



# INTEGRUM ESG API REFERENCE SCHEMA V2.5 JAN 2024

## Introduction

This document gives a static representation of some of the important metadata. It shows the top-level entities that can be queried from the API, and which metrics are deemed material for each sub-sector.

Both of these are subject to change and so may need to be checked against the date of this document.

For the API metadata, we also recommend querying the model dynamically - either with a query (as shown below) or with the interactive GraphQL tool as described in the API guide and shown in the examples.

## Materiality

As mentioned in the Integrum ESG API guide, not all sustainability issues will be relevant for each company, which can be an issue when we want to capture data on key measures for every company.

Impact Metrics are present for all companies and include important measures on emissions, water consumption, and waste generation. So if we are looking for metric-level data for comparisons across diverse companies, it is better to use the Impact metrics below.

Impact Metric	Description
Wellbeing	Tax contributed to all governments
Resource Security	Waste generation
Decent Work	Number of jobs created by the company
Climate Stability	CO <sub>2</sub> (and other GHG) emissions
Healthy Ecosystems	Water consumption

## Sector/Metric relevancy for sustainability metrics

As discussed in the API Guide document, we have scores for the metrics defined as being material for the sub-sector that the company is in.

Here are two tables that show metrics per sub-sector and sub-sectors per metric.

## Metrics by sub-sector

Sub-Sector	Metric
Advertising & Marketing	Customer privacy breaches
	Issues over selling and marketing practices
	Racial and gender diversity in the workforce

Aerospace & Defense	Data security breaches
	Electricity consumption
	Failures of professional integrity, such as bribery & corruption
	Integrating social & environmental concerns into planning & design
	Managing data security risk
	Managing the use of critical materials
	Penalties due to product safety issues
	Product recalls
	Waste generation
Agricultural Products	Auditing suppliers' labour code of conduct
	Electricity consumption
	Employee safety incidents
	Fuel consumption
	Greenhouse gas emissions
	Managing environmental and social risks within the supply chain
	Non-compliance with water standards
	Penalties due to product safety issues
	Product recalls
	Water consumption

Air Freight & Logistics	<p>Auditing suppliers' labour code of conduct</p> <p>Emission of air pollutants</p> <p>Employee safety incidents</p> <p>Fuel consumption</p> <p>Greenhouse gas emissions</p> <p>Identifying and mitigating catastrophe risk</p> <p>Managing the risk of serious safety incidents</p> <p>Strategy to manage emissions</p> <p>Work stoppages</p>
Airlines	<p>Fuel consumption</p> <p>Greenhouse gas emissions</p> <p>Identifying and mitigating catastrophe risk</p> <p>Incidents of anti-competitive behaviour</p> <p>Managing the risk of serious safety incidents</p> <p>Strategy to manage emissions</p> <p>Work stoppages</p>
Alcoholic Beverages	<p>Auditing suppliers' labour code of conduct</p> <p>Electricity consumption</p> <p>Issues over selling and marketing practices</p> <p>Recyclability of packaging or raw materials</p> <p>Water consumption</p>

Apparel, Accessories & Footwear	<p>Auditing suppliers' labour code of conduct</p> <p>Integrating social &amp; environmental concerns into planning &amp; design</p> <p>Managing environmental and social risks within the supply chain</p> <p>Managing risks from chemicals</p> <p>Managing the use of critical materials</p> <p>Penalties due to product safety issues</p> <p>Product recalls</p> <p>Recyclability of packaging or raw materials</p>
Appliance Manufacturing	<p>Integrating social &amp; environmental concerns into planning &amp; design</p> <p>Penalties due to product safety issues</p> <p>Product recalls</p> <p>Recyclability of packaging or raw materials</p>
Asset Management & Custody Activities	<p>Failures of professional integrity, such as bribery &amp; corruption</p> <p>How sales activity is incentivised</p> <p>Integrating social &amp; environmental concerns into planning &amp; design</p> <p>Issues over selling and marketing practices</p> <p>Managing liquidity and capital adequacy risks</p> <p>Racial and gender diversity in the workforce</p>
Auto Parts	<p>Incidents of anti-competitive behaviour</p> <p>Integrating social &amp; environmental concerns into planning &amp; design</p> <p>Managing the use of critical materials</p> <p>Product recalls</p> <p>Waste generation</p>

Automobiles	Integrating social & environmental concerns into planning & design
	Managing the use of critical materials
	Penalties due to product safety issues
	Product recalls
	Work stoppages
Biofuels	Emission of air pollutants
	Integrating social & environmental concerns into planning & design
	Managing environmental and social risks within the supply chain
	Managing regulations and policy proposals
	Managing the risk of serious safety incidents
Biotechnology & Pharmaceuticals	Water consumption
	Auditing suppliers' labour code of conduct
	Employee turnover
	Failures of professional integrity, such as bribery & corruption
	Issues over selling and marketing practices
	Managing health risks to customers
	Penalties due to product safety issues
	Pricing policies
	Product recalls
	Promoting access and affordability for products/services

Building Products & Furnishings	Electricity consumption
	Integrating social & environmental concerns into planning & design
	Managing environmental and social risks within the supply chain
	Managing risks from chemicals
	Penalties due to product safety issues
	Product recalls
Car Rental & Leasing	Recyclability of packaging or raw materials
	Integrating social & environmental concerns into planning & design
Casinos & Gaming	Product recalls
	Electricity consumption
	Failures of professional integrity, such as bribery & corruption
Chemicals	Responsible gambling codes
	Electricity consumption
	Emission of air pollutants
	Employee safety incidents
	Greenhouse gas emissions
	Integrating social & environmental concerns into planning & design
	Managing regulations and policy proposals
	Managing the risk of serious safety incidents
	Non-compliance with water standards
	Policy on human rights and local communities
	Strategy to manage emissions
	Waste generation
	Water consumption

Coal Operations	Employee safety incidents
	Greenhouse gas emissions
	Managing business risk from environmental regulation
	Non-compliance with environmental standards
	Non-compliance with water standards
	Policy on human rights and local communities
	Strategy to manage emissions
	Waste generation
	Water consumption
	Work stoppages
Commercial Banks	Capital adequacy risk
	Data security breaches
	Failures of professional integrity, such as bribery & corruption
	Integrating social & environmental concerns into planning & design
	Managing data security risk
	Managing liquidity and capital adequacy risks
	Pricing policies
	Promoting access and affordability for products/services

