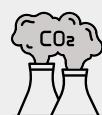


ESG Reporting Metrics & Formulae



Curated and designed by Amlan Shome

Environmental



Emissions

Metrics

Formula

Context

Scope 1 GHG
Emissions (tCO₂e)

$\Sigma (\text{Activity Data} \times \text{Emission Factor})$

Direct emissions
from owned sources

Scope 2 GHG Emissions
(Location-based)

$\Sigma (\text{Electricity Consumed} \times \text{Grid Emission Factor})$

Indirect emissions from
purchased energy

Scope 2 GHG Emissions
(Market-based)

$\Sigma (\text{Electricity} \times \text{Supplier-specific Emission Factor})$

Based on contractual
instruments

Scope 3 GHG
Emissions

$\Sigma (\text{Category Activity} \times \text{Emission Factor})$

Upstream & downstream
value chain emissions

Total GHG
Emissions

Scope 1 + Scope 2
+ Scope 3

Overall GHG
emissions footprint

GHG Intensity
(per revenue)

Total Emissions \div
Revenue

Carbon efficiency of
operations

GHG Intensity
(per product)

Total Emissions \div
Units Produced

Product-level
emissions indicator

Energy

Metrics

Formula

Context

Total Energy
Consumption (GJ)

Σ (Energy from all
sources)

Aggregates all fuel,
electricity, heat

Energy
Intensity

Energy Consumed \div
Output (or Revenue or
Employees)

Energy efficiency
indicator

Renewable
Energy Ratio (%)

(Renewable Energy \div
Total Energy) \times 100

Measures clean energy
transition progress

Water

Metrics

Formula

Context

Water
Intensity

Water Withdrawn
 \div Output or
Revenue

Water
efficiency

Water
Recycled (%)

(Water Reused \div
Water Withdrawn)
 \times 100

Circularity of water
use



Waste

Metrics

Formula

Context

Waste Recycling
Rate (%)

$(\text{Waste Recycled} \div \text{Total Waste}) \times 100$

Waste diversion from
landfill

Hazardous Waste
Ratio (%)

$(\text{Hazardous Waste} \div \text{Total Waste}) \times 100$

Toxicity burden of
operations

Waste Intensity

$\text{Total Waste} \div \text{Output or Revenue}$

Waste generation
efficiency



Other Environmental Metrics

Metrics

Formula

Context

Biodiversity
Impact Score

$\text{Affected Area} \times \text{Impact Coefficient}$

Based on local/regional
biodiversity frameworks

Carbon Removal
Balance

$\text{Carbon Sequestered} - \text{Emitted}$

Net impact of carbon
removal interventions

Carbon Avoided

$\text{Baseline Emissions} - \text{Project Emissions}$

Used for avoided
emissions reporting
(CDP, GHG Protocol)



Social



Diversity

Metrics

Formula

Context

Employee
Turnover (%)

$(\text{Departures} \div \text{Avg. Headcount}) \times 100$

Measures retention

Diversity Ratio (%)

$(\text{Diverse Group Employees} \div \text{Total Employees}) \times 100$

Gender/ethnic/inclusive
breakdown

Gender Pay Ratio

$\text{Avg. Female Salary} \div \text{Avg. Male Salary}$

Equal pay indicator

Training Hours
per Employee

$\text{Total Training Hours} \div \text{Total Employees}$

Capacity building &
development



Health & Safety

Metrics

Formula

Context

Total Recordable
Incident Rate (TRIR)

$(\text{Recordables} \times 200,000) \div \text{Total Hours Worked}$

OSHAS standard
metric

Lost Time Injury
Frequency Rate (LTIFR)

$(\text{Lost Time Injuries} \times 1,000,000) \div \text{Hours Worked}$

Safety
performance

Severity Rate

$(\text{Lost Workdays} \times 1,000,000) \div \text{Hours Worked}$

Extent of
injury impact



Community & Human Rights

Metrics

Formula

Context

CSR Spend
Ratio (%)

$(\text{CSR Spend} \div \text{Net Profit}) \times 100$

Compliance
metric

Local Hiring
Rate (%)

$(\text{Local Hires} \div \text{Total Site Employees}) \times 100$

Measures local economic
contribution

Grievance Rate

$\text{Grievances Reported} \div \text{Total Employees}$

Human rights compliance
proxy



Governance



Board Composition & Independence

Metrics

Formula

Context

Board
Diversity (%)

(Women or Diverse
Directors ÷ Total Board
Members) × 100

Reflects inclusion at
the top

Independent
Directors (%)

(Independent Directors ÷
Total Directors) × 100

Board
autonomy

CEO-Chair
Separation

Binary: 1 =
Separate roles

Governance
best practice



Ethics, Compliance & Risk

Metrics

Formula

Context

Corruption
Incidents Rate

Confirmed Cases ÷ Total
Employees

Governance
red flag

Whistleblower Closure
Rate (%)

(Closed Cases ÷ Total
Reported) × 100

Ethical
responsiveness

Ethics Training
Coverage (%)

(Employees Trained ÷ Total
Employees) × 100

Governance
culture metric



Internal Controls & Transparency

Metrics

Formula

Context

Audit Findings
per Audit

Total Findings ÷
Number of Audits

Internal
control health

Policy
Implementation
Rate (%)

(Compliant Sites ÷
Total Sites) × 100

Coverage of
ESG policies

ESG-linked
Pay (%)

ESG-linked Variable
Pay ÷ Total Pay Pool ×
100

Pay-for-performance
alignment