

# Collaborating today for a sustainable tomorrow

A supplier guide to decarbonization



## Guide overview

Fulfilling our Mission requires a large supply base across our global network. These suppliers provide the services to support our research and development teams, and the raw materials, lab equipment, chemicals and other vital goods used across our manufacturing and service network around the world.

We have created this guide to support our partners of all sizes, business models, and sectors, whether you are just beginning your decarbonization journey or need to benchmark against existing plans and enhance ongoing target-setting initiatives.

By sharing tools and resources along with our company's learnings and best practices, we seek to help you meet the two environmental sustainability business requirements we have established for our suppliers:

1. Set science-based targets, in line with what the latest climate science deems necessary to meet the goals of the Paris Agreement [1].
2. Join the EcoVadis platform and maintain a score of 45 or above.

We hope this guide will be an invaluable resource, whether you are:

- Hoping to learn more about the basics of decarbonization and our expectations for suppliers.
- Directly responsible for reducing your company's scope 1, 2, and/or 3 emissions.
- Interested in what you can do to help combat climate change.

Please share this guide within your organization and join us as we work together to build a more resilient future for our planet.

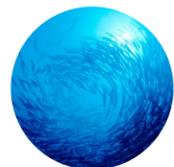
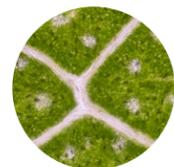
## About the design



The path we walk now will help shape the future of our world. Like the channels created by the veins of a leaf to support the vitality of a plant, our supplier channels are vital to our commitment toward net zero in 2050 for the planet.

**Nature:** At the micro-level

**Environments:** At the macro-level



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“Environmental sustainability is as critical to the future of our businesses as it is to the future of our planet—and together with our colleagues, customers, and suppliers, we have the power to make a real difference. We recognize the urgency of addressing our changing climate and understand the power of innovation to create a better world.”

—Marc N. Casper,  
Chairman, President, and CEO

# Introduction

## Our Mission

Thermo Fisher Scientific, Inc. is the world leader in servicing science. Our Mission is to enable our customers to make the world healthier, cleaner and safer. Whether our customers are accelerating life sciences research, solving complex analytical challenges, increasing productivity in their laboratories, improving patient health through diagnostics, or developing and manufacturing life-changing therapies, we are here to support them. Our global team delivers an unrivaled combination of innovative technologies, purchasing convenience, and pharmaceutical services.

We understand that we have a unique opportunity and responsibility to use our position to make a positive impact on society—not only by enabling our customers’ success but also through our actions as a company to make the world a better place. It is why we’re committed to doing our part to build a sustainable future for our planet.

## Advancing our targets

### We have set ambitious goals in our fight against climate change

Our commitment to environmental sustainability supports our Mission. Our climate strategy includes greenhouse gas emissions reduction targets that align with the Sustainable Markets Initiative (SMI) Health Systems Task Force joint supplier standards, the Paris Agreement, the 1.5°C pathway

and the Science Based Targets initiative’s Net-Zero Standard. We recognize our role in protecting the world’s natural resources. That’s why we are committed to preserving freshwater resources and managing waste.



#### In good company: Joining others in our industry to tackle climate change

**AstraZeneca: Net zero by 2045** [2]  
Near-term targets: 95% of suppliers by spend covering purchased goods and services and capital goods, and 50% of suppliers by spend covering upstream transportation and distribution and business travel by 2025

**GSK: Net zero by 2045** [3]  
Near-term target: 80% reduction in carbon emissions and investment in nature-based solutions for the remaining 20% of its footprint by 2030 (all scopes)

**Pfizer: Net zero by 2040** [5]  
Near-term target: 64% of its suppliers by spend covering purchased goods and services will have science-based targets by 2025

**Merck & Co.: Net-zero no later than 2050 (year TBD)** [4]  
Near-term targets: 30% reduction in Scope 3 emissions by 2030 (from a 2019 baseline). In addition, Merck expects its suppliers to commit to:

- Measuring Scope 1, 2, and 3 emissions and report CO<sub>2</sub>e data specific to Merck by no later than 2025
- Setting GHG reduction target(s) aligned with the criteria set by the Science Based Target initiative (SBTi) by 2026
- Planning to achieve net zero no later than 2050

<sup>1</sup> Exact target is 50.4%  
<sup>2</sup> Requires at least 90% reduction against the base year (2018 for Scope 1 and 2, 2021 for Scope 3) with long-term removal of any residual emissions generated after the target date  
<sup>3</sup> Water intensity means a facility using over 25,000 cubic meters of freshwater per year.  
<sup>4</sup> Zero waste means less than 10% of non-hazardous waste is sent to landfill, incineration or waste-to-energy facilities.

## The science

The world's leading scientists have sent a clear message: Urgent action is needed to avoid the worst impacts of climate change. This means limiting the global temperature increase to 1.5°C above pre-industrial levels—the most ambitious aim of the [Paris Agreement](#), a binding agreement bringing nations together to combat climate change and adapt to its effects.

### Climate change challenges at-a-glance [6]

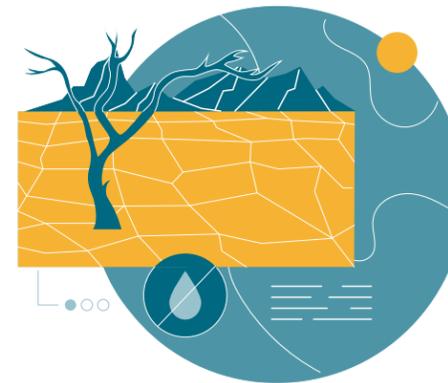
Risks of a .5°C increase



#### Heatwave exposure

700 million people will experience extreme heatwaves every 20 years at 1.5°C

2 billion people will experience extreme heatwaves every 20 years at 2°C



#### Urban drought

350 million residents impacted by 2100 at 1.5°C

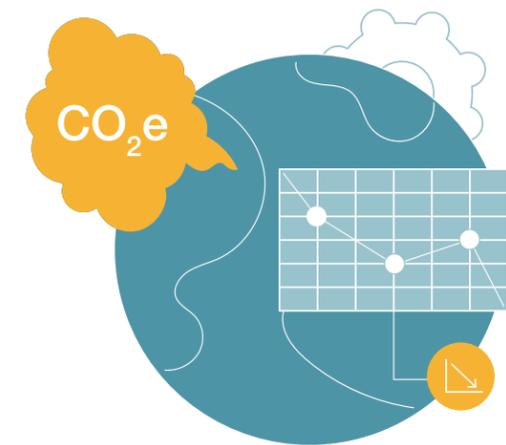
410 million residents impacted by 2100 at 2°C



#### Coral reef loss

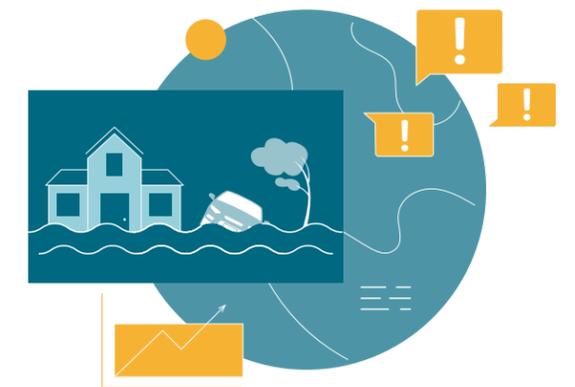
70% loss by 2050 at 1.5°C

Near global loss by 2050 at 2°C



#### Economic decline

Lower economic growth at 2°C, especially for low-income countries



#### Extreme flooding

100% increased risk at 1.5°C

170% increased risk at 2°C

Join the  
fight against  
climate change

## Back to the basics

Decarbonization is a significant pathway to meeting the goals of the Paris Agreement and reaching net-zero emissions by 2050.

But what exactly is decarbonization, and why is it essential to environmental sustainability?

Decarbonization refers to the process of reducing or eliminating greenhouse gas (GHG) emissions, particularly related to the burning of fossil fuels associated with energy, industry, and transport [7].

Carbon dioxide is one of several greenhouse gases; others include methane, ozone, nitrous oxide, and chlorofluorocarbons. GHGs come from both natural occurrences and human activity.

GHGs act like a thermal blanket in the atmosphere, making Earth habitable for all life forms. The accumulation of GHGs

intensifies what is known as the greenhouse effect, causing the Earth's temperature to rise [8]. Scientists have determined that human activities, primarily from clearing forests and burning fossil fuels, have intensified the natural greenhouse effect, resulting in climate change [9].

One cornerstone of a successful decarbonization strategy involves reducing your carbon footprint. A carbon footprint is the amount of GHGs generated into the atmosphere by an individual or company's direct or indirect consumption of fossil fuels [10].

These emissions sources are mapped to categories called scopes. Scope categorization (Scope 1, 2, or 3) is dependent on ownership and control of the emission source [11].