Construction Materials	Electricity consumption
	Emission of air pollutants
	Employee safety incidents
	Greenhouse gas emissions
	Incidents of anti-competitive behaviour
	Integrating social & environmental concerns into planning & design
	Non-compliance with environmental standards
	Strategy to manage emissions
	Waste generation
Consumer Finance	Water consumption
	Customer privacy breaches
	Data security breaches
	How sales activity is incentivised
	Issues over selling and marketing practices
	Managing data security risk

Containers & Packaging	<p>Electricity consumption</p> <p>Emission of air pollutants</p> <p>Greenhouse gas emissions</p> <p>Integrating social &amp; environmental concerns into planning &amp; design</p> <p>Managing environmental and social risks within the supply chain</p> <p>Managing risks from chemicals</p> <p>Non-compliance with water standards</p> <p>Product recalls</p> <p>Recyclability of packaging or raw materials</p> <p>Strategy to manage emissions</p> <p>Waste generation</p> <p>Water consumption</p>
Cruise Lines	<p>Emission of air pollutants</p> <p>Employee safety incidents</p> <p>Fuel consumption</p> <p>Greenhouse gas emissions</p> <p>Managing health risks to customers</p> <p>Managing the risk of serious safety incidents</p> <p>Non-compliance with environmental standards</p> <p>Strategy to manage emissions</p> <p>Work stoppages</p>

Drug Retailers	Customer privacy breaches
	Data security breaches
	Electricity consumption
	Managing data security risk
	Managing health risks to customers
	Penalties due to product safety issues
E-Commerce	Product recalls
	Customer privacy breaches
	Data security breaches
	Electricity consumption
	Employee turnover
	Integrating social & environmental concerns into planning & design
	Managing data security risk
	Non-compliance with water standards
	Racial and gender diversity in the workforce
	Recyclability of packaging or raw materials
EMS & ODM	Water consumption
	Employee safety incidents
	Managing the use of critical materials
	Recyclability of packaging or raw materials
	Waste generation
	Water consumption
Education	Work stoppages
	Data security breaches
	Issues over selling and marketing practices
	Managing data security risk

Electric Utilities & Power Generators	Emission of air pollutants
	Employee safety incidents
	Greenhouse gas emissions
	Identifying and mitigating catastrophe risk
	Managing business risk from greater customer energy efficiency
	Managing technology errors and disruptions
	Non-compliance with water standards
	Pricing policies
	Strategy to manage emissions
	Water consumption
Electrical & Electronic Equipment	Electricity consumption
	Failures of professional integrity, such as bribery & corruption
	Managing the use of critical materials
	Penalties due to product safety issues
	Product recalls
Engineering & Construction Services	Waste generation
	Employee safety incidents
	Failures of professional integrity, such as bribery & corruption
	Integrating social & environmental concerns into planning & design
	Non-compliance with environmental standards
	Penalties due to product safety issues

Food Retailers & Distributors	<p>Auditing suppliers' labour code of conduct</p> <p>Data security breaches</p> <p>Electricity consumption</p> <p>Employee turnover</p> <p>Fuel consumption</p> <p>Greenhouse gas emissions</p> <p>Issues over selling and marketing practices</p> <p>Managing data security risk</p> <p>Managing environmental and social risks within the supply chain</p> <p>Managing health risks to customers</p> <p>Penalties due to product safety issues</p> <p>Product recalls</p> <p>Waste generation</p> <p>Work stoppages</p>
Forestry Management	<p>Managing business risk from climate change</p> <p>Non-compliance with environmental standards</p> <p>Policy on human rights and local communities</p>
Fuel Cells & Industrial Batteries	<p>Electricity consumption</p> <p>Employee safety incidents</p> <p>Integrating social &amp; environmental concerns into planning &amp; design</p> <p>Managing the use of critical materials</p> <p>Recyclability of packaging or raw materials</p>
Gas Utilities & Distributors	<p>Managing business risk from greater customer energy efficiency</p> <p>Managing the risk of serious safety incidents</p> <p>Pricing policies</p>

Hardware	<p>Auditing suppliers' labour code of conduct</p> <p>Integrating social &amp; environmental concerns into planning &amp; design</p> <p>Managing data security risk</p> <p>Managing the use of critical materials</p> <p>Racial and gender diversity in the workforce</p> <p>Recyclability of packaging or raw materials</p>
Health Care Delivery	<p>Customer privacy breaches</p> <p>Data security breaches</p> <p>Electricity consumption</p> <p>Employee safety incidents</p> <p>Employee turnover</p> <p>Issues over selling and marketing practices</p> <p>Managing business risk from climate change</p> <p>Managing data security risk</p> <p>Managing health risks to customers</p> <p>Penalties due to product safety issues</p> <p>Promoting access and affordability for products/services</p> <p>Waste generation</p>
Health Care Distributors	<p>Failures of professional integrity, such as bribery &amp; corruption</p> <p>Managing health risks to customers</p> <p>Penalties due to product safety issues</p> <p>Recyclability of packaging or raw materials</p> <p>Strategy to manage emissions</p>

Home Builders	Employee safety incidents
	Integrating social & environmental concerns into planning & design
	Managing business risk from environmental regulation
	Non-compliance with environmental standards
Hotels & Lodging	Electricity consumption
	Employee turnover
	Non-compliance with environmental standards
	Water consumption
Household & Personal Products	Integrating social & environmental concerns into planning & design
	Managing environmental and social risks within the supply chain
	Managing risks from chemicals
	Non-compliance with water standards
	Penalties due to product safety issues
	Product recalls
	Recyclability of packaging or raw materials
	Water consumption
Industrial Machinery & Goods	Electricity consumption
	Employee safety incidents
	Managing the use of critical materials
Insurance	How sales activity is incentivised
	Integrating social & environmental concerns into planning & design
	Issues over selling and marketing practices
	Managing business risk from climate change

