Environmental Social Governance (ESG) Primer

Overview and Practical Guide

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EFO – Midwest City, OK

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Summary of Topics

- What is Environmental Social and Governance (ESG)?
- What are the drivers for ESG reporting?
- ESG Frameworks
- Scope 1, 2, and 3 Emissions
- Science-Based Targets and Net Zero Commitments
- Practical Approach to Climate Strategy/Target Setting

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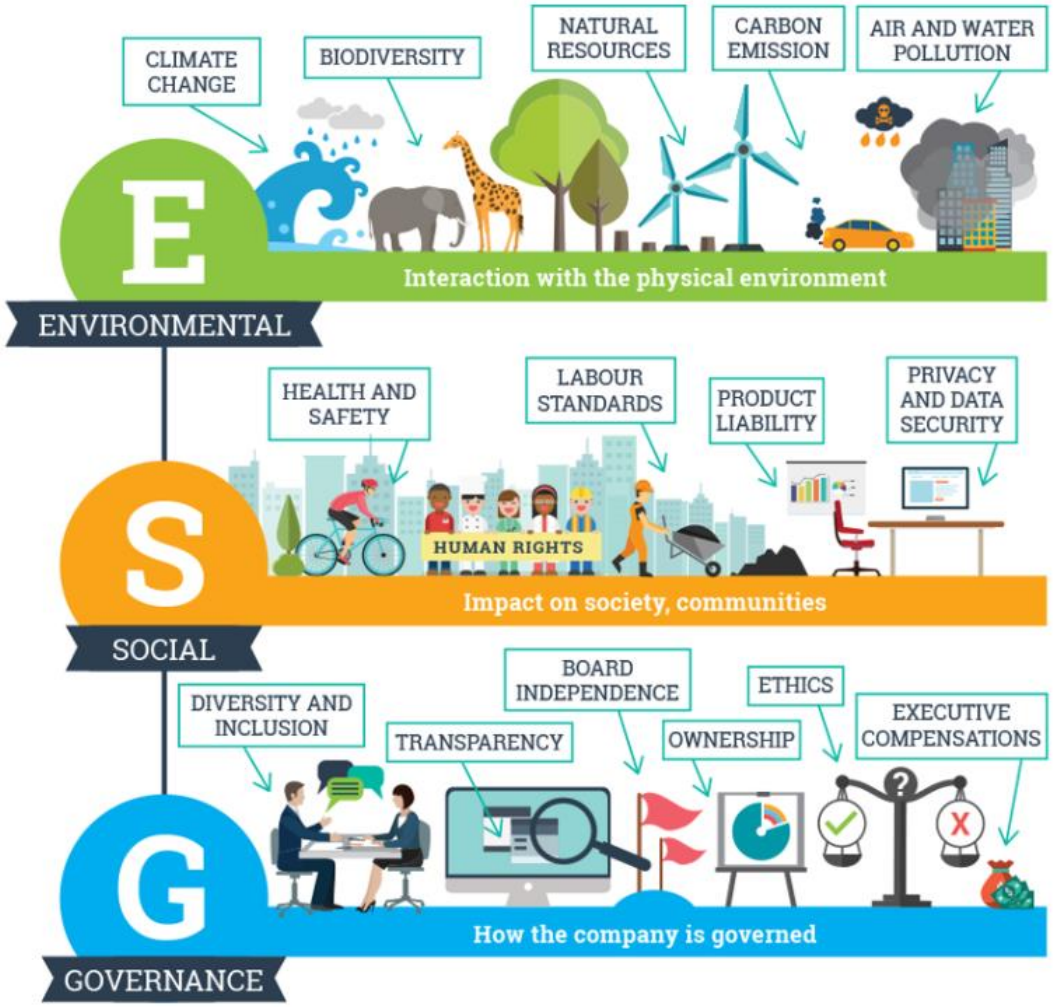
What is Environmental Social Governance (ESG)?



What kind of impact is your company having on the environment?

What kind of relationships does your company have with the people in its ecosystem?

How does the board of directors run the company?

Reference: The Impacter.