### Scopes 1, 2, and 3: An overview

	Definition	Examples
Scope 1	Includes emissions that are generated from burning fossil fuels (e.g., diesel, natural gas) and leakage of refrigerants from cooling equipment (e.g., freezers) in the facilities and vehicles a company owns or operates.	Emissions associated with fuel combustion in boilers, furnaces, vehicles
Scope 2	Includes emissions from the generation of electricity, steam, and hot water we purchase for our facilities and vehicles. For example, Thermo Fisher purchases electricity from a power plant fueled by natural gas. The emissions generated by the power plant to create our electricity are considered Scope 2.	Electricity, steam, heating, cooling purchased and used in company's buildings
Scope 3	Includes emissions resulting from all other activities that a company doesn't control but still influences across its value chain. There are 15 categories in total. For Thermo Fisher, most of these emissions come from: <ul style="list-style-type: none"><li>• Our suppliers, via the goods and services we buy from them</li><li>• Transport of materials to our facilities and from those facilities to customers</li><li>• Electricity consumed by our customers when using our products</li></ul>	Emissions produced while buying, using, disposing of supplier products



## So, how do we assess all three scopes to achieve net-zero emissions?

According to the United Nations Intergovernmental Panel on Climate Change (IPCC), crucial steps include:

1. Peaking emissions by no later than 2025.
2. Halving global emissions levels by 2030.
3. Working toward achieving net-zero emissions by 2050 [12].

We have made progress, but globally, we are deviating from the trajectory required to hit the 1.5°C temperature increase goal. It is critical that we continue to work together to reach our collective net-zero goals.

## Global net energy-related CO2 emissions pathway scenarios [13]



**Target temperature rise**  
Temperature rise  
**<1.5°C**

Pathway  
**1.5°C**  
Aggressive regulatory constraints on the carbon intensity of fuels result in the rapid adoption of decarbonization technologies across all sectors (e.g., EVs, alternative fuels, hydrogen, etc.)

Temperature rise  
**1.7°C**  
(1.4°–2.1°)

Pathway  
**Achieved commitments**  
Net-zero commitments achieved by leading countries through purposeful policies; followers transition at slower pace

Temperature rise  
**1.9°C**  
(1.6°–2.4°)

Pathway  
**Further acceleration**  
Further acceleration of transition driven by technology and regulatory evolution, though financial and technical constraints remain

Temperature rise  
**2.4°C**  
(1.9°–2.9°)

Pathway  
**Current trajectory**  
Current trajectory of renewables cost decline continues, however currently active policies remain insufficient to close gap to ambition

## Regulatory landscape

To capture all non-financial risks and opportunities of day-to-day business, companies are required to report on environmental, social, and governance (ESG) activities. Investors are increasingly incorporating ESG elements into their decision-making processes, which places an even greater importance on ESG efforts and reporting for public companies [14]. Keeping up with the rapidly changing environmental sustainability regulatory landscape can be a challenge.

With more disclosure requirements shifting to “double materiality”—requiring that companies report on how their business is affected by sustainability issues as well as how their business activities impact society and the environment—companies will be required to invest more in risk assessments going forward [15].

Regulatory momentum can influence change within your organization. The need to maintain climate frameworks and standards in compliance with regulatory guidelines can help drive the urgency to accelerate decarbonization efforts.

Organizations such as the Task Force on Climate-Related Financial Disclosures (TCFD) and the International Financial Reporting Standards Foundation (IFRS), as well as new guidelines such as the EU Corporate Sustainability Reporting Directive

(CSRD) and the proposed Climate Corporate Data Accountability Act (California S.B. 253), can provide frameworks to help you assess risks to your business in pursuit of climate resiliency.

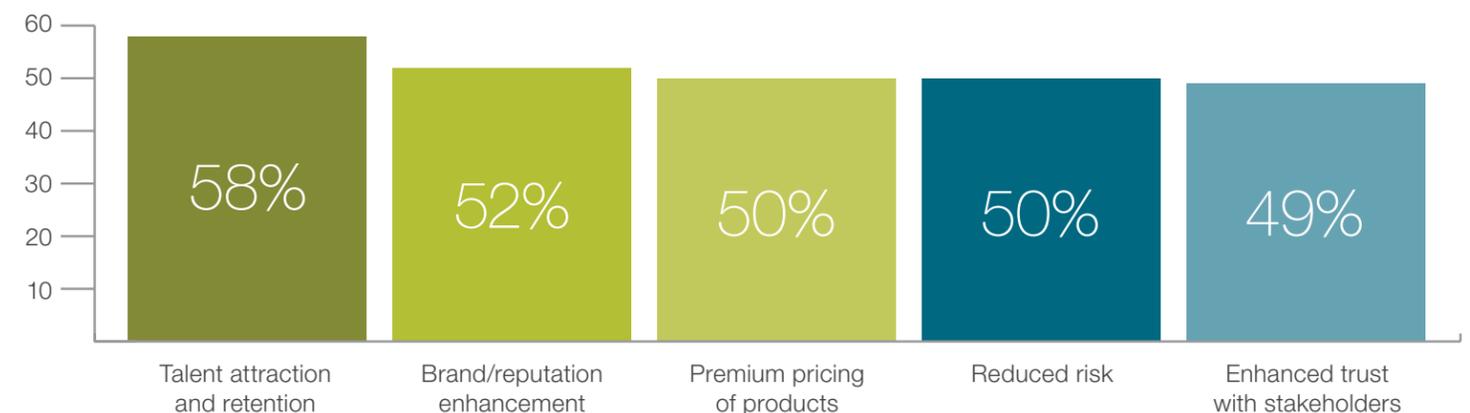
Assessing your risk landscape can help you determine if you have the right governance measures in place to prepare for ever-evolving regulatory requirements and ensure that you’re reporting relevant information to your stakeholders.

## Business benefits

In addition to benefiting the planet, a key reason to embed decarbonization and other ESG principles into your business is to reduce risks and ensure a more resilient future for your business. There are also benefits to your business, from enhancing your brand and attracting top talent to increasing operational efficiencies.

A 2022 survey of the life sciences and healthcare industry highlighted the areas where executives expect to see positive impacts to their business when they adopt ESG as an operational component and report on their progress externally [16].

## Business outcomes driven by enhanced ESG reporting [16]



## The Thermo Fisher Scientific decarbonization approach

The Thermo Fisher environmental sustainability strategy reflects our support of climate science, our desire to mitigate risk, and a belief in the business benefits that decarbonization will unlock across our value chain.

Our net-zero strategy addresses Scope 1, 2 and 3 emissions and is centered around:

- Transitioning away from the use of fossil fuels and high-impact refrigerants.
- Accelerating the adoption of renewable electricity.
- Engaging with our suppliers to amplify collective progress.



“Achieving our ambitious climate objectives relies on the collective efforts of our supply chain. We ask our suppliers to share our commitment to science-based targets to drive the change required for a net-zero future. We look forward to working together on this critical topic so that we can ensure a resilient future for generations to come.”

—Chris Shanahan,

Vice President, Supply Chain Global Sustainability

## Thermo Fisher’s GHG emissions reduction targets



Our approach includes GHG emissions-reduction targets that align with the Paris Agreement and have been validated by the Science Based Targets initiative (SBTi), an independent organization that establishes standards, guidance, and tools to drive ambitious climate action in the corporate sector [17].

Thermo Fisher Scientific is one of the first companies in our sector to have a net-zero target validated by the SBTi. Our targets guide our progress, with third-party ratings from organizations like CDP and EcoVadis validating our continued environmental program improvements.

<sup>1</sup> Exact target is 50.4%

<sup>2</sup> Requires at least 90% reduction against the base year (2018 for Scope 1 and 2, 2021 for Scope 3) with long-term removal of any residual emissions generated after the target date

How to  
take action

For Thermo Fisher, over 95% of our value chain emissions (Scope 3) are generated outside of our operations, meaning less than 10% come from our own operations (Scopes 1 and 2).

To address this, our Scope 3 emissions target is to have 90% of our suppliers by spend set climate-related, science-based targets by 2027. Therefore, it is imperative that we support our suppliers on their decarbonization journeys to reach our 2050 net-zero goal.

Using our strategy as a framework, the step-by-step process in the next section will help you establish your roadmap to assessing, managing, and mitigating your GHG emissions.