Internet Media & Services	Customer privacy breaches
	Data security breaches
	Electricity consumption
	Incidents of anti-competitive behaviour
	Managing data security risk
	Racial and gender diversity in the workforce
	Water consumption
Investment Banking & Brokerage	Capital adequacy risk
	Failures of professional integrity, such as bribery & corruption
	Integrating social & environmental concerns into planning & design
	Managing liquidity and capital adequacy risks
	Racial and gender diversity in the workforce
Iron & Steel Producers	Electricity consumption
	Emission of air pollutants
	Employee safety incidents
	Fuel consumption
	Greenhouse gas emissions
	Strategy to manage emissions
	Waste generation
	Water consumption
Leisure Facilities	Electricity consumption
	Employee safety incidents
	Penalties due to product safety issues

Managed Care	Customer privacy breaches
	Data security breaches
	Managing business risk from climate change
	Managing data security risk
	Managing health risks to customers
	Penalties due to product safety issues
	Pricing policies
	Promoting access and affordability for products/services
Marine Transportation	Emission of air pollutants
	Employee safety incidents
	Failures of professional integrity, such as bribery & corruption
	Fuel consumption
	Greenhouse gas emissions
	Managing the risk of serious safety incidents
	Non-compliance with environmental standards
	Strategy to manage emissions
Meat, Poultry & Dairy	Auditing suppliers' labour code of conduct
	Electricity consumption
	Employee safety incidents
	Greenhouse gas emissions
	Integrating social & environmental concerns into planning & design
	Non-compliance with environmental standards
	Non-compliance with water standards
	Penalties due to product safety issues
	Product recalls
	Water consumption

Media & Entertainment	Incidents of anti-competitive behaviour
	Issues over selling and marketing practices
	Racial and gender diversity in the workforce
Medical Equipment & Supplies	Auditing suppliers' labour code of conduct
	Failures of professional integrity, such as bribery & corruption
	Integrating social & environmental concerns into planning & design
	Issues over selling and marketing practices
	Penalties due to product safety issues
	Pricing policies
Metals & Mining	Product recalls
	Electricity consumption
	Emission of air pollutants
	Employee safety incidents
	Failures of professional integrity, such as bribery & corruption
	Greenhouse gas emissions
	Non-compliance with environmental standards
	Non-compliance with water standards
	Policy on human rights and local communities
	Strategy to manage emissions
Mortgage Finance	Waste generation
	Water consumption
	Work stoppages
	How sales activity is incentivised
	Issues over selling and marketing practices
	Managing business risk from climate change

Multiline and Specialty Retailers & Distributors	Data security breaches
	Electricity consumption
	Employee turnover
	Integrating social & environmental concerns into planning & design
	Managing data security risk
	Racial and gender diversity in the workforce
	Recyclability of packaging or raw materials
	Work stoppages
Non-Alcoholic Beverages	Auditing suppliers' labour code of conduct
	Electricity consumption
	Fuel consumption
	Issues over selling and marketing practices
	Managing health risks to customers
	Recyclability of packaging or raw materials
	Water consumption

Oil & Gas - Exploration & Production	Emission of air pollutants
	Employee safety incidents
	Failures of professional integrity, such as bribery & corruption
	Greenhouse gas emissions
	Identifying and mitigating catastrophe risk
	Managing business risk from environmental regulation
	Managing regulations and policy proposals
	Non-compliance with environmental standards
	Non-compliance with water standards
	Policy on human rights and local communities
Oil & Gas - Midstream	Strategy to manage emissions
	Water consumption
	Emission of air pollutants
	Greenhouse gas emissions
	Identifying and mitigating catastrophe risk
	Incidents of anti-competitive behaviour
	Managing the risk of serious safety incidents
	Non-compliance with environmental standards
	Strategy to manage emissions

Oil & Gas - Refining & Marketing	Emission of air pollutants
	Employee safety incidents
	Greenhouse gas emissions
	Incidents of anti-competitive behaviour
	Integrating social & environmental concerns into planning & design
	Managing regulations and policy proposals
	Managing the risk of serious safety incidents
	Non-compliance with water standards
	Strategy to manage emissions
	Waste generation
Oil & Gas - Services	Water consumption
	Employee safety incidents
	Failures of professional integrity, such as bribery & corruption
	Greenhouse gas emissions
	Identifying and mitigating catastrophe risk
	Managing regulations and policy proposals
	Non-compliance with environmental standards
	Non-compliance with water standards
	Strategy to manage emissions
	Waste generation
	Water consumption

Processed Foods	Auditing suppliers' labour code of conduct
	Electricity consumption
	Issues over selling and marketing practices
	Managing health risks to customers
	Non-compliance with water standards
	Penalties due to product safety issues
	Product recalls
	Recyclability of packaging or raw materials
	Water consumption
Professional & Commercial Services	Data security breaches
	Employee turnover
	Failures of professional integrity, such as bribery & corruption
	Managing data security risk
	Racial and gender diversity in the workforce
Pulp & Paper Products	Electricity consumption
	Emission of air pollutants
	Greenhouse gas emissions
	Managing environmental and social risks within the supply chain
	Water consumption
Rail Transportation	Emission of air pollutants
	Employee safety incidents
	Fuel consumption
	Greenhouse gas emissions
	Incidents of anti-competitive behaviour
	Managing the risk of serious safety incidents
	Strategy to manage emissions

Real Estate	Electricity consumption
	Integrating social & environmental concerns into planning & design
	Managing business risk from climate change
	Water consumption
Real Estate Services	Failures of professional integrity, such as bribery & corruption
	Integrating social & environmental concerns into planning & design
Restaurants	Auditing suppliers' labour code of conduct
	Electricity consumption
	Employee turnover
	Managing environmental and social risks within the supply chain
	Managing health risks to customers
	Penalties due to product safety issues
	Product recalls
	Recyclability of packaging or raw materials
	Waste generation
	Water consumption
	Work stoppages
	Emission of air pollutants
Road Transportation	Employee safety incidents
	Fuel consumption
	Greenhouse gas emissions
	Managing the risk of serious safety incidents
	Strategy to manage emissions

Security & Commodity Exchanges	Failures of professional integrity, such as bribery & corruption
	Integrating social & environmental concerns into planning & design
	Managing technology errors and disruptions
Semiconductors	Electricity consumption
	Employee safety incidents
	Greenhouse gas emissions
	Incidents of anti-competitive behaviour
	Integrating social & environmental concerns into planning & design
	Managing the use of critical materials
	Racial and gender diversity in the workforce
	Strategy to manage emissions
	Waste generation
	Water consumption
Software & IT Services	Customer privacy breaches
	Data security breaches
	Electricity consumption
	Incidents of anti-competitive behaviour
	Managing data security risk
	Managing technology errors and disruptions
	Racial and gender diversity in the workforce
	Water consumption