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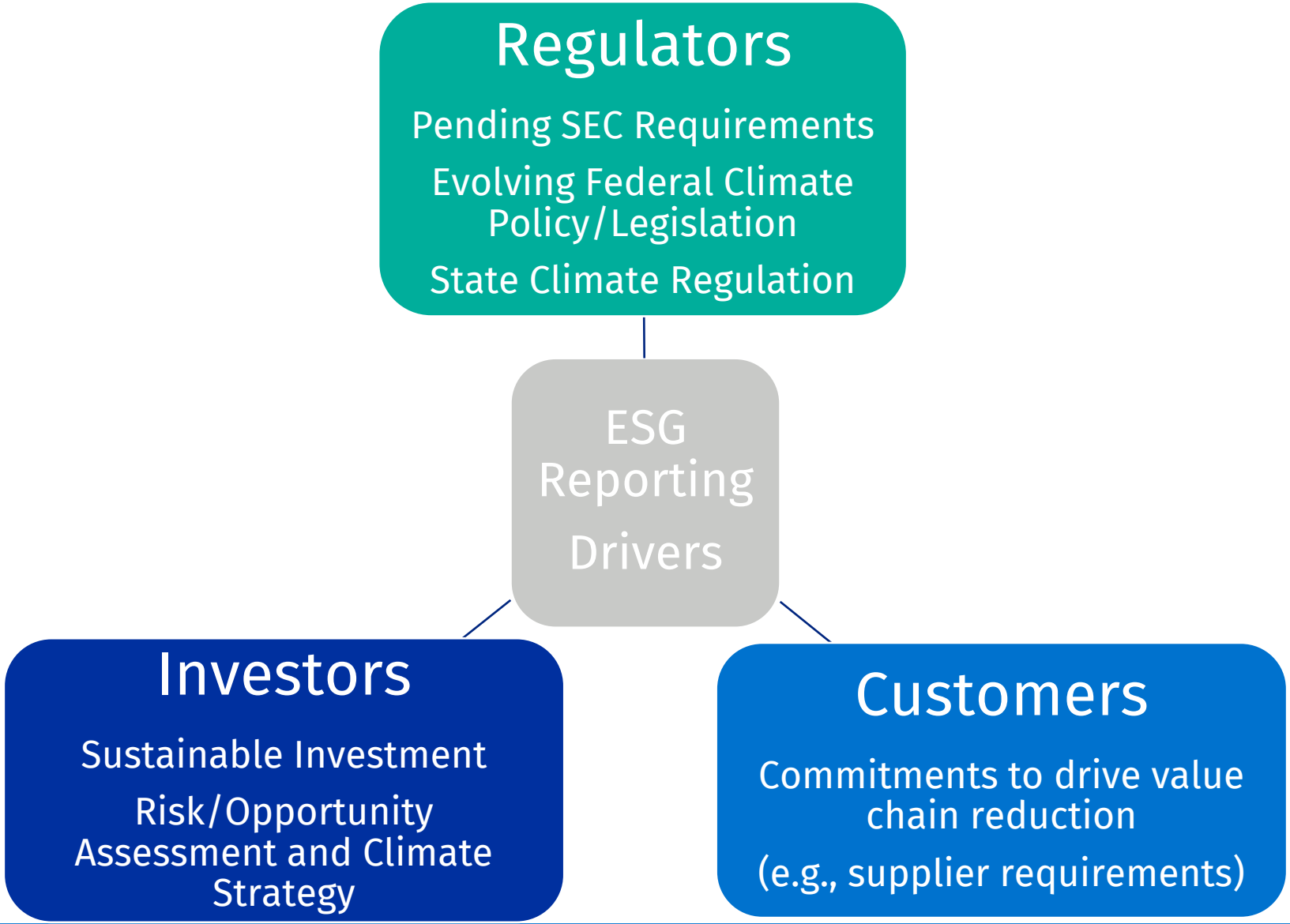
Drivers for ESG Reporting



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Pending Climate Disclosure Requirements from SEC

- March 2021: SEC seeks comments on climate-related disclosures to assist the agency's review of existing 2010 guidance ***"with an eye toward facilitating the disclosure of consistent, comparable, and reliable information on climate change."***
  - Comments reportedly showed general agreement that climate disclosure:
    - Should be required if material impact to investor decisions
    - Should require Scope 1 and Scope 2 reporting
    - Should be consistent with frameworks such as SASB and TCFD
- March 2022: SEC Proposes rule changes that would require registrants to include certain climate related disclosures in their registration statements and periodic reports.
  - The proposed rule would require a registrant to disclose information about its direct greenhouse gas (GHG) emissions (Scope 1) and indirect emissions from purchased electricity or other forms of energy (Scope 2). In addition, a registrant would be required to disclose GHG emissions from upstream and downstream activities in its value chain (Scope 3), if material or if the registrant has set a GHG emissions target or goal that includes Scope 3 emissions.

Source: *https://www.lw.com/thoughtLeadership/Climate-Disclosures-and-the-SEC*

ESG Ratings, Frameworks, & More

Frameworks
GRI
CDP
SASB
TCFD
WDI
Climate Disclosure Standards Board (CDSB)
UN Principles for Responsible Investment (PRI)
UN Sustainable Development Goals (SDG)

Each framework has different definitions of what is **material**.

ESG rating	A scored or graded evaluation of a company based on an assessment of its performance on ESG issues.
ESG index	A group of stocks tracked by ESG performance, used to research investments and create ETFs and other investment products.
ESG benchmark	An assessment of an organisation's ESG performance as compared to its peers and/or competitors, usually accompanied by recommendations for improving performance.
ESG ranking	A list of companies ordered or grouped based on relative ESG performance according to specified ESG metrics.
ESG framework	Standards used to guide the reporting and disclosure of ESG metrics by an organisation. Frameworks are created and maintained by various nonprofits, NGOs, and industry groups.

Reference: https://www.rio.ai/guide-esg-ratings; https://www.forbes.com/sites/betsyatkins/2020/06/08/demystifying-esgits-history--current-status/?sh=b58d3f42cdd3; https://corpgov.law.harvard.edu/2020/06/22/the-rise-of-standardized-esg-disclosure-frameworks-in-the-united-states/.

SASB Materiality Map

		Consumer Goods	Extractives & Minerals Processing	Financials	Food & Beverage	Health Care	Infrastructure
Dimension	**General Issue Category** ⓘ	Click to expand	Click to expand	Click to expand	Click to expand	Click to expand	Click to expand
Environment	GHG Emissions						
	Air Quality						
	Energy Management						
	Water & Wastewater Management						
	Waste & Hazardous Materials Management						
	Ecological Impacts						
Social Capital	Human Rights & Community Relations						
	Customer Privacy						
	Data Security						
	Access & Affordability						
	Product Quality & Safety						
	Customer Welfare						
	Selling Practices & Product Labeling						

- Issue is likely to be material for more than 50% of industries in sector
- Issue is likely to be material for fewer than 50% of industries in sector
- Issue is not likely to be material for any of the industries in sector

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Reference: https://materiality.sasb.org/.