## Thermo Fisher's 2022 carbon footprint

### Tracking value-chain emissions

≈13.2 million MTCO<sub>2</sub>e

#### Suppliers – 65.7%

- Purchased goods and services 63.2%
- Capital goods 2.4%



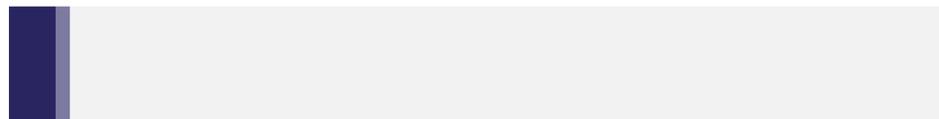
#### Transportation – 10.2%

- Transport and distribution 10.2%



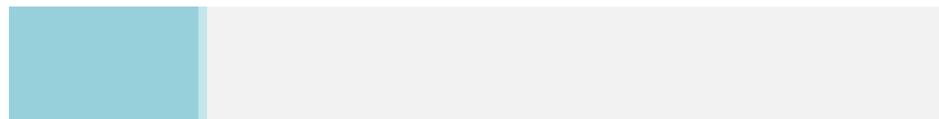
#### Colleagues – 4.1%

- Commuting 3.2%
- Business travel 1.0%



#### Product use and disposal – 13.7%

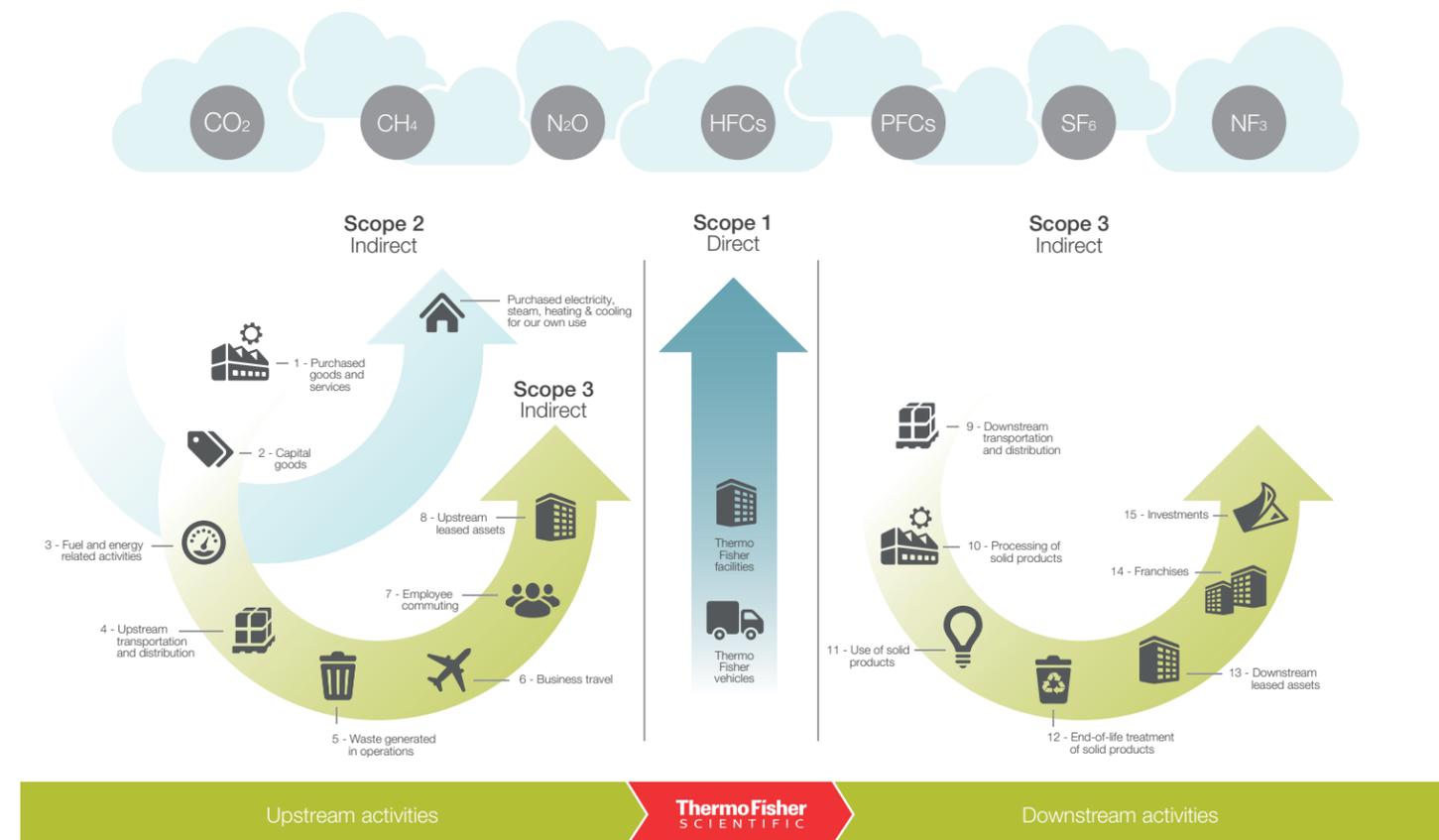
- Use of sold products 13.2%
- End-of-life treatment 0.4%



# Assess your carbon footprint

The first step to reducing GHG emissions is to understand and evaluate the sources of those emissions across all three scopes.

## Overview of scopes and emissions across a value chain [18]



Note: All companies must complete at least a scope 3 screening for all relevant categories. If scope 3 is over 40% of total emissions, an emissions inventory must be provided (estimations at least).

Leveraging the basics of carbon accounting—a framework of methods to measure and track how much greenhouse gas an organization emits—will be critical in establishing your GHG baseline, understanding your carbon footprint, and identifying your pathways to reducing emissions.

## GHG baselining: The basics

- Set a baseline year.
- Define your emissions scopes and boundaries.
- Collect activity data from your business.
- Calculate emissions using emissions factors for your various activities.
- Document your GHG emissions inventory.

## Measure your Scope 1 and 2 emissions footprint

Calculate your greenhouse gas emissions.

- **Identify energy sources.** List all sources of direct emissions (e.g., fuel usage) within your organizational boundary, including your vehicle fleet and refrigerants (Scope 1). Also determine the sources of purchased electricity, heat, or steam generated by entities outside your boundary (Scope 2).
- **Collect utility data.** Measure using appropriate methods for assessing fuel consumption; for example, direct metering (Scope 1) and tracking energy consumption data from utility bills (Scope 2) for a full calendar year.
- **Calculate emissions.** (Scope 1) Use emissions factors and activity data to quantify the impact. (Scope 2) Use emissions factors to convert energy consumption into CO2 equivalents.

Once you have addressed the GHG baselining basics, you are ready to set and disclose your targets.

## GHG operational boundaries [19]

Consider the two “imaginary lines” encompassing emissions to include in your GHG inventory.

- **Organizational boundaries:** Determine which operations to include.
- **Operational boundaries:** Determine and categorize which emissions sources to include. Establish operational boundaries by:
  - Identifying emissions associated with operations.
  - Classifying emissions as direct or indirect.
  - Categorizing the scope of emissions.



# Choose your pathway to setting goals

Because Thermo Fisher's Scope 3 emissions include our suppliers' Scope 1 and 2 emissions, we are requiring our partners to establish science-based targets (SBT).

Our goal is to have 90% of our suppliers establish science-based targets by 2027, and we have outlined two pre-approved pathway options to get there.

## Thermo Fisher approved target pathway options

### Pathway option 1: Targets officially validated by SBTi [20]

-  **Commit:** Submit a letter establishing your intent to set a science-based target.
-  **Develop:** Work on an emissions reduction target in line with the SBTi criteria.
-  **Submit:** Present your target to the SBTi for official validation.
-  **Communicate:** Announce your target and inform stakeholders.
-  **Disclose:** Report company-wide emissions and track target progress annually.

### Pathway option 2: Science Based Target with public disclosure

-  **Calculate** your scope 1 and 2 emissions in your chosen baseline year.
-  **Maintain** a minimum of 4.2% absolute emission reductions YOY (in line with net-zero ambitions) of Scope 1 and 2 emissions for 5 to 10 years after the baseline year.
-  **Disclose** your target publicly and share associated emissions on public disclosure platforms and/or to Thermo Fisher directly so that we can include your efforts toward our 2027 target.
-  **Track** progress annually and report status.



# Create a Scope 1 and 2 decarbonization plan

## Develop Scope 1 and 2 decarbonization strategies

Develop science-based, site-level roadmaps for decarbonization and investment timing.

The relationship between Scope 1 and Scope 2 emissions is interconnected, with electrification playing a vital role in the reduction of fossil fuel usage. It is cost-effective to prioritize energy efficiency before decarbonization investments to ensure “right-sizing” of assets and minimizing impacts on electrical networks.

## Scope 1

### Net-zero carbon-reduction assessments

Assess site energy and fossil fuel assets to identify carbon-reduction opportunities and available power capacity.

### Key considerations:

- Start with top GHG-emitting locations.
- Leverage the expertise of your external network, specifically contacts with strategic, technical, and regulatory experience to support your decarbonization objectives.
- Optimize site thermal and power systems to minimize use and maximize heat recovery.
- Develop a comprehensive list of opportunities that addresses:
  - Efficiency, energy, and cost reduction
  - Thermal reduction
  - Heat recovery
  - Unlocking and expanding electrical capacity
  - Fuel switching (electrification)
- Align identified opportunities with the end-of-life timelines for current equipment to prioritize investments in asset management or equipment replacement.

## Inventory list recommendations

Create an inventory of all Scope 1 emission assets as part of your assessment process; Important attributes include:

- ✓ Asset name
- ✓ Refrigerant type
- ✓ Asset location
- ✓ Capacity rating, annual operating hours
- ✓ Model and serial number (if available)
- ✓ In-service year
- ✓ Production area served
- ✓ Asset condition
- ✓ Fuel type
- ✓ Estimated retirement year

Mature monitoring of significant energy-consuming equipment (e.g., large boilers, chillers) will further support asset sizing and optimize investment efficiency [21].

**Asset sizing:** Avoid unnecessary capital expenditure by asset sizing, or determining the required output needed for new installations. Prioritize right-sizing of assets in your decarbonization plans to optimize system performance, improve efficiency, and minimize wasted energy.

**Monitoring levels guidance:** Energy-consumption monitoring helps ensure your assets are working as designed and provides detail to further improve asset design.

# Create a Scope 1 and 2 decarbonization plan

## Carbon capital planning (Scope 1 continued)

Carbon capital planning integrates carbon emissions considerations into financial decisions and allows your organization to address and manage its path to net zero.

### Key considerations:

- Use your GHG baseline and reduction targets to establish a carbon budget.
- Identify investments required to lower thermal demand and replace fossil fuel-consuming assets with electrified or renewable fuel equivalents.
- Build a site-level view of investment plans to better visualize the financial impact. This also unlocks better reporting and can help identify emission-reduction gaps.
- Rank sites by environmental impact to track program progress over time.
- Track emissions reductions achieved through the projects and initiatives you've implemented while forecasting future reduction against year-over-year targets.