Solar Technology & Project Developers	Electricity consumption
	Managing the use of critical materials
	Non-compliance with environmental standards
	Recyclability of packaging or raw materials
	Waste generation
	Water consumption
Telecommunication Services	Customer privacy breaches
	Data security breaches
	Electricity consumption
	Incidents of anti-competitive behaviour
	Managing data security risk
	Managing technology errors and disruptions
Tobacco	Recyclability of packaging or raw materials
	Electricity consumption
	Issues over selling and marketing practices
	Managing health risks to customers
Toys & Sporting Goods	Water consumption
	Auditing suppliers' labour code of conduct
	Managing risks from chemicals
	Penalties due to product safety issues
	Product recalls
	Recyclability of packaging or raw materials

Waste Management	Emission of air pollutants
	Employee safety incidents
	Fuel consumption
	Greenhouse gas emissions
	Managing business risk from environmental regulation
	Strategy to manage emissions
	Work stoppages
Water Utilities & Services	Electricity consumption
	Managing business risk from climate change
	Managing business risk from greater customer energy efficiency
	Managing risks from chemicals
	Non-compliance with water standards
	Pricing policies
	Water consumption
Wind Technology & Project Developers	Employee safety incidents
	Integrating social & environmental concerns into planning & design
	Managing the use of critical materials

## Sub-sectors by metric

Metric	Sub-Sector
Auditing suppliers' labour code of conduct	Agricultural Products
	Air Freight & Logistics
	Alcoholic Beverages
	Apparel, Accessories & Footwear
	Biotechnology & Pharmaceuticals
	Food Retailers & Distributors
	Hardware
	Meat, Poultry & Dairy
	Medical Equipment & Supplies
	Non-Alcoholic Beverages
	Processed Foods
	Restaurants
	Toys & Sporting Goods
Capital adequacy risk	Commercial Banks
	Investment Banking & Brokerage
Customer privacy breaches	Advertising & Marketing
	Consumer Finance
	Drug Retailers
	E-Commerce
	Health Care Delivery
	Internet Media & Services
	Managed Care
	Software & IT Services
	Telecommunication Services

Data security breaches	Aerospace & Defense
	Commercial Banks
	Consumer Finance
	Drug Retailers
	E-Commerce
	Education
	Food Retailers & Distributors
	Health Care Delivery
	Internet Media & Services
	Managed Care
	Multiline and Specialty Retailers & Distributors
	Professional & Commercial Services

Electricity consumption	Aerospace & Defense
	Agricultural Products
	Alcoholic Beverages
	Building Products & Furnishings
	Casinos & Gaming
	Chemicals
	Construction Materials
	Containers & Packaging
	Drug Retailers
	E-Commerce
	Electrical & Electronic Equipment
	Food Retailers & Distributors
	Fuel Cells & Industrial Batteries
	Health Care Delivery
	Hotels & Lodging
	Industrial Machinery & Goods
	Internet Media & Services
	Iron & Steel Producers
	Leisure Facilities
	Meat, Poultry & Dairy
	Metals & Mining
	Multiline and Specialty Retailers & Distributors
	Non-Alcoholic Beverages
	Processed Foods
	Pulp & Paper Products
	Real Estate
	Restaurants
	Semiconductors
	Software & IT Services

Emission of air pollutants	Air Freight & Logistics
	Biofuels
	Chemicals
	Construction Materials
	Containers & Packaging
	Cruise Lines
	Electric Utilities & Power Generators
	Iron & Steel Producers
	Marine Transportation
	Metals & Mining
	Oil & Gas - Exploration & Production
	Oil & Gas - Midstream
	Oil & Gas - Refining & Marketing
	Pulp & Paper Products

Employee safety incidents	Agricultural Products
	Air Freight & Logistics
	Chemicals
	Coal Operations
	Construction Materials
	Cruise Lines
	EMS & ODM
	Electric Utilities & Power Generators
	Engineering & Construction Services
	Fuel Cells & Industrial Batteries
	Health Care Delivery
	Home Builders
	Industrial Machinery & Goods
	Iron & Steel Producers
	Leisure Facilities
	Marine Transportation
	Meat, Poultry & Dairy
	Metals & Mining
	Oil & Gas - Exploration & Production
	Oil & Gas - Refining & Marketing
	Oil & Gas - Services
	Rail Transportation
	Road Transportation
	Semiconductors
	Waste Management
	Wind Technology & Project Developers

Employee turnover	<p>Biotechnology &amp; Pharmaceuticals</p> <p>E-Commerce</p> <p>Food Retailers &amp; Distributors</p> <p>Health Care Delivery</p> <p>Hotels &amp; Lodging</p> <p>Multiline and Specialty Retailers &amp; Distributors</p> <p>Professional &amp; Commercial Services</p> <p>Restaurants</p>
Failures of professional integrity, such as bribery & corruption	<p>Aerospace &amp; Defense</p> <p>Asset Management &amp; Custody Activities</p> <p>Biotechnology &amp; Pharmaceuticals</p> <p>Casinos &amp; Gaming</p> <p>Commercial Banks</p> <p>Electrical &amp; Electronic Equipment</p> <p>Engineering &amp; Construction Services</p> <p>Health Care Distributors</p> <p>Investment Banking &amp; Brokerage</p> <p>Marine Transportation</p> <p>Medical Equipment &amp; Supplies</p> <p>Metals &amp; Mining</p> <p>Oil &amp; Gas - Exploration &amp; Production</p> <p>Oil &amp; Gas - Services</p> <p>Professional &amp; Commercial Services</p> <p>Real Estate Services</p> <p>Security &amp; Commodity Exchanges</p>

Fuel consumption	Agricultural Products
	Air Freight & Logistics
	Airlines
	Cruise Lines
	Food Retailers & Distributors
	Iron & Steel Producers
	Marine Transportation
	Non-Alcoholic Beverages
	Rail Transportation
	Road Transportation
	Waste Management