SASB Materiality Map

		Consumer Goods	Extractives & Minerals Processing	Financials	Food & Beverage	Health Care	Infrastructure
Dimension	**General Issue Category** ⓘ	Click to expand	Click to expand	Click to expand	Click to expand	Click to expand	Click to expand
Human Capital	Labor Practices						
	Employee Health & Safety						
	Employee Engagement, Diversity & Inclusion						
Business Model & Innovation	Product Design & Lifecycle Management						
	Business Model Resilience						
	Supply Chain Management						
	Materials Sourcing & Efficiency						
	Physical Impacts of Climate Change						
Leadership & Governance	Business Ethics						
	Competitive Behavior						
	Management of the Legal & Regulatory Environment						
	Critical Incident Risk Management						
	Systemic Risk Management						

- Issue is likely to be material for more than 50% of industries in sector
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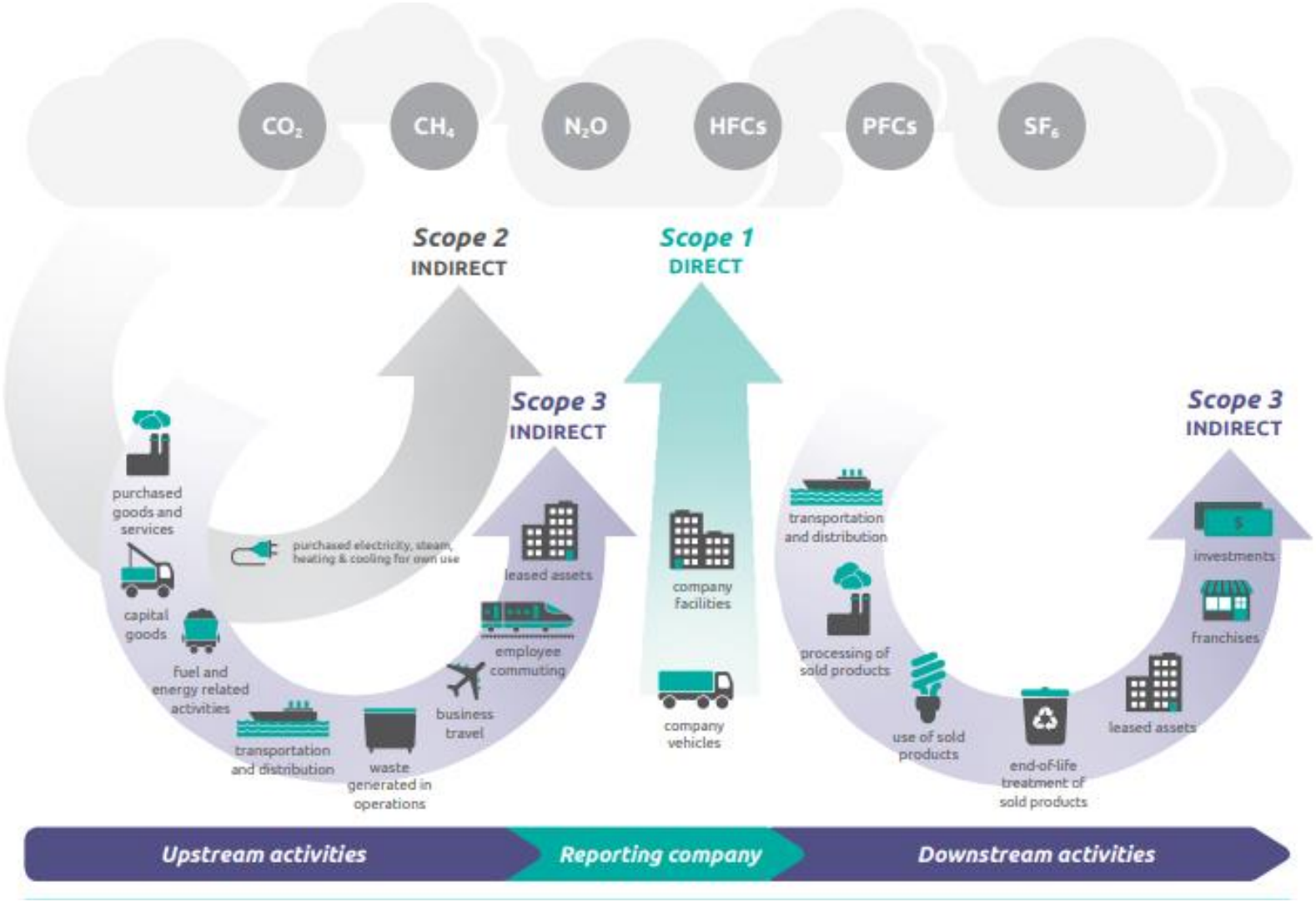
- Issue is not likely to be material for any of the industries in sector

Reference: https://materiality.sasb.org/.

GHG Protocol Scopes & Emissions Across the Value Chain



Reference: https://ghgprotocol.org/sites/default/files/standards/Corporate-Value-Chain-Accounting-Reporing-Standard_041613_2.pdf.

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What is a Life Cycle Assessment?

A Life Cycle Assessment (LCA) is an analysis of a product's environmental impact along its entire value chain.

- Acquisition of raw materials
- Manufacturing
- Transportation of raw materials / product
- Product use
- End-of-life treatment (Landfill, recycle, etc.)