- Continuously monitor and measure your emissions data. Use emissions-tracking software or internal systems to collect and analyze data.
- Adjust and optimize if you are not on track to meet your targets.

## Scope 2

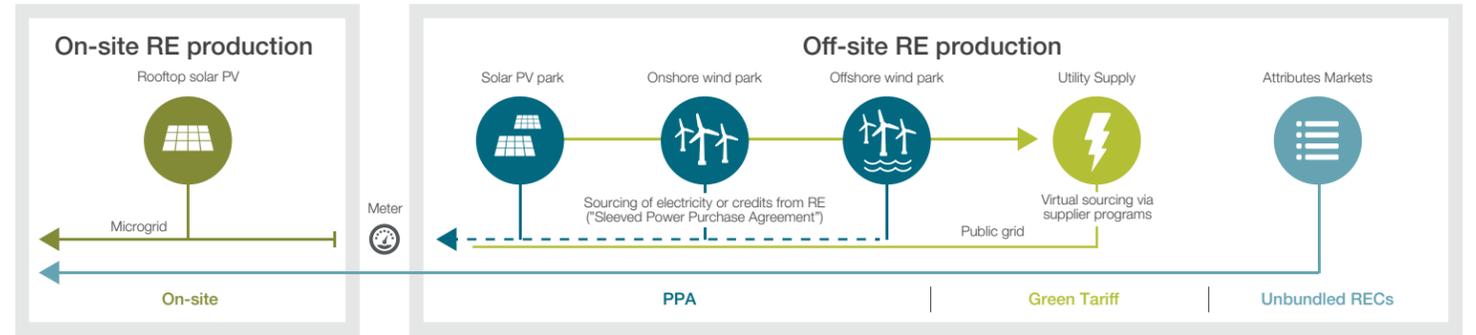
### Renewable electricity: Procurement, considerations, and reporting

Because they have power over the type and volume of Scope 2-related energy purchased, companies can influence GHG emissions by sourcing renewable electricity.

A variety of technical and contractual models can be used to procure renewable electricity. Companies use two principal categories of renewable electricity to drive decarbonization roadmaps:

- On-site renewable electricity production
- Off-site renewable electricity production

## Renewable electricity procurement [22]



**On-site:** On-site renewable electricity generation provides self-sufficiency, reducing grid dependence. Output is influenced by factors like space availability and local weather. It is beneficial for budget-constrained companies willing to commit to long-term power contracts. Renewable electricity can be procured via Power Purchase Agreements (PPA) or capital investments (CAPEX).

**PPA:** Off-site PPAs are not constrained by on-site space limitations making them a great choice for businesses needing substantial volumes with fixed long-term prices. Such arrangements typically involve minimum volume thresholds and financial requirements making them not suitable for each type of organization.

**Green Tariff:** A Green Tariff offers a set cost for environmental attribute certificates (EACs). It's a streamlined choice, providing an easy solution to combine EACs with their electricity supply agreement. However, businesses should be mindful to use these products as an initial step, rather than a long-term strategy to decarbonize.

**Unbundled Renewable Energy Certificates (RECs):** RECs can be easily purchased in regional markets either through their utility provider or third party brokers. As with Green Tariffs, businesses should be mindful to use these products as an initial step, rather than a long-term strategy to decarbonize.

For more information on the advantages and challenges related to the different renewable energy models please reference Table B-2 in the [EPA Guide to Purchasing Power](#).

### Thermo Fisher Net-Zero Design Guide

An important part of the Thermo Fisher commitment to achieving net-zero emissions by 2050 is to ensure that new-building construction and renovations are developed with a net-zero approach.

We have developed a Net-Zero Building Design Guide to share with our partners for use in their decarbonization efforts. Find this guide in the Resource section.

### Renewable electricity

Electricity is considered renewable when it comes from sustainable sources, such as the sun, wind, or water. To track how much renewable power is made and claimed around the world, a certificate is generated for each megawatt-hour of renewable energy produced.

Generally referred to as Energy Attribute Certificates (EACs), these certificates may have different regional names, such as Renewable Energy Certificates (RECs) in the US and Canada and Guarantee of Origins (GoOs) throughout most of Europe. Certification allows for robust tracking of renewable energy usage claims while preventing double counting.

**Note:** While there are no specific regulations around the use and claim of EACs as of the writing of this document, generally observed best-practice guidance is available from the RE100 climate group and the Carbon Disclosure Project (CDP).

# Create a Scope 3 decarbonization plan

Scope 3 includes a company's upstream and downstream GHG emissions, organized into 15 categories as outlined by the Greenhouse Gas Protocol. Each category collectively captures a specific aspect of the value chain. This design ensures mutual exclusivity, preventing the double counting of emissions in multiple categories [23].

To address Scope 3, first identify and categorize the emissions that are relevant to your business.

## Set objectives and KPIs

When setting your objectives, consider your KPIs in tandem to help ensure that you are able to measure success and monitor your progress as you implement your strategy.

Questions to ask that can help shape your goals and success indicators:

- What is your emission-reduction goal? What does your year-over-year performance trajectory look like in pursuit of that goal?
- Are you using the SBTi-specific guidance? (If so, you will need to follow their requirements.)
- What does your supplier segmentation look like; who are you prioritizing and why?
  - Consider attributes such as contribution to Scope 3 footprint, spend, geography, existing ESG programs, existing sustainability goals, and your influence (e.g., relationship health, buying power, etc.).
- How are you tracking progress?
  - Determine what systems and platforms you have vs. what you need
- How are you defining progress, and what activity metrics are you using to assess change?
  - Consider number of supplier meetings, participation in sustainability events or reporting requests, percentage of suppliers with SBTs, or SBT commitments.

## Align resources

**People.** Recognize the people resources required to achieve your objectives. Determine which teams need to be involved, such as sustainability, procurement, supply chain, legal and finance. Then, determine if you can tap into internal expertise, including environmental sustainability subject matter experts (SMEs), or if you need to seek external support (e.g., consultants).

**Tools and Platforms.** Perform a gap analysis to understand your existing data and the data you will need in the future to effectively manage your Scope 3 reduction goals. Do you have the tools to manage this data? If not, plan for a discovery and request for information (RFI) phase to evaluate helpful tools and their costs.

Once you have evaluated your resource needs, you can start forecasting your budget requirements to support your Scope 3 strategy.

## Identify key stakeholders

Understanding your internal stakeholder landscape will allow you to advance your strategy more effectively throughout your organization and embed supplier sustainability engagement into your business.

## Engage suppliers and partners

Engaging your suppliers and partners on sustainability initiatives can drive meaningful change in collective emissions reductions [24]. Before you embark upon your supplier engagement efforts, determine your engagement strategy and relationship management approach to optimize every supplier interaction.

### Considerations:

- What is the carbon maturity of the supplier community or audience and how can messaging be tailored to meet the needs of that audience?
  - Examples: They have science-based targets, they are working on emission reduction strategies, they have plans to be net zero.
- What internal milestones do you need to be aware of?
  - Examples: Quarterly reporting deadlines, business review cadences
- What types of engagements will you be deploying?
  - Examples: 1x1 meetings (in person and virtual), large events, small workshops
- What are the cross-functional roles and responsibilities for engaging with suppliers?
  - Refer back to your internal stakeholder engagement work.

Identify two key points of contact to successfully engage with your suppliers on the topic of sustainability [23]:

**Internal:** The supplier relationship owner; the colleague who manages the account relationship on behalf of your company.

**External:** The supplier sustainability point of contact. Direct all sustainability communications to one person, if possible; typically the sustainability, environmental health and safety (EHS), ESG, or CSR lead.

## Scope 3 categories

-  1. Purchased goods and services
-  2. Capital goods
-  3. Fuel and energy related activities
-  4. Upstream transportation and distribution
-  5. Waste generated in operations
-  6. Business travel
-  7. Employee commuting
-  8. Upstream leased assets
-  9. Downstream transportation and distribution
-  10. Processing of solid products
-  11. Use of solid products
-  12. End-of-life treatment of solid products
-  13. Downstream leased assets
-  14. Franchises
-  15. Investments

**Need extra calculation guidance for Scope 3?**  
[Explore this resource from the Greenhouse Gas Protocol.](#)

## Deploy the plan for reducing Scope 1, 2, and 3 emissions

Once you have assessed your footprint and developed your strategies, it is time to execute your plan for reducing your Scope 1, 2, and 3 emissions. Here are a few examples of how we at Thermo Fisher have put our strategies in action into achieve our decarbonization goals.