Greenhouse gas emissions	Agricultural Products
	Air Freight & Logistics
	Airlines
	Chemicals
	Coal Operations
	Construction Materials
	Containers & Packaging
	Cruise Lines
	Electric Utilities & Power Generators
	Food Retailers & Distributors
	Iron & Steel Producers
	Marine Transportation
	Meat, Poultry & Dairy
	Metals & Mining
	Oil & Gas - Exploration & Production
	Oil & Gas - Midstream
	Oil & Gas - Refining & Marketing
	Oil & Gas - Services
	Pulp & Paper Products
	Rail Transportation
	Road Transportation
	Semiconductors
	Waste Management
How sales activity is incentivised	Asset Management & Custody Activities
	Consumer Finance
	Insurance
	Mortgage Finance

Identifying and mitigating catastrophe risk	Air Freight & Logistics
	Airlines
	Electric Utilities & Power Generators
	Oil & Gas - Exploration & Production
	Oil & Gas - Midstream
	Oil & Gas - Services
Incidents of anti-competitive behaviour	Airlines
	Auto Parts
	Construction Materials
	Internet Media & Services
	Media & Entertainment
	Oil & Gas - Midstream
	Oil & Gas - Refining & Marketing
	Rail Transportation
	Semiconductors
	Software & IT Services
	Telecommunication Services

<p>Integrating social &amp; environmental concerns into planning &amp; design</p>	Aerospace & Defense
	Apparel, Accessories & Footwear
	Appliance Manufacturing
	Asset Management & Custody Activities
	Auto Parts
	Automobiles
	Biofuels
	Building Products & Furnishings
	Car Rental & Leasing
	Chemicals
	Commercial Banks
	Construction Materials
	Containers & Packaging
	E-Commerce
	Engineering & Construction Services
	Fuel Cells & Industrial Batteries
	Hardware
	Home Builders
	Household & Personal Products
	Insurance
	Investment Banking & Brokerage
	Meat, Poultry & Dairy
	Medical Equipment & Supplies
	Multiline and Specialty Retailers & Distributors
	Oil & Gas - Refining & Marketing
	Real Estate
	Real Estate Services
	Security & Commodity Exchanges
	35 Semiconductors

Issues over selling and marketing practices	Advertising & Marketing
	Alcoholic Beverages
	Asset Management & Custody Activities
	Biotechnology & Pharmaceuticals
	Consumer Finance
	Education
	Food Retailers & Distributors
	Health Care Delivery
	Insurance
	Media & Entertainment
	Medical Equipment & Supplies
	Mortgage Finance
	Non-Alcoholic Beverages
	Processed Foods
	Tobacco
Managing business risk from climate change	Forestry Management
	Health Care Delivery
	Insurance
	Managed Care
	Mortgage Finance
	Real Estate
	Water Utilities & Services
Managing business risk from environmental regulation	Coal Operations
	Home Builders
	Oil & Gas - Exploration & Production
	Waste Management

Managing business risk from greater customer energy efficiency	Electric Utilities & Power Generators
	Gas Utilities & Distributors
	Water Utilities & Services
Managing data security risk	Aerospace & Defense
	Commercial Banks
	Consumer Finance
	Drug Retailers
	E-Commerce
	Education
	Food Retailers & Distributors
	Hardware
	Health Care Delivery
	Internet Media & Services
	Managed Care
	Multiline and Specialty Retailers & Distributors
	Professional & Commercial Services
	Software & IT Services
	Telecommunication Services
Managing environmental and social risks within the supply chain	Agricultural Products
	Apparel, Accessories & Footwear
	Biofuels
	Building Products & Furnishings
	Containers & Packaging
	Food Retailers & Distributors
	Household & Personal Products
	Pulp & Paper Products
	Restaurants

Managing health risks to customers	Biotechnology & Pharmaceuticals
	Cruise Lines
	Drug Retailers
	Food Retailers & Distributors
	Health Care Delivery
	Health Care Distributors
	Managed Care
	Non-Alcoholic Beverages
	Processed Foods
	Restaurants
Managing liquidity and capital adequacy risks	Tobacco
	Asset Management & Custody Activities
	Commercial Banks
Managing regulations and policy proposals	Investment Banking & Brokerage
	Biofuels
	Chemicals
	Oil & Gas - Exploration & Production
	Oil & Gas - Refining & Marketing
	Oil & Gas - Services
Managing risks from chemicals	Apparel, Accessories & Footwear
	Building Products & Furnishings
	Containers & Packaging
	Household & Personal Products
	Toys & Sporting Goods
	Water Utilities & Services

Managing technology errors and disruptions	Electric Utilities & Power Generators
	Security & Commodity Exchanges
	Software & IT Services
	Telecommunication Services
Managing the risk of serious safety incidents	Air Freight & Logistics
	Airlines
	Biofuels
	Chemicals
	Cruise Lines
	Gas Utilities & Distributors
	Marine Transportation
	Oil & Gas - Midstream
	Oil & Gas - Refining & Marketing
	Rail Transportation
Managing the use of critical materials	Road Transportation
	Aerospace & Defense
	Apparel, Accessories & Footwear
	Auto Parts
	Automobiles
	EMS & ODM
	Electrical & Electronic Equipment
	Fuel Cells & Industrial Batteries
	Hardware
	Industrial Machinery & Goods

Non-compliance with environmental standards	Coal Operations
	Construction Materials
	Cruise Lines
	Engineering & Construction Services
	Forestry Management
	Home Builders
	Hotels & Lodging
	Marine Transportation
	Meat, Poultry & Dairy
	Metals & Mining
	Oil & Gas - Exploration & Production
	Oil & Gas - Midstream
	Oil & Gas - Services
	Solar Technology & Project Developers

Non-compliance with water standards	Agricultural Products
	Chemicals
	Coal Operations
	Containers & Packaging
	E-Commerce
	Electric Utilities & Power Generators
	Household & Personal Products
	Meat, Poultry & Dairy
	Metals & Mining
	Oil & Gas - Exploration & Production
	Oil & Gas - Refining & Marketing
	Oil & Gas - Services
	Processed Foods
	Water Utilities & Services