The entire value chain may consist of:

- Cradle to Grave
- Cradle to Gate
- Gate to Gate

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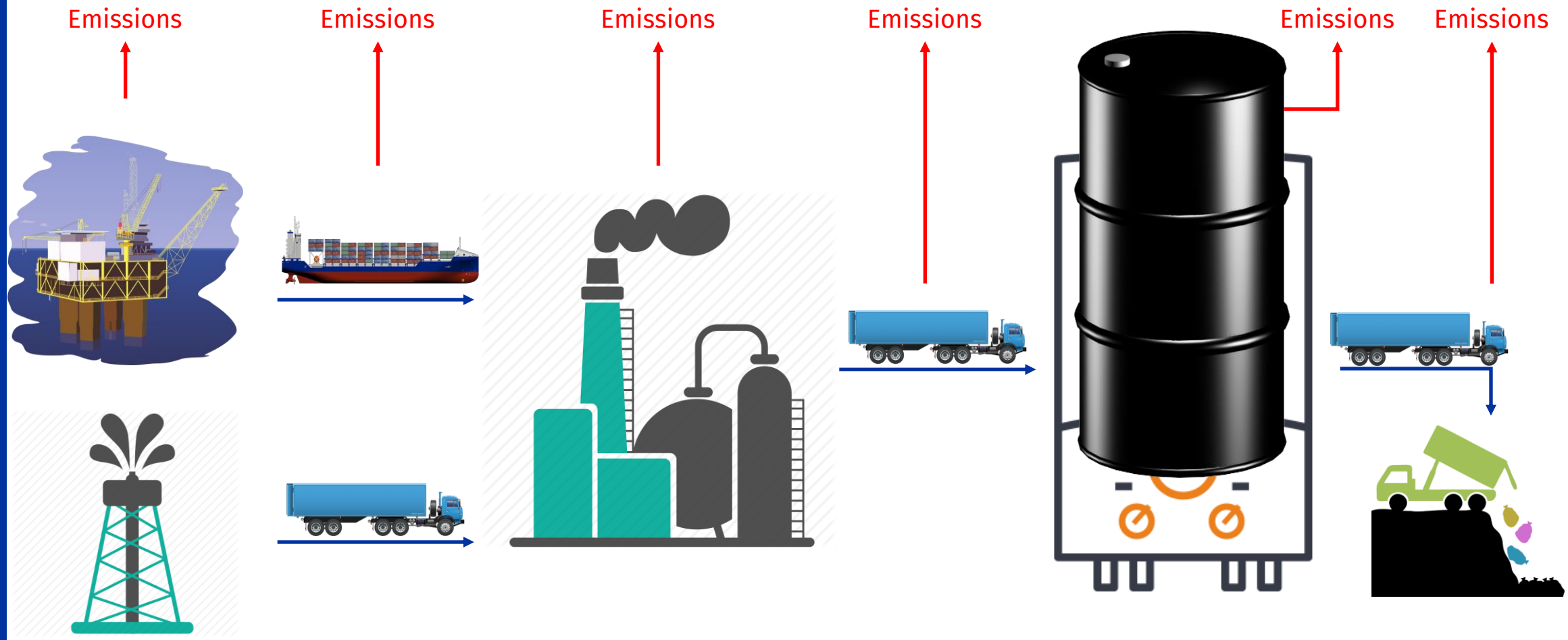
LCA Example – A Barrel of Oil



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Science-Based Targets and Net Zero Commitments

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Example Targets

Amazon

- Net Zero Carbon by 2040
- 100% Renewable Energy by 2025
- 50% Shipment Zero by 2030

WalMart

- SBT – Reduction of 18% by 2025
- Zero Emissions by 2040 (without offsets)

AT & T

- Reduce absolute Scope 1 & Scope 2 GHG 26% by 2030
- Ensure 50% of suppliers set SBTs on Scope 1 & 2 by 2024
- Carbon Neutrality by 2035

Ford Motor Co.

- Reduce CO_2 from manufacturing by 30% per vehicle produced by 2025
- Carbon Neutrality by 2050

Boeing

- Carbon Neutral Growth from 2020
- Reduce carbon emissions 50% over 2005 levels by 2050

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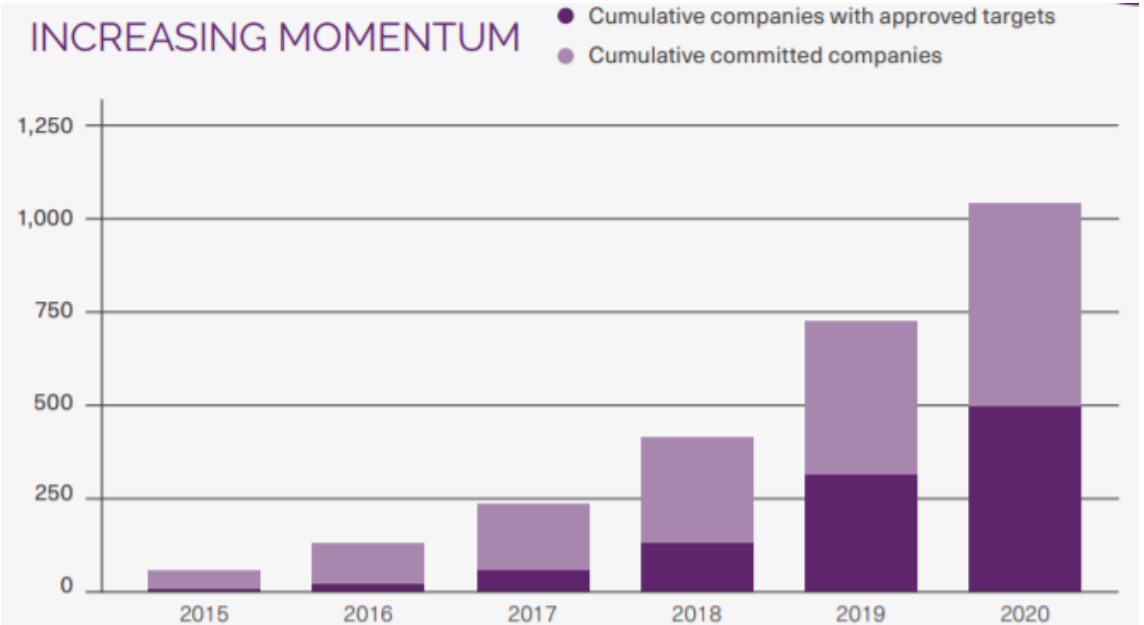
What is a Science-Based Target?