### Scope 1: Case study

#### Managing existing emissions with technology

Hybrid boiler technology provides the solution to electrification challenges and site's largest Scope 1 source



##### Overview

- End of life gas-fired boiler originally scheduled for like-for-like replacement
- Adding fossil fuel replacement unit does not align with Company net-zero building policy
- Current site power capacity constraints exclude the possibility of boiler electrification
- Installing a fossil fuel boiler would risk stranding the asset

##### Technology solutions

- Future-proof unit can be operated on gas and/or electricity
- 86% efficiency on natural gas, 99% on electricity operation
- Remote switching between gas and electric operation mitigates downtime risk
- Automatic fuel/energy switching leverage less-costly off-peak electrical rates to reduce cost
- Electrical operation eliminates costly fuel systems and failure points

##### Outcome

- Hybrid boiler provides bridge to power upgrades required for electrification
- Increased gas-operation efficiency over old unit delivers immediate Scope 1 improvement
- Site energy efficiency measures that free electricity capacity will allow partial electrical operation

### Scope 1: Case study

#### Managing future emissions with process

Sustainable design and early engagement provide new facility a path to net-zero

##### Overview

- 500K ft2 new construction manufacturing facility
- Project and design teams leveraged Net-Zero Design tools and processes to incorporate low-carbon measures and establish the site's path to net-zero

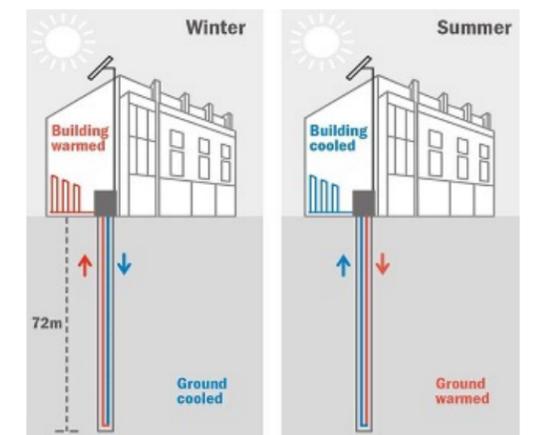
##### Technology solutions

- Ground source heat pumps provide sustainable and reliable heat
- Building envelope improvements minimize heating and cooling losses
- Advanced building controls ensure efficient, healthy, and comfortable workspaces

##### Outcome

- Site to be fully electrified and net-zero at project completion in 2028

##### Ground source heat pump operation



Initiatives	Mandatory measure	Fossil fuel impact	Scope 1 eduction (mt CO2e)	Power capacity relief	Energy/emissions reduction lever
Geothermal wells, heat pumps	Y	Y	360		Heating demand reduction
Building envelope upgrades	Y	Y	90	Y	Heating/cooling demand reduction
LED lighting, plug load controls	Y			Y	Electricity demand reduction
Advanced building controls	Y	Y	50	Y	Heating/cooling demand reduction
Electrical vehicle charging	Y				GHG reduction, air quality



## Scope 2: Looking beyond How Thermo Fisher is accelerating renewable electricity

### North America

- Virtual power purchase agreements (VPPA) for new wind and solar facilities to match 100% of our U.S. and Canada electricity use
- On-site solar at five sites with over a dozen more in development
- Renewable electricity from utility providers in some states

### Europe

- Our first Europe PPA with Serbal Solar – announced in December 2023 – and participating in an Energize EU VPPA cohort
- Combined will match 100% of our continental Europe electricity use
- On-site solar/wind at 6 sites with several more in development
- Renewable electricity from utility providers in UK, Germany, and Italy

### Global

- International renewable energy certificates (I-RECs) to match electricity consumption in countries with high electricity emissions: China, South Africa, and India
- Several on-site solar projects in development including Singapore, a challenging market to procure renewable electricity

## Scope 3: Case study

### Supplier engagement in action: The Fisher Scientific channel

Incentive programs for suppliers can be a powerful tool to drive action to track emissions and set science-based targets. The Fisher Scientific channel has adopted two approaches to inspire and reward suppliers in our channel networks to take action.

- 1. The Supplier Tiering Program (STP)** is a supplier management framework designed to continually improve the service provided to our customers. Points lead to tiers, and tiers lead to increased partner benefits, with the end goal being healthy, profitable mutual business growth.

Environmental sustainability and climate factors will be key measures in the program qualification process; 15% of the STP scorecard will be allocated to environmental sustainability criteria, which will include setting science-based targets and disclosing sustainability performance via EcoVadis.

- 2. The Trusted Sustainability Partner (TSP) program** is designed to help our customers make significant progress toward their climate goals by enabling them to make more sustainable purchasing decisions.

Participants of the TSP program will be identified by a new badge, visible at the supplier level of our global [fishersci.com](https://fishersci.com) and [eu.fishersci.com](https://eu.fishersci.com) websites. The badge will clearly differentiate our supplier partners who are actively working to decarbonize their operations and transparently disclosing their sustainability performance as a first step to drive customer awareness.

### Supplier qualifying requirements (Year 1\*):

- 1. Science-based targets.** Supplier must have publicly committed or approved science-based targets published on [sciencebasedtargets.org](https://sciencebasedtargets.org).
- 2. EcoVadis disclosure.** Supplier must share their valid EcoVadis assessment with Thermo Fisher Scientific and achieve an overall sustainability performance of “Good” (45 points or greater) as defined by [ecovadis.com](https://ecovadis.com).
- 3. Sustainability and social responsibility questionnaire.** Suppliers must provide information to confirm compliance with our Supplier Code of Conduct and help support our supply chain risk assessment. Data is submitted in the Fisher Scientific channel Supplier Exchange portal.

\*Program criteria to be reviewed and updated annually



# Disclose, monitor, and report

Once you have baselined, developed, and deployed your emission-reductions roadmap, it is time to start tracking and communicating your efforts.

Monitoring your emissions reductions and reporting your progress over time are the keys to ensuring the success of your decarbonization strategy. Emphasizing quality reporting also adds value to your business by creating transparency, inspiring accountability, and identifying and mitigating risk which enhances your reputation; and improves data comparability across businesses and sectors [25].

Here are five steps to consider to improve your sustainability reporting [26]:

- Step 1**
  - Conduct a materiality assessment
  - Set a reporting strategy, including ambition and goals
  - Benchmark against your peers
- Step 2**
  - Identify key audiences for the report
  - Assess gaps against standards and frameworks
  - Develop a high-level content outline organized around material issues and strategic priorities
  - Set reporting governance
- Step 3**
  - Collate data
  - Draft and iterate
  - Apply necessary reporting standards and frameworks
  - Garner final approvals
- Step 4**
  - Liaise with internal communications team for report production and content creation
  - Disclose, publish, and communicate internally and externally via company sustainability reports, direct data share to customers, or via disclosure platforms like SBTi or the CDP
- Step 5**
  - Review the process: How did you do?
  - Set a longer-term reporting approach/plan

## Five steps to good sustainability reporting [26]



### Sharing your performance via EcoVadis

Thermo Fisher has partnered with EcoVadis, a leading business sustainability ratings provider, to evaluate our supplier base on their sustainability practices. EcoVadis has been a leader in supply chain sustainability for more than 15 years, assessing more than 100k companies in 160+ countries across more than 200 industries [27].

The EcoVadis assessment requirements at least partially cover 97% of the Thermo Fisher Supplier Code of Conduct, and beyond giving us insight into a supplier's labor, ethics, and sustainable procurement programs, EcoVadis also provides assessments of a company's maturity in managing carbon emissions. They do not, however, perform the necessary calculations. They assess the data that is provided to them.

### Need extra support for your decarbonization efforts?

Check the Resources section for a directory of consultancies that can help in a variety of areas, from developing sustainability and decarbonization strategies to conducting on-site energy assessments and more.

## Where do we go from here?

We have shared the Thermo Fisher environmental sustainability strategy, provided the basics of GHG baselining and reduction, and addressed the importance of tracking and communicating your sustainability plans and progress externally. What do you do next?

Thermo Fisher currently takes a spend-based calculation approach for measuring Scope 3 emissions. Looking forward, we aim to improve our approach by incorporating real emissions data from our suppliers to better reflect your performance and progress over time. Moving up the maturity curve, shown below, will help Thermo Fisher improve our ability to understand our allocated emissions footprint with you.

We are sharing this ambition with you to drive home the fact that we can prepare for the future together as our partnership requirements continue to evolve and mature.



### Supplier decarbonization maturity expectations

		Definition
High maturity	Advanced <i>Preferred</i>	The supplier has set and maintained science-based targets and provides detailed primary emissions data such as product carbon footprints with Thermo Fisher annually.
	Intermediate <i>Our expectations before 2027</i>	The supplier has targets approved by SBTi or Scope 1 & 2 targets aligned with 1.5°C pathway (e.g, Thermo Fisher science-based targets pathway 1 or 2), and reports GHG emissions.
Medium maturity	In progress	The supplier commits to set science-based targets, and reports GHG emissions.
	Partial	The supplier has limited data on policies, actions, and partial reporting on GHG emissions and/or emissions reduction targets that are not science-based.
Low maturity	Insufficient	No information was found or provided on policies, actions, targets, and reporting on GHG reductions, or the supplier has communicated that they will not be pursuing science-based target setting now or in the future.

Next steps

# Looking to the future

## Your next steps:

- 1 Review and share.** Leverage this guide to support your decarbonization efforts. Familiarize yourself with our sustainability commitments and expectations around science-based targets and communicate those expectations throughout your organization.
- 2 Start the work.** Use the tools and the resources we have provided to begin your decarbonization journey. Start baselining, calculate your emissions, and set your science-based targets.
- 3 Amplify.** Share your progress externally. Disclose your progress on your climate change objectives and maintain transparency with your Thermo Fisher procurement, portfolio management, and supplier responsibility partners.

## Your journey support: The Thermo Fisher Supplier Responsibility team

Our Supplier Responsibility team oversees a variety of important initiatives, such as labor and human rights, decarbonization, and design for sustainability.

Our team's mission is to cascade our corporate sustainability objectives through our supply chain in order to meet customer expectations, comply with supply chain due-diligence regulations, minimize risks, and meet our net-zero decarbonization goals.

We encourage you to apply the direction and use the tools we have provided in this guide, and we are also here to help. If you have any questions or need support, please reach out to [supplierresponsibility@thermofisher.com](mailto:supplierresponsibility@thermofisher.com).