Penalties due to product safety issues	Aerospace & Defense Agricultural Products Apparel, Accessories & Footwear Appliance Manufacturing Automobiles Biotechnology & Pharmaceuticals Building Products & Furnishings Drug Retailers Electrical & Electronic Equipment Engineering & Construction Services Food Retailers & Distributors Health Care Delivery Health Care Distributors Household & Personal Products Leisure Facilities Managed Care Meat, Poultry & Dairy Medical Equipment & Supplies Processed Foods Restaurants Toys & Sporting Goods
Policy on human rights and local communities	Chemicals Coal Operations Forestry Management Metals & Mining Oil & Gas - Exploration & Production

Pricing policies	Biotechnology & Pharmaceuticals
	Commercial Banks
	Electric Utilities & Power Generators
	Gas Utilities & Distributors
	Managed Care
	Medical Equipment & Supplies
Product recalls	Water Utilities & Services
	Aerospace & Defense
	Agricultural Products
	Apparel, Accessories & Footwear
	Appliance Manufacturing
	Auto Parts
	Automobiles
	Biotechnology & Pharmaceuticals
	Building Products & Furnishings
	Car Rental & Leasing
	Containers & Packaging
	Drug Retailers
	Electrical & Electronic Equipment
	Food Retailers & Distributors
	Household & Personal Products
	Meat, Poultry & Dairy
	Medical Equipment & Supplies
	Processed Foods
	Restaurants
	Toys & Sporting Goods

Promoting access and affordability for products/services	Biotechnology & Pharmaceuticals
	Commercial Banks
	Health Care Delivery
	Managed Care
Racial and gender diversity in the workforce	Advertising & Marketing
	Asset Management & Custody Activities
	E-Commerce
	Hardware
	Internet Media & Services
	Investment Banking & Brokerage
	Media & Entertainment
	Multiline and Specialty Retailers & Distributors
	Professional & Commercial Services
	Semiconductors
	Software & IT Services

Recyclability of packaging or raw materials	Alcoholic Beverages
	Apparel, Accessories & Footwear
	Appliance Manufacturing
	Building Products & Furnishings
	Containers & Packaging
	E-Commerce
	EMS & ODM
	Fuel Cells & Industrial Batteries
	Hardware
	Health Care Distributors
	Household & Personal Products
	Multiline and Specialty Retailers & Distributors
	Non-Alcoholic Beverages
	Processed Foods
	Restaurants
	Solar Technology & Project Developers
	Telecommunication Services
	Toys & Sporting Goods
Responsible gambling codes	Casinos & Gaming

Strategy to manage emissions	Air Freight & Logistics
	Airlines
	Chemicals
	Coal Operations
	Construction Materials
	Containers & Packaging
	Cruise Lines
	Electric Utilities & Power Generators
	Health Care Distributors
	Iron & Steel Producers
	Marine Transportation
	Metals & Mining
	Oil & Gas - Exploration & Production
	Oil & Gas - Midstream
	Oil & Gas - Refining & Marketing
	Oil & Gas - Services
	Rail Transportation
	Road Transportation
	Semiconductors
	Waste Management

Waste generation	Aerospace & Defense
	Auto Parts
	Chemicals
	Coal Operations
	Construction Materials
	Containers & Packaging
	EMS & ODM
	Electrical & Electronic Equipment
	Food Retailers & Distributors
	Health Care Delivery
	Iron & Steel Producers
	Metals & Mining
	Oil & Gas - Refining & Marketing
	Oil & Gas - Services
	Restaurants
	Semiconductors
	Solar Technology & Project Developers

Water consumption	Agricultural Products
	Alcoholic Beverages
	Biofuels
	Chemicals
	Coal Operations
	Construction Materials
	Containers & Packaging
	E-Commerce
	EMS & ODM
	Electric Utilities & Power Generators
	Hotels & Lodging
	Household & Personal Products
	Internet Media & Services
	Iron & Steel Producers
	Meat, Poultry & Dairy
	Metals & Mining
	Non-Alcoholic Beverages
	Oil & Gas - Exploration & Production
	Oil & Gas - Refining & Marketing
	Oil & Gas - Services
	Processed Foods
	Pulp & Paper Products
	Real Estate
	Restaurants
	Semiconductors
	Software & IT Services
	Solar Technology & Project Developers
	Tobacco
	Water Utilities & Services

Work stoppages	Air Freight & Logistics
	Airlines
	Automobiles
	Coal Operations
	Cruise Lines
	EMS & ODM
	Food Retailers & Distributors
	Metals & Mining
	Multiline and Specialty Retailers & Distributors
	Restaurants
	Waste Management

Note that this will change (slowly) as the standards evolve.

## Metadata queries

Using an npm module for reading the metadata we can download it as a JSON file.

```
./node_modules/.bin/get-graphql-schema -h "Authorization=Api-Key XXXX" https://dashboard.integrumesg.com/graphqlapi/v1/graphql -j > Schema.json
```

The following extract from the json shows the main user facing objects (not including the standard aggregation objects)

```
jq -r '.__schema.types[] | select(.kind=="OBJECT") | select(.name|test("^[a-z]+")) | select(.name|test("_root$|fields$|aggregate$")|not) | {table: .name, fields: .fields[]} | select(.fields.name|test("_aggregate$")|not) | [.table, .fields.name, .fields.type.name // (.fields.type.ofType | .. | .name? | select(.!= null)) ]| @tsv' Schema.json
```

## Tabular Data Dictionary view of current schema

This table is extracted using the process above.

Where the type is given as an object name – that means that it's a relationship (e.g. for the metrics belonging to a company).

Object	Field	Type
article_compliance_api	article	Int
	company_id	Int
	profile_id	Int

article_nine_api	article_9_requirement	String
	company_id	Int
	contribution	String
	full_text	String
	harm	String
	name	String
	profile_id	Int
	requirement_id	Int
	score	float8
	text	String
basic_needs_grades_api	text_id	Int
	performance_grade	String
	performance_score	float8
business_activities	sector_id	Int
	business_activity_companies	business_activity_companies
	created_at	timestamptz
	id	Int
	name	String
business_activity_companies	updated_at	timestamptz
	business_activity	business_activities
	business_activity_id	Int
	company_id	Int
	created_at	timestamptz
	id	Int
	updated_at	timestamptz

