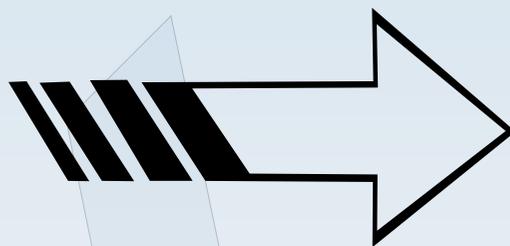


# **ESG Reporting Metrics & Formulae**



*Curated and designed by Amlan Shome*

# Environmental



## Emissions

### Metrics

### Formula

### Context

Scope 1 GHG  
Emissions (tCO<sub>2</sub>e)

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

Direct emissions  
from owned sources

Scope 2 GHG Emissions  
(Location-based)

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

Indirect emissions from  
purchased energy

Scope 2 GHG Emissions  
(Market-based)

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

Based on contractual  
instruments

Scope 3 GHG  
Emissions

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

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)

$\Sigma$  (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Water Withdrawn  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Water Withdrawn)  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