We look forward to supporting you throughout your decarbonization journey. It is critical that we work together to build a more sustainable future for our businesses and our planet.



## Consultant directory

If, after reviewing this decarbonization guide, you still need a subject matter expert to help get you started, there are plenty of third-party consultants and companies in the market who can help you tackle the work. You are welcome to investigate this short directory of consultancies based upon your needs.

This directory contains information and content about third parties. Information contained in this directory regarding any third party is for informational purposes only and does not constitute or imply its endorsement, recommendation, or favoring by Thermo Fisher Scientific Inc. (“Thermo Fisher”), or its subsidiaries, directors or employees. It is your responsibility to verify and investigate any third party included in this directory. Thermo Fisher assumes no liability of any kind for the content of any information transmitted to or received by any person or entity in connection with the use of the directory.

Company	Capabilities
<p><b>Affiliated Engineers, Inc.</b></p>  <p><b>Keith Garratt</b> kgarratt@aeieng.com +1 781-929-6764</p>	<p>AEI specializes in decarbonization of buildings and campus environments. Our teams are experienced in studying and implementing solutions such as geo-thermal, ground source heat pumps, air source heat pumps, building exhaust heat recovery and steam to hot water conversions. We specialize in research buildings, clean rooms, cGMP and manufacturing spaces. Services include energy conservation studies and audits, engineering design, construction administration and commissioning. With 20 offices across the U.S. we have experience in all climate zones in the country.</p>
<p><b>Anthesis, LLC</b></p>  <p><b>Casey Merbler</b> casey.merbler@anthesisgroup.com</p>	<p>Anthesis is the sustainability activator. We are the largest group of dedicated sustainability experts in the world: a team of 1000+ people, operating in 40 countries, to serve more than 2,000 clients. We exist to shape a more productive and resilient world by helping organizations transition to new models of sustainable performance. Our team combines broad and deep sustainability expertise with the commercial and operational capabilities it takes to conceive and deliver real change.</p> <p>We offer a wide range of sustainability support, including initial Sustainability Strategy development, in-depth GHG Inventory calculation and validation, Net Zero Roadmap development, SBTi preparation, submission, and support, Clean Energy identification and utilization, Supply Chain Engagement, Responsible Sourcing program development and implementation, and Sustainable Production and Consumption strategies. Anthesis acts as an extension to your team, utilizing our broad-ranging expertise to fill the gaps in your current capabilities and ensure you meet and exceed your sustainability goals.</p>
<p><b>Arup US, Inc.</b></p>  <p><b>Martin Howell</b> Associate Principal Energy &amp; Sustainability martin.howell@arup.com +1 310-578-4469</p>	<p>Arup is a global firm of engineers, planners, and consultants dedicated to sustainable development. With more than 18,000 staff across 95 offices in 35 countries, we help organizations plan for and implement decarbonization and sustainability initiatives, enabling the achievement of true net-zero. Our advice spans economic planning, environmental, energy, and sustainability expertise, business strategy, and regulatory compliance. We are also a full design engineering firm and so able to help implement initiatives.</p> <p>Our teams work with clients to help them:</p> <ul style="list-style-type: none"> <li>• Understand and reduce their impacts by preparing baseline assessments, identifying decarbonization strategies and setting targets.</li> <li>• Advance energy efficient for buildings and processes through benchmarking, identifying and evaluating efficiency interventions, return on investment estimates, and conducting energy audits.</li> <li>• Undertake the planning, assessment and design of renewable energy and energy storage systems.</li> <li>• Support with evaluating green energy procurement options such as power purchase agreements and green tariffs</li> </ul>

## Consultant directory

Company	Capabilities
<b>BR+A Consulting Engineers</b>	



BR+A is a global engineering firm that embraces challenging projects for organizations whose work makes a difference in people's lives and the world. We have offices in many cities throughout the U.S. and provide engineering consulting services nationally and globally. We provide carbon neutral planning and engineering services for our clients for buildings, campuses and entire real estate portfolios.

Our services include mechanical, electrical, plumbing, fire protection, technology systems, lighting, commissioning and energy services. We have provided carbon neutral master planning, energy auditing, electrification, and financial incentive consulting for tens of millions of square feet of life science, manufacturing, healthcare and higher education institutions. We focus on decarbonizing challenging technical buildings with high energy demands.

jknowles@brplusa.com

+1 617-460-4694

### ENGIE Impact



ENGIE Impact partners with companies to accelerate decarbonization efforts worldwide. ENGIE Impact's comprehensive engagement model goes beyond strategy to include data excellence and digital tools, project delivery expertise, and financing support (across Scopes 1, 2 & 3). An authentic long-term partner, ENGIE Impact establishes credible paths to hit difficult carbon reduction metrics while sharing commitments and accountability across portfolios. With 20 offices worldwide and headquarters in New York City, ENGIE Impact today has a portfolio of over 1,500 clients, including 25% of the Fortune 500 Companies. ENGIE Impact is part of the ENGIE Group, a global leader in the transition toward a carbon-neutral economy through reduced energy consumption and more environmentally friendly solutions.

#### John Lawton

Sales Director

john.lawton@engie.com

+1 617-990-4468

Company	Capabilities
<b>Ernst &amp; Young LLP</b>	



**Building a better working world**

EY's Climate Change and Sustainability Services practice supports companies at all stages of their decarbonization journey. With 3,000+ dedicated ESG professionals across the globe, EY was rated the #1 climate change consulting firm in 2023 by Verdantix. EY's sustainability practice is augmented by professionals in tax, assurance, finance, and technology to support clients through all aspects of designing and implementing decarbonization strategies.

EY specializes in deep familiarity of current and emerging climate-related regulatory reporting frameworks and requirements, including TCFD, CSRD, ISSB, and the SEC proposed rule. EY was a leading advisor in the development of TCFD and served as an advisor on the Task Force and works with target-setting frameworks including the SBTi to support the latest thinking in science-based target setting. EY supports clients to:

- Calculate greenhouse gas (GHG) emissions across scope 1, 2, and 3
- Set emissions reduction targets, including science-based and net-zero targets
- Assess emissions reduction options and cost implications using marginal abatement cost curves (MACC)
- Develop and socialize company-wide, region- or business-unit/site specific decarbonization roadmaps, including CapEx and OpEx implications to meet decarbonization goals
- Disclose publicly on their decarbonization journey to fulfill stakeholder expectations and regulatory requirements

#### Tripp Borstel

Partner | Principal, Climate Change and Sustainability Services

tripp.borstel@ey.com

+1 510-882-3301

#### Lucy Godshall

Principal | Americas Director, Sustainability & Decarbonization Services

lucy.godshall1@ey.com

+1 802-772-5913

### EBI Consulting



EBI is a nationwide, full-service sustainability/ESG, engineering, and environmental consulting firm with over 30 years of proven experience. EBI technical experts deliver and implement all-encompassing corporate programs and strategies for clients across all industry sectors.

#### Joe DiTizio

Associate Director, ESG Client Services

jditzio@ebiconsulting.com

Office: +1 781-273-2500

Mobile: +1 516-884-4788

## Consultant directory

Company	Capabilities
<b>Improv Engineers</b>	
	<p>Improv Engineering is a unique and effective sustainability partner offering flexible, low-risk help advancing your sustainability program. We stand out by focusing on your unique situation before recommending solutions. With a proven track record and recommendations from industry leaders, we provide an easy, three-step process:</p> <ol style="list-style-type: none"> <li>1. Start by scheduling a free 30-minute call with our experts to define your specific problem.</li> <li>2. Engage Improv to solve the defined problem.</li> <li>3. Continue with a monthly engagement to gain traction toward your energy and sustainability goals (low risk, cancel any time).</li> </ol> <p>We show up and find ways to be helpful. Some recent roadblocks we've solved for include:"</p> <ul style="list-style-type: none"> <li>• stalled improvement projects</li> <li>• lack of post-audit traction</li> <li>• backlog of vendor recommendations requiring evaluation</li> <li>• lack of formal business processes</li> <li>• need for capital project prioritization</li> </ul> <p>With over 40 years of global energy management experience, we bring practical knowledge from over 700 factories, primarily in the Americas and Europe. Together, we focus on traction toward achieving your sustainability and energy goals.</p>
<p>engineer@improvengineer.com +1 440-821-8936</p>	