company_api	article_nine	article_nine_api
	business_activities	business_activity_companies
	company_id	Int
	company_sfdr_article	article_compliance_api
	country	String
	current_year	Int
	custom_metrics	custom_metrics_api
	dimension_scores	dimension_api
	esg_grade	String
	esg_score	float8
	esg_score_diff	float8
	governance_grade	String
	governance_score	float8
	governance_score_diff	float8
	impact_grade	String
	impact_score	float8
	impact_score_diff	float8
	isin	String
	issue_scores	issue_scores_api
	metric_scores	metric_api
	metrics_by_year	metric_by_year_api
	name	String
	pais	pai_api
	portfolio_companies	portfolio_companies_api
	prev_esg_grade	String
	prev_esg_score	float8
	prev_governance_grade	String
	prev_governance_score	float8
	prev_imp <sup>51</sup> act_grade	String

company_api_latest_year_default_profile	company_id	Int
	country	String
	current_year	Int
	dimension_scores	dimension_api
	esg_grade	String
	esg_score	float8
	governance_grade	String
	governance_score	float8
	impact_grade	String
	impact_score	float8
	name	String
	prev_sentiment_score	numeric
	previous_year	Int
	profile_id	Int
	sd	float8
	sector	sectors
	sector_id	Int
	sentiment_score	numeric
	sustainability_grade	String
	sustainability_score	float8
	yeardiff	Int

company_api_no_sentiment	company_id	Int
	country	String
	current_year	Int
	esg_grade	String
	esg_score	float8
	esg_score_diff	float8
	governance_grade	String
	governance_score	float8
	governance_score_diff	float8
	impact_grade	String
	impact_score	float8
	impact_score_diff	float8
	isin	String
	name	String
	prev_esg_grade	String
	prev_esg_score	float8
	prev_governance_grade	String
	prev_governance_score	float8
	prev_impact_grade	String
	prev_impact_score	float8
	prev_sustainability_grade	String
	prev_sustainability_score	float8
	previous_year	Int
	profile_id	Int
	sector_id	Int
	sustainability_grade	String
	sustainability_score	float8
	sustainability_score_diff	float8
	ticker 53	String

company_api_v2	article_nine	article_nine_api
	company_cube_history	company_cube_history
	company_scores	company_scores_api_v2
	company_sfdr_article	article_compliance_api
	country	String
	current_year	Int
	custom_metrics	custom_metrics_api
	id	Int
	isin	String
	isins	company_codes
	name	String
	pais	pai_api
	portfolio_companies	portfolio_companies_api
	prev_sentiment_score	numeric
	previous_year	Int
	raw_metrics	raw_metrics_api_v2
	sector	sectors
	sector_id	Int
	sentiment	sentiment_api_v2
	sentiment_score	numeric
	sentiment_score_diff	numeric
	taxo	taxo_api
	ticker	String
	usd_enterprise_value	numeric
	usd_market_cap	numeric
	usd_revenue	numeric

company_api_with_safeguards	article_nine	article_nine_api
	company_id	Int
	company_sfdr_article	article_compliance_api
	country	String
	current_year	Int
	custom_metrics	custom_metrics_api
	dimension_scores	dimension_api
	esg_grade	String
	esg_score	float8
	esg_score_diff	float8
	governance_grade	String
	governance_score	float8
	governance_score_diff	float8
	governance_text	String
	icm	Boolean
	impact_grade	String
	impact_score	float8
	impact_score_diff	float8
	isin	String
	metric_scores	metric_api
	metrics_by_year	metric_by_year_api
	name	String
	pais	pai_api
	portfolio_companies	portfolio_companies_api
	prev_esg_grade	String
	prev_esg_score	float8
	prev_governance_grade	String
	prev_governance_score	float8
	prev_imp <sup>55</sup> grade	String

company_codes	code	String
	code_description	String
	code_provider	String
	code_type	String
	company_id	Int
	id	bigint
	source_code	String

company_cube_api	awareness_grade	String
	awareness_score	float8
	company_id	Int
	country	String
	financial_year	Int
	level	Int
	level1	String
	level2	String
	level3	String
	metric_unit	String
	name	String
	parent_sector	String
	performance_grade	String
	performance_score	float8
	performance_value	float8
	profile_id	Int
	record_date	timestamptz
	scaled_performance_value	float8
	sd	float8
	sector	String
	sector_id	Int
	total_grade	String
	total_score	float8
	universe_id	Int
	weighted_dimension_score	float8
	yeardiff	Int

company_cube_history	awareness_grade	String
	awareness_score	numeric
	company_id	Int
	country	String
	financial_year	Int
	level	Int
	level1	String
	level2	String
	level3	String
	metric_unit	String
	name	String
	parent_sector	String
	performance_grade	String
	performance_score	float8
	performance_value	float8
	profile_id	Int
	record_date	timestamptz
	scaled_performance_value	float8
	sd	float8
	sector	String
	sector_id	Int
	total_grade	String
	total_score	float8
	universe_id	Int
	weighted_dimension_score	float8
	yeardiff	Int

company_cube_nested_history	company_id	Int
	country	String
	financial_year	Int
	issues	jsonb
	name	String
	parent_sector	String
	profile_id	Int
	record_date	timestamptz
	sd	float8
	sector	String
	sector_id	Int
	total_grade	String

company_scores_api_v2	company_id	Int
	current_year	Int
	dimension_scores	dimension_api
	esg_grade	String
	esg_score	float8
	esg_score_diff	float8
	governance_grade	String
	governance_score	float8
	governance_score_diff	float8
	impact_grade	String
	impact_score	float8
	impact_score_diff	float8
	metric_scores	metric_api
	prev_esg_grade	String
	prev_esg_score	float8
	prev_governance_grade	String
	prev_governance_score	float8
	prev_impact_grade	String
	prev_impact_score	float8
	prev_sustainability_grade	String
	prev_sustainability_score	float8
	previous_year	Int
	profile_id	Int
	sustainability_grade	String
	sustainability_score	float8
	sustainability_score_diff	float8

company_sentiment_data	company	company_api_v2
	company_id	Int
	engagement	Int
	sentiment	String
	source	String
	text	String
	time	timestamptz
	title	String
	url	String
country_api	category_id	Int
	category_name	String
	country_dimensions	country_dimension_scores_api
	country_id	Int
	country_issues	country_issue_scores_api
	environmental_grade	String
	environmental_score	float8
	esg_grade	String
	esg_score	float8
	governance_grade	String
	governance_score	float8
	name	String
	profile_id	Int
	sd	float8
	social_grade	String
	social_score	float8

