'. This is because a combination of these metrics provides a better indication of current and potential performance than 'revenue per gigajoule of final energy used', alone (see technical report for details).

Investors can follow a simplified formula outlined below to develop their own useful indication of a portfolio company's energy productivity performance. Using this do-it-yourself guide correctly will produce three results you can then compare against results in the corresponding columns of the table overleaf. Your results can also be compared against other sources, referred to in the instructions below.



Energy cost resilience

This consists of two metrics that measure a company's resilience to current and future energy bills. Together, they can show the material impact energy issues have on that company, and can be a useful guide to the relative exposure of a company to energy risks.



Energy productivity outcome

This metric compares a company's current ability to generate revenue or products using a given amount of energy, relative to its peers.



Energy efficiency performance

These two metrics measure a company's internal efforts to improve energy efficiency. Together, these metrics highlight company efforts to reduce exposure to energy risks and improve cost competitiveness through optimising energy use.

1. Information you need (available through CDP, financial, sustainability reports)

Energy cost range
(CC11.1 in CDP questionnaire)

Earnings before interest and taxes,
EBIT (Financial reports)

Revenue (Financial reports)

Revenue (Financial reports)

Total energy use
(CC11.2 and CC11.3 in
CDP questionnaire)

Financial savings from EE
(CC3.3b in CDP questionnaire)

Estimated energy cost (estimated from
CC11.1 in CDP questionnaire and
financial reports)

Benchmark (ClimateWorks analysis)

EBIT (Financial reports)

2. Alternative sources

Estimated energy cost
based on sectoral average
(see next page) and opex
(financial reports)

Any measure of company's
profitability, e.g. EBITDA,
net income, gross profit
(financial reports)

Total energy use can be sourced from
sustainability reports

If not available, emissions productivity
could be used in some sectors as a proxy
(where emissions are mostly driven by
energy use, and fuel mix is reasonably
similar between companies)

Energy use reduction as % of energy
use, or energy efficiency target,
normalised to a per annum basis
(sustainability reports)

Any measure of company's
profitability, e.g. EBITDA,
net income, gross profit
(financial reports)

3. How to calculate result

Energy cost range
(energy expenditure as % of opex)

$$\text{Profitability [\%]} = \frac{\text{EBIT [\$]}}{\text{Revenue [\$]}}$$

$$\text{Energy Productivity} = \frac{\text{Revenue [\$]}}{\text{Total energy use [GJ]}}$$

You can also determine average annual change
in energy productivity between years*.

*Calculated using Compound
Annual Growth Rate (CAGR)

$$\text{Savings per year [\%]} = \frac{\text{Financial savings from EE [\$]}}{\text{Estimated energy cost [\$]}}$$

$$\text{Potential financial uplift [\%]} = \frac{\text{Benchmark - Savings per year [\%]}}{\text{EBIT [\%]}}$$

4. Rate your company

To benchmark this number,
compare your company's
results against the **average
energy cost range** and **average
profitability** results
(column A and column B)
for the same sector, overleaf.

To benchmark your company
results, refer to **average annual
productivity** (column C) overleaf.
You could also use aggregate
statistics from industry associations
or national statistics bureaus.
Average annual change in energy
productivity can be compared with
other annual rates of improvement
in your business.

Companies achieving annual
improvements >1% of their energy
bills are considered best in class,
while companies achieving <1%
have scope to improve their energy
efficiency performance. If you want
more information please see page 7
of the Guide for Investors.



AVERAGE PERFORMANCE RESULTS BY SECTOR

Use the table below to benchmark your selected company's energy productivity performance against average results for its sector.

Sector	Energy cost resilience		Energy productivity outcome	# of co's
	Average energy cost range, % operational spend Lower percentages are better	Average profitability, EBIT/Revenue Higher percentages are better	Average energy productivity, Revenue/Energy Use (GJ) Higher numbers are better	
Aerospace & Defence	3.0%	9.2%	3.30	21
Air Freight & Logistics	8.1%	6.7%	0.38	14
Auto Components	3.2%	7.6%	1.54	21
Beverages	3.1%	18.7%	1.05	21
Building Products	11.3%	6.2%	0.32	16
Chemicals - Others	14.0%	18.8%	0.09	11
Chemicals - Specialty Chemicals	10.8%	9.1%	0.46	20
Communications Equipment	4.8%	12.1%	8.36	11
Construction & Engineering	5.3%	3.9%	1.06	54
Containers & Packaging	5.3%	7.5%	0.36	15
Electrical Equipment	6.5%	7.9%	2.22	26
Electronic Equipment, Instruments & Components	11.8%	6.5%	0.28	46
Energy Equipment & Services	7.3%	8.6%	0.45	20
Food Products	7.3%	9.0%	0.02	43
Health Care Equipment & Supplies	3.4%	17.7%	2.15	19
Household Durables	8.4%	3.6%	2.80	30
Household Products	16.8%	16.8%	3.23	6
Industrial Conglomerates	4.8%	8.5%	0.45	21
Leisure Equipment & Products	2.5%	10.3%	5.39	6
Machinery	6.5%	8.4%	2.36	51
Marine	35.7%	5.4%	0.10	10
Metals & Mining - Aluminum, Diversified Metals & Mining	20.6%	16.0%	0.12	30
Metals & Mining - Gold, Precious Metals & Minerals	17.7%	0.3%	0.08	19

Continued overleaf



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Multi-Utilities	30.5%	8.6%	0.07	21
Oil, Gas & Consumable Fuels	13.3%	11.1%	0.24	67
Personal Products	4.8%	16.3%	1.03	16
Road & Rail	10.8%	18.5%	0.27	17
Semiconductors & Semiconductor Equipment	7.7%	13.7%	2.45	30
Textiles, Apparel & Luxury Goods	10.1%	14.2%	8.16	12
Tobacco	2.5%	31.0%	3.62	8
Transportation Infrastructure	7.1%	28.6%	0.55	13
Water Utilities	7.5%	13.8%	0.46	6

Detailed analysis is available for the following six sectors - (please refer to summary documents for further information):



AIRLINES



AUTOMOBILES



CHEMICALS



CONSTRUCTION MATERIALS



PAPER



STEEL

Note: Data presented here is drawn directly from CDP company responses and financial reports for 2014 only. Reporting gaps and errors may lead to potential limitations. Energy cost ranges indicate the midpoint average across data disclosed by companies in the sample.



For further information around measuring energy productivity, refer to the Guide for Investors and Technical Report available at energyproductivity.net.au



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