SCIENCE BASED TARGETS

DRIVING AMBITIOUS CORPORATE CLIMATE ACTION

- Targets that aim to reduce emissions at rate that is consistent with level of decarbonization required to limit global warming to 1.5°C or well-below 2°C

- SBTi is a partnership between CDP, the United Nations Global Compact, World Resources Institute (WRI), and World Wide Fund for Nature (WWF) founded in 2015



The total number of companies that have committed to the SBTi and the total number of companies that have set targets. Data from this graph represent company activity from 28th May 2015 to 31st October 2020[7].

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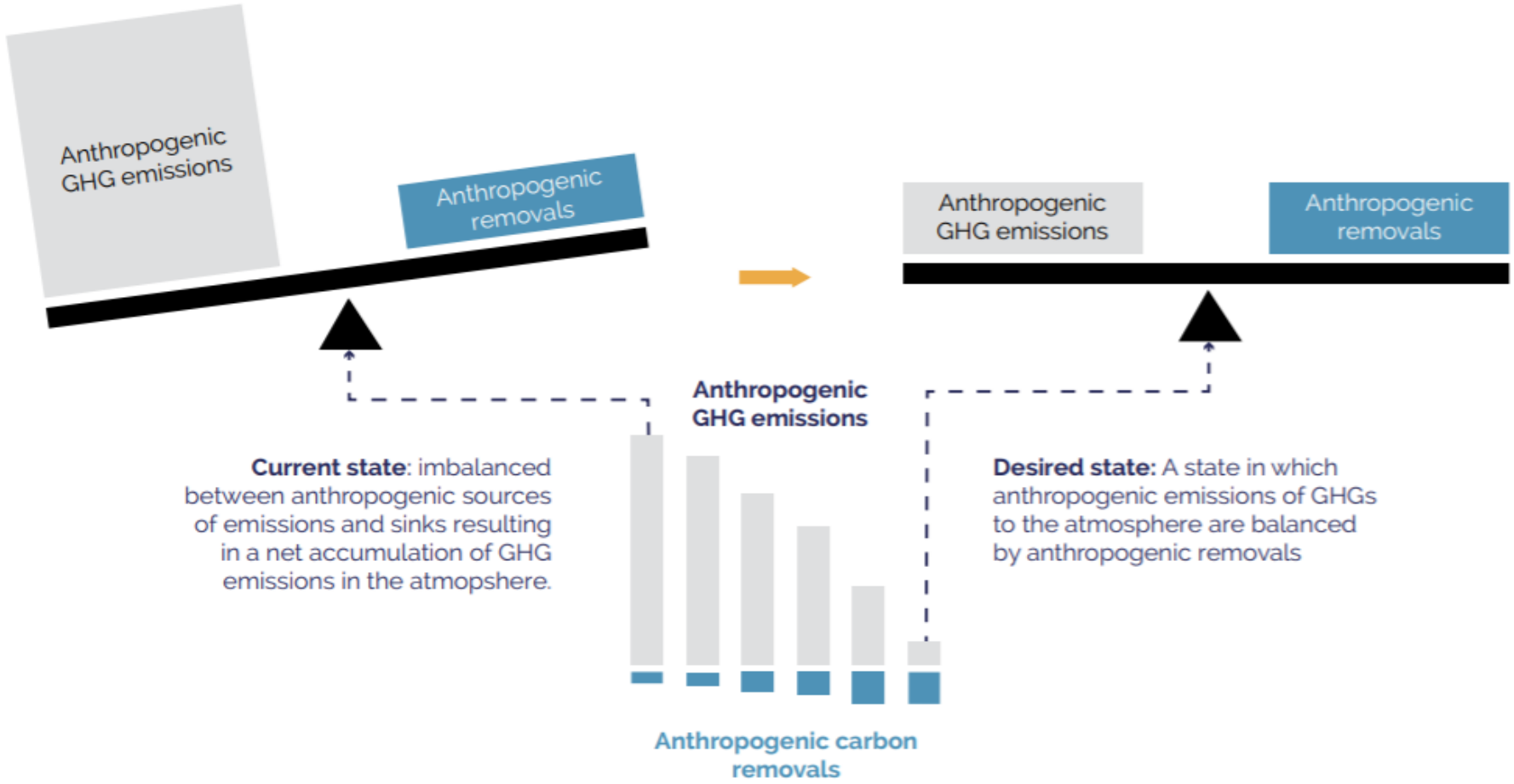
Reference: https://sciencebasedtargets.org/resources/files/SBTiProgressReport2020.pdf.

What is Net Zero?