Company	Capabilities
<b>KPMG, LLP</b>	
	<p>KPMG is a global network of firms offering audit, tax and advisory services with over 200,000 professionals out of over 650 offices in 147 countries. We have dedicated professionals that specialize in decarbonization, climate and ESG, including a Global Decarbonization Hub to advise clients across their decarbonization journey. KPMG believes that decarbonization is a strategic opportunity to reduce risk and drive value creation for your business. KPMG advises on topics including:</p> <ul style="list-style-type: none"> <li>• Measurement, assurance and reporting environmental data (GHG emissions, water, waste)</li> <li>• Decarbonization strategy and target setting</li> <li>• Implementing projects to reduce emissions</li> <li>• Renewable energy sourcing</li> <li>• ESG reporting</li> <li>• Green financing</li> <li>• Carbon markets</li> <li>• ESG tax strategy</li> <li>• Sustainable supply chain</li> </ul> <p>KPMG promotes values that are aligned with your objectives and is advancing its own decarbonization journey, including a Science Based Target and 2030 Net Zero target.</p>
<p><b>Maura Hodge</b> Partner, ESG Audit Leader mhodge@kpmg.com +1 617-988-5959</p> <p><b>David Ross</b> Managing Director, ESG &amp; Climate Advisory dtross@kpmg.com +1 602-799-3232</p>	
<b>ÖKOTEC Energiemanagement GmbH</b>	
	<p>For over 20 years, ÖKOTEC stands for intelligent solutions to reduce energy consumption and CO2 emissions for industry and commerce. Acting as an international consulting and software company with 65 employees, we have implemented more than 2,000 projects at over 850 locations. We carry out on-site consultations in Europe with our team. Outside Europe, we work together with our main shareholder Veolia, depending on the task and capacity.</p> <p>ÖKOTEC supports you with analyses, methods and solutions, depending on your objectives and requirements, with our interdisciplinary team of experts. Our consulting services are for example:</p> <ul style="list-style-type: none"> <li>• Development of greenhouse gas balances (CCF, PCF).</li> <li>• Consulting for climate strategy and climate targets.</li> <li>• Identification, development and evaluation of measures for efficient energy use and CO2-neutral energy supply.</li> </ul> <p>Based on our software solution EnEffCo®, we offer an innovative platform for the digitalization of your CO2 and climate protection management. In addition to mapping the carbon footprint, you can monitor relevant systems and processes, identify potential savings and check the progress of your climate targets.</p>
<p>energie@oekotec.de +49 (30) 536397 – 0</p>	

## Consultant directory

Company	Capabilities
<b>Precis Engineering + Architecture</b>	



Precis offers comprehensive architecture and engineering services for performance-critical projects within the pharmaceutical and biotechnology industries. Employing more than 140 professionals, we serve the greater U.S. area. Our services include Architecture, as well as Mechanical, Electrical, Plumbing, Fire Protection, Process, and Automation Engineering. We have specific expertise in identifying, executing, and managing decarbonization and energy efficiency programs in large pharmaceutical manufacturing and other regulated industries that require critical environments. Our work has prevented thousands of tons of CO2 emissions each year through the integrated approach we take towards driving energy efficiency and sustainability into our architecture and engineering service offerings. We are committed to remaining at the forefront of sustainable design and delivering cutting-edge solutions to accommodate the needs of our clients.

**Keith Shannon, PE** – Project Manager  
 kshannon@precisengineering.com  
 +1 15-540-9800, Ext. 1251

<b>Ramboll Americas Engineering Solutions</b>	
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Bright ideas.  
Sustainable change.

Ramboll is a global architecture, engineering, and consultancy company, delivering expertise and sustainable solutions to clients and partners. Founded in Denmark in 1945, Ramboll today operates across 35 countries. We combine deep local insight and experience with a global knowledge base to create sustainable societies where people and nature flourish. We work across our clients' value chains, leveraging our expertise, innovation and creativity to navigate the transition to a low-carbon future. By bringing together our technical expertise, domain knowledge, and digital capabilities, we support our clients in driving improvement and developing new business models that are inherently sustainable. More than 18,000 experts are at the heart of Ramboll's operations, helping drive sustainable impact. We deliver standalone and multidisciplinary solutions across Buildings, Transport, Energy, Environment & Health, Water, Management Consulting and Architecture & Landscape.

**Alan Kao**  
 Principal | Global Director, ESG  
 Services  
 Boston, MA  
 akao@ramboll.com

**Amy Malick**  
 Principal | Americas Director,  
 Sustainability & Decarbonization  
 Services  
 San Francisco, CA  
 amalick@ramboll.com

Company	Capabilities
<b>Sustainability Roundtable, Inc</b>	



Sustainability Roundtable Inc (SR Inc) membership-based advisory and support services empower management teams to set ambitious goals, drive tangible progress, and report results. With our expertise spanning governance, strategy, and reporting, we offer tailored guidance, from GHG footprinting to industry-aligned target setting and comprehensive decarbonization roadmaps. We also assist in crafting stakeholder engagement plans that align with your company's purpose. As a testament to our commitment, SR Inc's Member-Client engagements have propelled the Net Zero Consortium for Buyers (NZCB) to become a leading platform and buyer community for renewable energy strategy and procurement assistance, including the facilitation of aggregated Virtual Power Purchase Agreements. SR Inc has assisted executives at more than 80 multi-year companies such as: Akamai Technologies, American Express, Autodesk, Biogen, Bloomberg, Cisco, Intuit, Kyndryl, Lenovo, McKesson, MilliporeSigma, Thermo Fisher Scientific, and Wayfair.

info@sustainround.com  
 +1 857-488-0019

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# Supplemental tools



At Thermo Fisher, we continually evaluate how we design, source, make, use and ship our products, as well as how we return, recycle or dispose of them at end of life. We seek out ways to improve the health and environmental impacts across the product life cycle, including sourcing better materials, implementing alternative ways to make and ship our products, and developing strong partnerships with suppliers and customers to help advance our shared sustainability goals.

## Thermo Fisher Scientific

- [Our commitment to combating climate change](#)
- [Corporate Social Responsibility Report](#)
- [Greener by Design](#)
- [Net Zero Design Guide](#)
- [Supplier Code of Conduct](#)

## Calculating your footprint: Guidance and tools

- EPA
  - [GHG Calculator and References](#)
  - [GHG Inventory Toolkit](#)
- GHG Protocol
  - [Scope 3 Calculation Guidance](#)
  - [Corporate Accounting and Reporting Standard](#)
  - [Calculation Tools FAQ](#)
- Science-Based Targets Initiative
  - [SBTi resources](#)

## Emissions factor databases

- [EPA Center for Corporate Climate Leadership GHG Emission Factors Hub](#)
- [UK Greenhouse Gas Reporting: Conversion Factors](#)

## Developing targets

- [Set a target with SBTi](#)

## Energy

- [Climate Group RE100](#)
- [RE-Source Platform](#)
- [WBCSD Guidelines for an Integrated Strategy](#)

## Regulatory readiness newsletters

- [Business for Social Responsibility \(BSR\)](#)
- [Corporate Eco Forum \(CEF\) Weekly Briefing](#)
- [Ropes & Gray](#)
- [SustainAbility Institute by ERM](#)

## Groups and consortiums

- [Small – Medium Enterprise Climate Hub](#)
- [Sustainable Procurement Pledge \(SPP\)](#)
- [World Business Council for Sustainable Development \(WBCSD\)](#)

## EcoVadis

- [EcoVadis platform](#)
- [Process overview](#)
- [EcoVadis support](#)
- [Fee assessment](#)

Please note that there is a fee associated with your assessment if you do not have one already. We will use these results to assess your CSR, but your company can also share your results with other audiences as needed.

■ To learn more, visit [thermofisher.com/greenerbydesign](https://thermofisher.com/greenerbydesign)

# Glossary

**Carbon Disclosure Project (CDP):** A not-for-profit charity that runs the global disclosure system for investors, companies, cities, states, and regions to manage their environmental impacts.

[\(source\)](#)

**Carbon footprint:** A measure of the amount of carbon dioxide and other carbon compounds emitted due to the consumption of fossil fuels by a particular person, group, company, etc. Note that many will use 'carbon' in this phrase as shorthand to include not only carbon, but all greenhouse gases. [\(source\)](#)

**Carbon neutrality:** Although often used interchangeably with 'net-zero', the two are not the same. In general, when companies claim carbon neutrality, they are counterbalancing carbon dioxide (CO<sub>2</sub>) emissions with carbon offsets without necessarily having reduced emissions by an amount consistent with reaching net-zero at the global or sector level. This may conceal the need for deeper emissions reductions that are in line with what the science requires for the world to keep global warming to 1.5°C. Carbon neutrality claims also do not necessarily cover non-CO<sub>2</sub> greenhouse gases. [\(source\)](#)

**Circular economy:** A system where materials never become waste and nature is regenerated. In a circular economy, products and materials are kept in circulation through processes like maintenance, reuse, refurbishment, remanufacture, recycling, and composting. The circular economy tackles climate change and other global challenges, like biodiversity loss, waste, and pollution, by decoupling economic activity from the consumption of finite resources. [\(source\)](#)

**Corporate Sustainability Reporting Directive (CSRD):**

Ensures that investors and other stakeholders have access to the information they need to assess the impact of companies on people and the environment and for investors to assess financial risks and opportunities arising from climate change and other sustainability issues. [\(source\)](#)

**Decarbonization:** The process of reducing or eliminating greenhouse gas emissions, particularly related to the burning of fossil fuels associated with energy, industry, and transport.