country_dimension_scores_api	awareness_grade	String
	awareness_score	numeric
	category_id	Int
	country_dimension_id	Int
	country_id	Int
	dimension_grade	String
	dimension_score	float8
	dimension_type	String
	dimension_weighting	Float
	name	String
	performance_grade	String
	performance_score	float8
	profile_id	Int
	sd	float8
	weighted_dimension_score	float8
country_issue_scores_api	awareness_grade	String
	awareness_score	numeric
	category_id	Int
	country_id	Int
	dimension_type	String
	performance_grade	String
	performance_score	float8
	profile_id	Int
	sd	float8
	total_grade	String
	total_score	float8

custom_metrics_api	company_id	Int
	question	String
	question_name	String
	raw_unit	String
	raw_value	String
	raw_value_int	numeric
	value	String
	value_int	numeric

dimension_api	awareness_grade	String
	awareness_score	numeric
	awareness_score_diff	numeric
	company	company_api_v2
	company_id	Int
	dimension_grade	String
	dimension_id	Int
	dimension_score	float8
	dimension_score_diff	float8
	dimension_sort_priority	Int
	dimension_type	String
	dimension_weighting	Float
	metric_scores	metric_api
	name	String
	performance_grade	String
	performance_score	float8
	performance_score_diff	float8
	prev_awareness_grade	String
	prev_awareness_score	numeric
	prev_dimension_grade	String
	prev_dimension_score	float8
	prev_performance_grade	String
	prev_performance_score	float8
	prev_weighted_dimension_score	float8
	profile_id	Int
	sector_id	Int
	sector_scores	dimension_api
	tag	String
	weighted_dimension_score	float8

excerpt_api	company_id	Int
	company_metric_id	Int
	id	Int
	image_url	String
	items	json
	page	Int
	performance_match	Boolean
	report_type	String
	score	String
	source	String
issue_scores_api	title	String
	type	String
	url	String
	awareness_grade	String
	awareness_score	numeric
	awareness_score_diff	numeric
	company_id	Int
	dimension_type	String
	performance_grade	String
	performance_score	float8

metric_api	awareness_comment	String
	awareness_grade	String
	awareness_score	Int
	awareness_score_diff	Int
	company_id	Int
	company_metric_id	Int
	description	String
	dimension_id	Int
	dimension_type	String
	excerpts	excerpt_api
	financial_year	Int
	icm	Boolean
	metric_id	Int
	metric_sort_priority	Int
	name	String
	performance_comment	String
	performance_grade	String
	performance_score	float8
	performance_score_diff	float8
	performance_value	Float
	performance_value_diff	Float
	prev_awareness_comment	String
	prev_awareness_grade	String
	prev_awareness_score	Int
	prev_performance_comment	String
	prev_performance_grade	String
	prev_performance_score	float8
	prev_performance_value	Float
	profile_id <sup>66</sup>	Int

metric_by_year_api	awareness_comment	String
	awareness_grade	String
	awareness_score	Int
	company_id	Int
	description	String
	dimension_type	String
	excerpts	excerpt_api
	financial_year	Int
	metric_id	Int
	name	String
	performance_comment	String
	performance_grade	String
	performance_score	float8
	performance_value	Float
	unit	String
pai_api	official_metric	String
	pai_id	Int
	pai_name	String
	profile_id	Int
	score	float8
	text	String

portfolio_companies_api	company	company_api_v2
	company_id	Int
	company_scores	company_api
	created_at	timestamptz
	id	Int
	isin	String
	name	String
	portfolio_id	Int
	portfolio_name	String
	updated_at	timestamptz
	weighting	Float

raw_metrics_api_v2	awareness_comment	String
	awareness_grade	String
	awareness_score	Int
	company_id	Int
	company_metric_id	Int
	dimension_id	Int
	dimension_name	String
	dimension_sort_priority	Int
	dimension_type	String
	financial_year	Int
	icm	Boolean
	metric_description	String
	metric_display_dp	Int
	metric_icm_awareness	Boolean
	metric_icm_performance	Boolean
	metric_id	Int
	metric_name	String
	metric_sort_priority	Int
	metric_tag	String
	metric_unit	String
	pe_organisation_id	Int
	performance_value	Float
	scaled_performance_value	numeric
	sector_id	Int
	universe_id	Int
	year	Int
	yeardiff	Int

score_explanation_api	display_name	String
	explanation	String
	metric_id	Int
	score	Int
	type	String
scoring_weights_api	esg_awareness	Float
	impact_awareness	Float
	parent_sector_id	Int
	profile_id	Int
	sector_id	Int
	sustainability	Float

sector_scores	company_id	Int
	country	String
	current_year	Int
	dimension_scores	dimension_api
	esg_grade	String
	esg_score	float8
	esg_score_diff	float8
	governance_grade	String
	governance_score	float8
	governance_score_diff	float8
	icm	Boolean
	impact_grade	String
	impact_score	float8
	impact_score_diff	float8
	isin	String
	metric_scores	metric_api
	name	String
	original_company_id	Int
	permissioned_users	jsonb
	prev_esg_grade	String
	prev_esg_score	float8
	prev_governance_grade	String
	prev_governance_score	float8
	prev_impact_grade	String
	prev_impact_score	float8
	prev_sustainability_grade	String
	prev_sustainability_score	float8
	previous_year	Int
	profile_id <sup>1</sup>	Int

sectors	company_cube_history	company_cube_history
	id	Int
	name	String
	parent_sector	sectors
	sector_company_scores	company_api
	sector_id	Int
	sectors	sectors
sentiment_api_v2	company	company_api_v2
	company_id	Int
	end_time	timestamptz
	negative_comments	bigint
	neutral_comments	bigint
	positive_comments	bigint
taxo_api	company_id	Int
	contribution	String
	eu_taxo_aligned	String
	full_text	String
	harm	String
	objective_id	Int
	taxo_objective	String
	text	String
	text_id	Int

v_profile_notes	company_id	Int
	created_at	timestamptz
	created_by	Int
	dimension_id	Int
	dimension_score	dimension_api
	id	bigint
	name	String
	profile_id	Int
	reason	String
	type	String
	updated_at	timestamptz

Any questions, please email [contact@integrumesg.com](mailto:contact@integrumesg.com)