Source: https://sciencebasedtargets.org/resources/legacy/2020/09/foundations-for-Net-Zero-full-paper.pdf

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Types of Mitigation Strategies

Within the company's value chain	*Outside the company's value chain*
Abatement Measures that prevent, reduce, or eliminate GHG emissions within the value chain	**Compensation** Offsetting emissions with GHG reductions outside the value chain (e.g., financing clean energy projects, purchasing credits)

Neutralization

Carbon dioxide removal (CDR) from the atmosphere within or beyond value chain through enhancements of natural sinks (afforestation/reforestation) or through chemical/physical capture and sequestration

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Key Elements of SBTi Net-Zero Standard

- **Near-term targets** based on 5-10 years timeframe covering at least 95% of S1/S2 emissions and at least 67% S3 (if baseline S3 ≥ 40% of total S1/S2/S3)
  - Must complete S3 screening
  - Companies selling/distributing fossil fuels must set S3 targets regardless of magnitude
- **Long-term targets by 2050** covering 90-95% across all scopes before 2050 with limited dependance on neutralization of residual emissions that cannot yet be eliminated (5-10%)
- **Alternative S2 Target**: Commit to 80% renewable electricity procurement by 2025 and 100% by 2030 (rate determined in line with 1.5ºC scenario)
  - Achieved with Renewable Energy Credits (RECs) and Power Purchase Agreements (PPAs)
- **Baseline** no earlier than 2015
- Requires **external verification** of corporate net-zero targets and annual progress reporting
- Requires **Supplier/Customer Engagement Targets** – must be science-based (set at a minimum ambition of well below 2ºC) and must be near term (5 yr)

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Source: *https://sciencebasedtargets.org/resources/files/Net-Zero-Standard.pdf*

A Practical Approach to Climate Strategy/Target Setting

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Trinity's Technical Approach to ESG/GHG Support Tasks

Step 1: Establish a Baseline

- Develop comprehensive GHG Inventory
- Determine what sources and GHG are material
- Use to inform target boundaries

Step 2: Assess Impacts of Low Carbon Economy

- Obtain Management/Internal Stakeholder Input
- Benchmark Peers
- Assess impacts of evolving climate policies and regulations
- Research avenues to decarbonization

Step 3: Assess Mitigation Strategies

- Determine technical feasibility, % reduction
- Estimate costs & rank alternative strategies based on $/MT CO_2e
- Assess Timeframe for implementation – available now vs. emerging technologies

Step 4: GHG Target Setting and Planning

Informed by Step 1, Step 2, & Step 3

5. ESG Reporting & Disclosure

Informed by Steps 1-4

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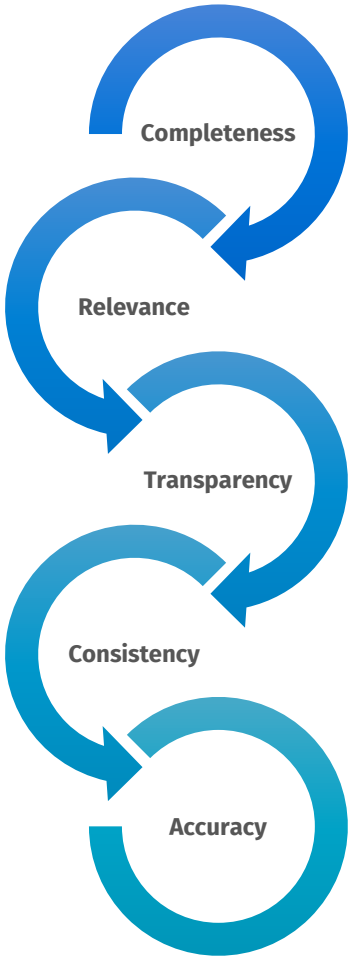
Step 1: Establish a Baseline



- Initial baseline should be comprehensive (including all emissions that are material and relevant) for internal purposes:
  - Scope 1 + Scope 2
  - Scope 3: assess categories; screening tool available
  - All GHG pollutants (e.g., CO_2, CH_4, N_2O, SF_6, HFC/PFC)
- Develop written inventory protocol document to establish:
  - Baseline boundaries & timeframe
  - Materiality & significance thresholds
  - Calculation methodology & key assumptions
  - Target boundaries & time horizon(s)