[\(source\)](#)

**Double materiality:** Business reporting on financially material topics that influence enterprise value as well as topics material to the economy, environment, and people. [\(source\)](#)

**Energy Attribute Certificates (EACs):** Commonly referred to as renewable energy certificates (RECs), a market-based instrument that represent the property rights to the environmental, social, and other non-power attributes of renewable electricity generation. [\(source\)](#)

**Environmental, Social, and Governance (ESG):** The pillars of the ESG framework that represent the main areas that companies are expected to report. The goal of ESG is to capture all the non-financial risks and opportunities inherent to a company's day-to-day activities. [\(source\)](#)

**Greenhouse gas baselining:** An essential benchmark for measuring the success of emissions reduction activity. An emissions baseline is the reference point against which a business or country's greenhouse gas (GHG) emissions will be measured going forward. Baseline emissions are calculated by looking at a 'baseline emissions period', usually the past 1-5 years of an organization's activity. [\(source\)](#)

**Greenhouse Gas (GHG) Protocol:** Provides standards, guidance, tools, and training for business and government to measure and manage climate-warming emissions. [\(source\)](#)

**Greenhouse gases (GHGs):** Gases which absorb and re-emit infrared radiation, thereby trapping it in Earth's atmosphere. Includes carbon dioxide (CO<sub>2</sub>), water vapor, methane (CH<sub>4</sub>), nitrous oxide (N<sub>2</sub>O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), sulfur hexafluoride (SF<sub>6</sub>), and nitrogen trifluoride (NF<sub>3</sub>). [\(source\)](#)

**Guarantee of Origin (GO):** A tradable commodity that represents a claim to the environmental benefits associated with renewable power generation. [\(source\)](#)

**Intergovernmental Panel on Climate Change (IPCC):** The United Nations body for assessing the science related to climate change. The IPCC provides regular assessments of the science basis of climate change, its impacts and future risks, and options for adaptation and mitigation. [\(source\)](#)

**International Financial Reporting Standards (IFRS)**

**Foundation:** A not-for-profit, public interest organization established to develop high-quality, understandable, enforceable, and globally accepted accounting and sustainability disclosure standards. The standards are developed by two standard-setting boards, the International Accounting Standards Board (IASB) and International Sustainability Standards Board (ISSB). [\(source\)](#)

**Near-term science-based targets:** Outline what companies will do now, and over the next 5-10 years, to reduce emissions in line with what the latest climate science deems necessary to limit warming to 1.5°C above pre-industrial levels. [\(source\)](#)

**Net-zero:** Setting corporate net-zero targets aligned with meeting societal climate goals means achieving a scale of value chain emissions reductions consistent with the depth of abatement at the point of reaching global net-zero in 1.5°C pathways (e.g., no less than 90% by 2050) and neutralizing the impact of any residual emissions by permanently removing an equivalent volume of CO<sub>2</sub>. [\(source\)](#)

**Paris Agreement:** A legally binding international treaty on climate change adopted at the United Nations Climate Change Conference (COP21) in Paris, France in 2015. Its overarching goal is to limit global warming to well below 2°C, preferably 1.5°C, from pre-industrial levels. [\(source\)](#)

**Power Purchase Agreements (PPA):** An arrangement in which a third-party developer installs, owns, and operates an energy system on a customer's property. The customer then purchases the system's electric output for a predetermined period. A PPA allows the customer to receive stable and often low-cost electricity with no upfront cost, while also enabling the owner of the system to take advantage of tax credits and receive income from the sale of electricity. [\(source\)](#) Where available, this is Thermo Fisher's preferred approach to installing on-site renewable projects.

- **Physical PPA:** In physical PPAs, the buyer receives physical energy directly from renewable energy developers. This is generally done through two mechanisms: on-site vs. off-site. In on-site PPAs, renewable energy is produced at the site through equipment (e.g., rooftop solar, micro-wind turbine) installed, managed, and funded by developer. Whereas in off-site PPAs, buyer has a direct-line connection to an off-site generator owned by the developer.
- **Virtual PPA (VPPA):** Within a VPPA contract, the corporate buyer does not own and is not responsible for the physical electrons generated by the energy project. The buyer continues to receive physical power from its utility or retail provider, allowing the buyer to utilize a VPPA in a different location than where it uses electricity. VPPAs are easily scalable and enables buyers to satisfy a large portion of their sustainability goals with a relatively small number of deals. [\(source\)](#) VPPAs are becoming an increasing popular method by corporations to cause new renewables to be added to the grid while acquiring the associated renewable energy certificates in a cost-effective manner.

**Science-based targets:** Targets that are in line with what the latest climate science says is necessary to meet the goals of the Paris Agreement to limit global warming to 1.5°C above preindustrial levels. [\(source\)](#)

# Glossary

**Science Based Targets Initiative (SBTi):** A non-governmental organization that defines and promotes emissions reductions and net-zero targets in line with climate science. [\(source\)](#)

**Scope 1:** Greenhouse gas emissions from company-owned or controlled resources. [\(source\)](#) The two primary sources of Scope 1 emissions are combustion of fossil fuels at facilities and in company vehicles (e.g., natural gas, diesel) and leakage of refrigerants from cooling equipment such as a chiller or freezer.

**Scope 2:** Greenhouse gas emissions resulting from the electricity, steam, and hot water purchased to power facilities and vehicles (e.g., a power company burns fossil fuels to generate the electricity a company purchases). [\(source\)](#)

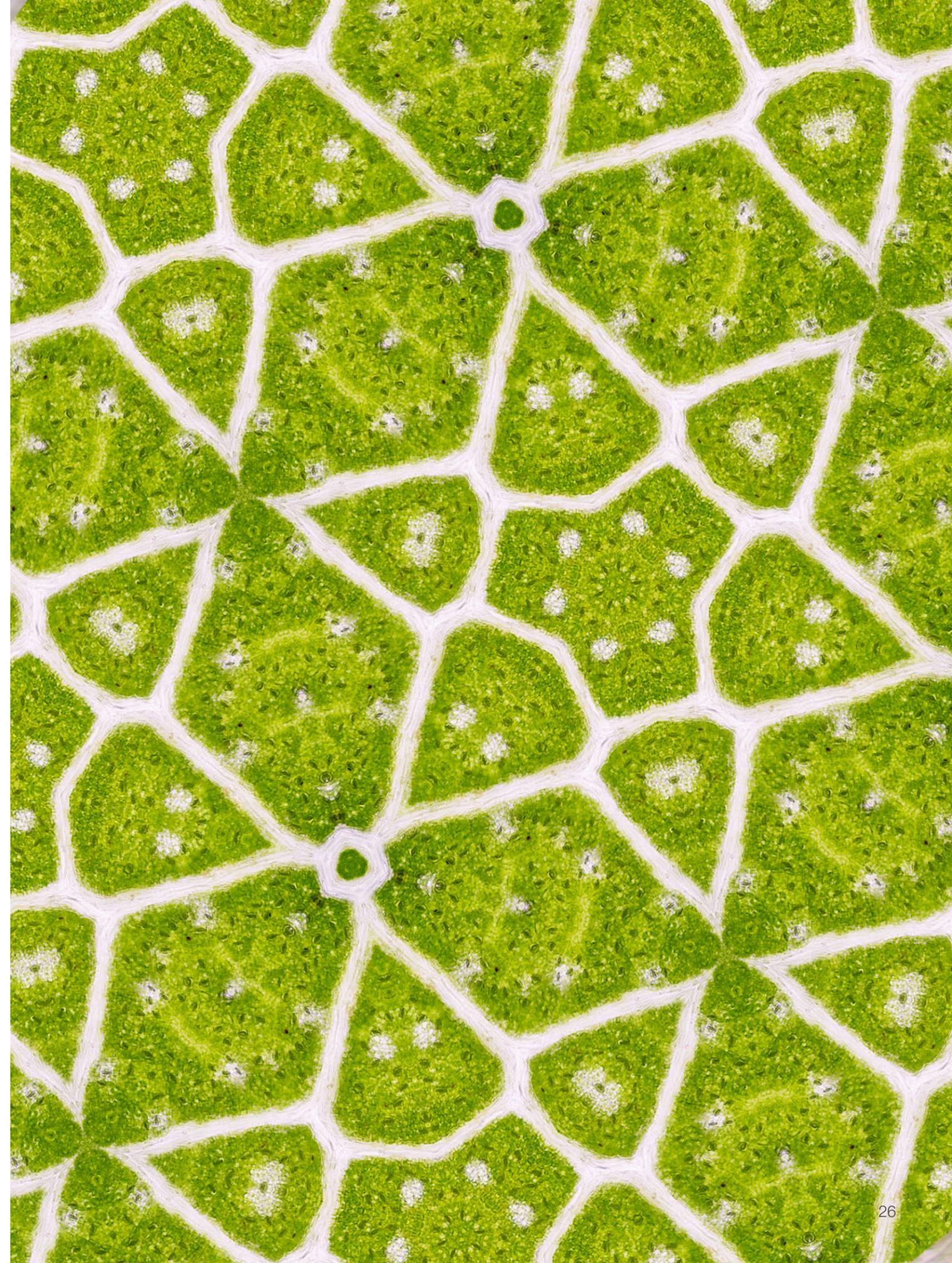
**Scope 3:** Greenhouse gas emissions resulting from all other activities we do not control but have influence over. [\(source\)](#) Examples include goods and services purchased, transport of materials to facilities or products to customers, electricity consumed by customers when using our products, business travel, etc.

**Task Force on Climate-Related Financial Disclosures (TCFD):** Helps companies provide better information to support informed capital allocation. Disclosure recommendations are structured around four thematic areas that represent core elements of how companies operate: governance, strategy, risk management, and metrics and targets. [\(source\)](#)

**U.S. Environmental Protection Agency (EPA):** Protects human health and the environment. [\(source\)](#)

**U.S. Securities and Exchange Commission (SEC) climate disclosure:** A proposed rule that would require companies to include certain climate-related disclosures in their registration statements and periodic reports. Such information would include climate-related risks that are reasonably likely to have a material impact on their businesses, results of operations, or financial conditions as well as certain climate-related financial statement metrics in a note to their audited financial statements. [\(source\)](#)

**Value chain:** The [full range of activities](#) a company engages to design, produce, market, deliver and support its product or service. [\(source\)](#)



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or email us at [supplierresponsibility@thermofisher.com](mailto:supplierresponsibility@thermofisher.com)