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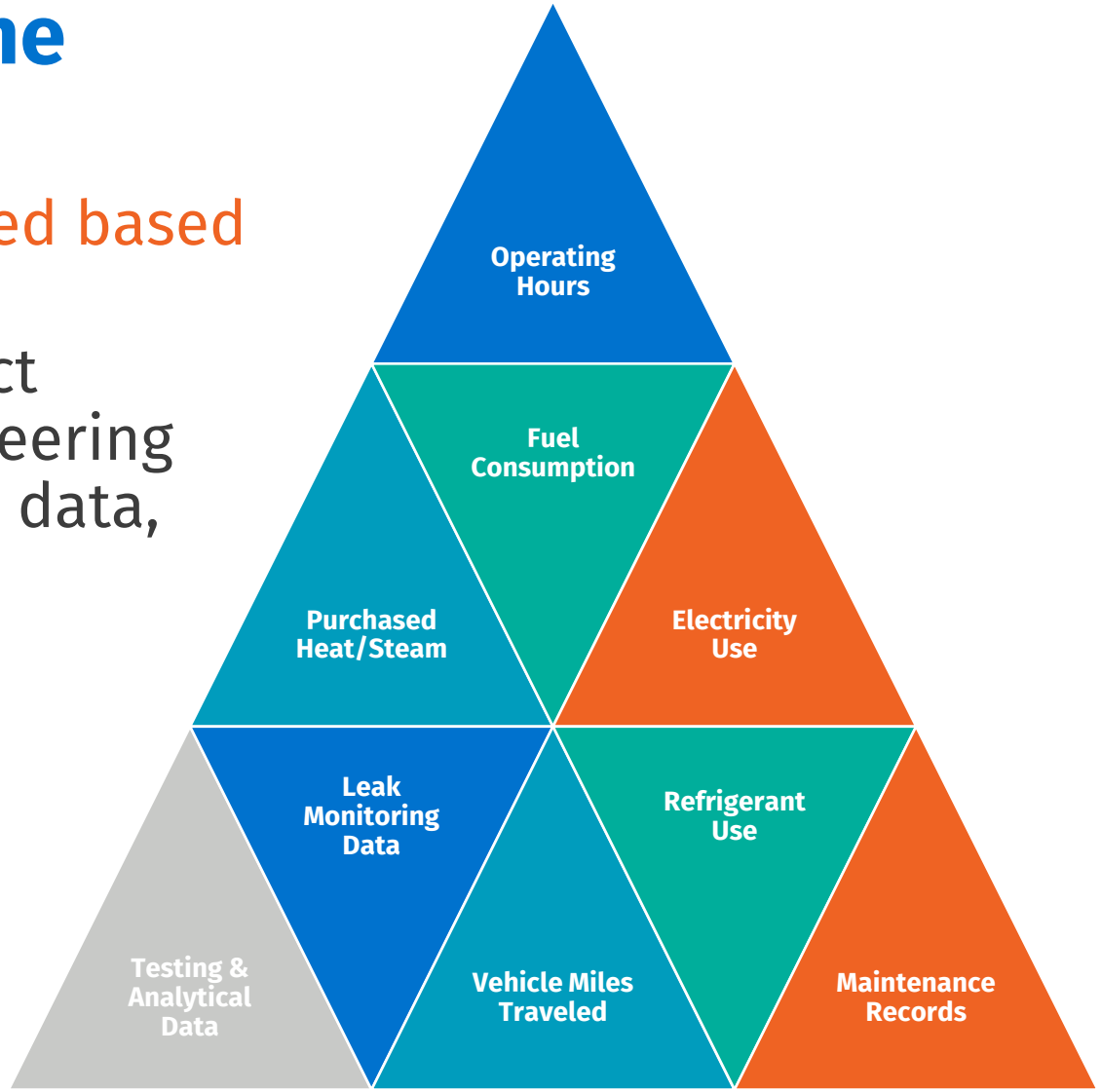
Step 1: Establish a Baseline

- Determine all activity data needed based on calculation methods selected
  - Records may be based on direct measurement/metering, engineering estimates, sampling/analytical data, purchasing records, etc.
- Plan Ahead! This takes time and resources…



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Step 2: Assess Impacts of Low Carbon Economy

- Obtain Management Support/Direction
  - Level of aspiration
  - Financial commitment
- Interview Internal Stakeholders
  - Business priorities (near and long term)
  - Anticipated market changes/business viability in low carbon economy
  - Current mitigation strategies
- Review Current and Evolving Policies/Regulations
  - Company-specific impacts
- Benchmark Industry Peers
  - Competitor practices and targets
- Review Published Decarbonization Studies
  - Impacts related low carbon economy transition

Step 2: Key Components for Transition to Low-Carbon Economy

- Increased energy efficiency
  - Producing same products with less energy
  - Better insulation, combustion/thermal efficiency, reuse of waste heat, etc.
  - Consider energy audit, EnergyStar, ISO 50001
- Electrification to greatest extent possible
  - Fleet vehicles
  - Assumes greening of electric grid
  - Barriers: cost and infrastructure challenges
- Next generation low GWP refrigerants
- Biomass for bio-based products and energy
- CO_2 capture, utilization and storage
- Hydrogen for carbon-free energy and decarbonization of certain processes
- Reduced non-CO_2 emissions

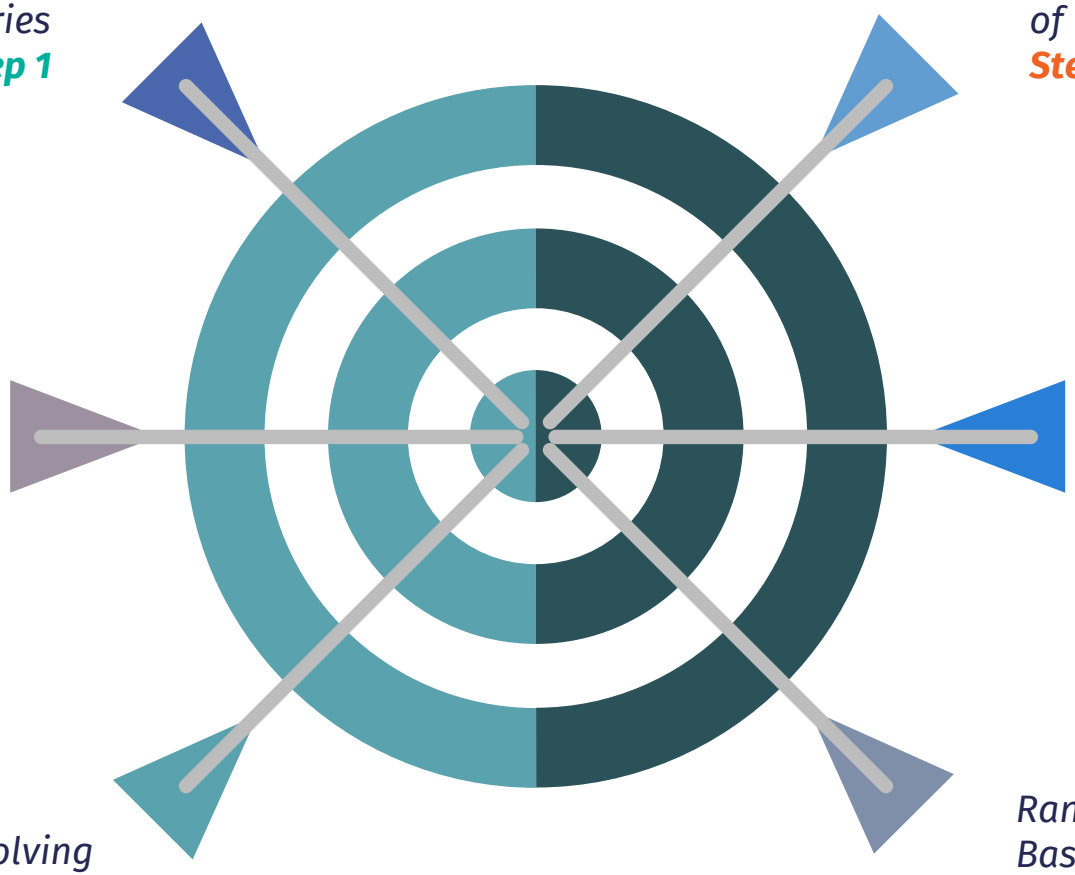
Step 3: Assess Mitigation Strategies

- Identify mitigation strategies for each emissions source identified in inventory
- For each identified strategy, assess:
  - Technical feasibility
  - Economic viability – consider initial and ongoing costs
  - Current status of research, development, and deployment of emerging technologies
- Develop matrix of baseline emissions by source category and information on viable mitigation strategies associated with each source category, including:
  - Estimated timeframe for implementation
  - Estimated percent GHG reduction achievable
  - Estimated cost ($/ton CO_2e reduced) for competing strategies

Step 4: GHG Target Setting

Material Emission Sources & Target Boundaries
Step 1

Timeframe for Implementation of Viable Mitigation Strategies
Step 3



Peer Benchmarking & Management/ Stakeholder Insights
Step 2

% Reduction Achieved by Identified Mitigation Strategies
Step 3

Impacts of Evolving Climate Policies & Regulations
Step 2

Rank alternative Technologies Based on MT/CO_2e
Step 3

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Step 4: GHG Target Setting

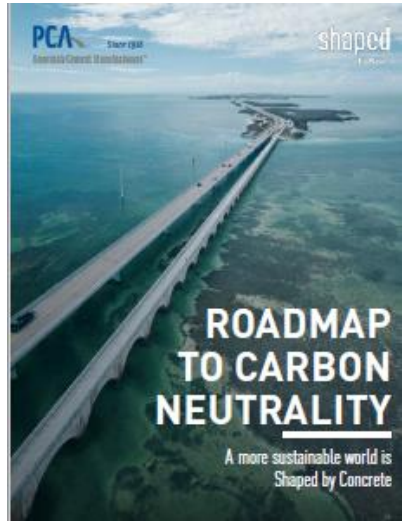
- Calculate intermediate targets based on mitigation strategy review
  - What emission sources are material to your carbon footprint?
  - What % reduction can be achieved with abatement measures identified for these sources?
  - Should any abatement measures be eliminated based on cost?
  - What are the limits of existing technology? (i.e., new emissions levels once existing abatement measures implemented)
  - How can the remaining emissions be compensated/offset or neutralized/eliminated?
- Set long-term goal
  - Requires forecasting of emerging technology advancement
  - Requires insight from management and internal stakeholders on market projections/business model in low carbon economy
- Set up tools to track progress towards goals and periodically revisit/revise mitigation strategies as technology, policy, business priorities evolve

Step 5: ESG Reporting & Disclosure

- Use the work completed under Steps 1 – 4 to inform various aspects of ESG reporting and disclosure as desired, including:
  - Compilation, summary tables, graphs, etc. of numeric data (air emissions, waste generation, water discharges, etc.)
  - Qualification & quantification of environmental impacts of various initiatives and projects (energy efficiency, alternative fuels, mitigation strategies, etc.)
  - Preparation of responses for various voluntary disclosure frameworks (e.g., CDP, SASB, GRI, TCFD, etc.)
  - Documentation of GHG footprint/baseline calculations and target development for 3rd party verification

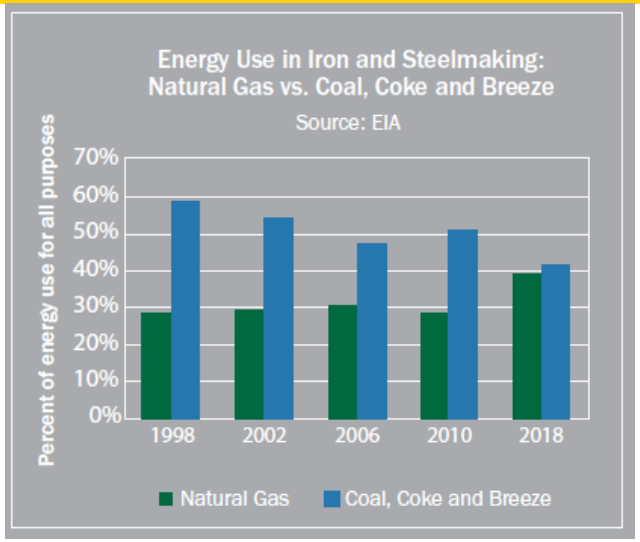
What are other Industry Groups doing?

- Establishing Sustainability Committees
- Developing industry-level transition plans for low carbon economy
- Tracking evolving policy/legislation and providing comments
- Providing guidance to members for consistent reporting across the industry
- Developing industry-wide EPDs
- Preparing messaging on Industry's Sustainable Practices



American Iron and Steel Institute

FACTS ABOUT AMERICAN STEEL SUSTAINABILITY



INTERNATIONAL ALUMINIUM

ALUMINIUM SECTOR GREENHOUSE GAS PATHWAYS TO 2050

PARAMETERS

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Questions

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