ENGIE Impact

CORPORATE DECARBONIZATION GUIDEBOOK

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EXECUTIVE SUMMARY

Before one carbon offset dollar is spent, before one supply chain is greened, and before one inefficient lightbulb is replaced, **organizations need a clear purpose and unified approach for their decarbonization journey.** And while there are plenty of challenges to establishing that purpose and strategy — and then building stakeholder consensus around the best path forward — an understanding of the basics should not be one of them.

Too often, those tasked with leading and developing decarbonization efforts have the passion for addressing climate change but lack the tools for how to best educate themselves, enlist their peers, and convince their corporate leadership.

This guidebook tackles those basics. While there will be differences among sectors and regions, we hope to bring together the most common, most consistent, and most relevant aspects of corporate decarbonization so sustainability officers everywhere — whether in formal title or in personal passion — can make sustainability happen for their organization today.

CLIMATE SCIENCE: UNDERSTANDING THE BASICS

Carbon emissions and greenhouse gases are critical concepts in the field of climate science. Carbon emissions are the result of human activities such as the burning of fossil fuels, deforestation, and other industrial processes. These emissions release large amounts of carbon dioxide into the atmosphere, which is a primary greenhouse gas. Greenhouse gases, such as carbon dioxide, methane, and nitrous oxide, trap heat in the Earth's atmosphere, causing the planet's temperature to rise. This is known as the greenhouse effect.

The Earth's temperature is a delicate balance between the energy received from the sun and the energy reflected back into space. Greenhouse gases prevent some of this energy from escaping, causing the planet's temperature to rise. This rise in temperature is known as global warming and is one of the biggest environmental challenges facing the world today.

CLIMATE SCENARIO MODELING: PREDICTING THE FUTURE

Climate scientists use a combination of observational data and computer models to predict how much the planet will warm in the future. These models use current and past temperature and emissions data to project future temperature changes and the resulting impacts on the planet. The results of these models are critical for decision-makers, as they provide a picture of what the world could look like in the future if emissions continue to rise.

The implications of increased temperatures are widespread and include flooding, drought, sea level rise, and other environmental and social impacts. These impacts can have significant economic and human costs, affecting food security, infrastructure, and the livelihoods of millions of people.

One important threshold in the climate debate is the 1.5°C limit. This limit represents the maximum average temperature rise that scientists believe the planet can tolerate without facing catastrophic consequences. If the planet's temperature rises above this limit, the impacts of climate change will become increasingly severe, making it essential for the world to take swift and effective action to reduce emissions.

1.1° C

Increase in global surface temperature since 1900

21-24cm

Rise in global sea level since 1980

CLIMATE ACTION TERMINOLOGY: UNDERSTANDING THE TERMS

To effectively address the climate crisis, it is important to understand the terms used in the climate action debate. One such set of terms is **Scope 1, Scope 2, and Scope 3 emissions.**

Scope 1 emissions are direct emissions from sources owned or controlled by an organization, such as a power plant or manufacturing facility

Scope 2 emissions are indirect emissions resulting from the generation of purchased electricity

Scope 3 are emissions associated with upstream and downstream supply chain activities that fall outside of the organization's direct control

Another important set of terms is related to the goals and expectations of climate action

Emissions-Reduction
Short-to medium-term goal to eliminate scope 1 and 2 emissions

Carbon Neutral
Short-to medium-term goal that relies primarily on offsetting most emissions while making efforts to reduce actual emissions

Climate Positive (carbon positive, carbon negative, net negative) Removing more emissions from the atmosphere than is emitted, and/or having a "positive" impact on the environment

Carbon offsetting
Reducing emissions of greenhouse gases by purchasing credits through emissions reduction

Net Zero
Long-term goal to eliminate all possible emissions including across the value chain along a 1.5 ° C trajectory, then balancing the remaining emissions using carbon offsets

Science-Aligned Targets
Short-to medium-term goal to eliminate most emissions along a 1.5 ° C trajectory

Greenhous Gas
Emissions (emissions such as carbon dioxide (CO2) and methane (CH4) that trap heat in the atmosphere)

Decarbonization
Refers specifically to the reduction of greenhouse gas emissions and the transition to a low-carbon economy

ESTABLISHING THE WHY

There are plenty of moral arguments to make for taking bold climate action. ENGIE Impact's research even shows that between 40% and 50% of large companies include those types of reasons as top drivers of their organization's decarbonization strategy and goals — safeguarding the future of the planet, limiting environmental damage, and meeting expectations for good corporate behavior.

But corporate sustainability efforts are also driven by long-term cost savings, enhancing brand profiles, regulatory compliance, and shareholder demands. Decarbonization efforts and decisions are driven, at least in part, by the bottom line.

> **More than 90% of corporate sustainability decision-makers believe having a leading sustainability strategy, and subsequent execution, will bring their company a competitive advantage over their industry peers.**

The Why of a corporate decarbonization program is going to be multi-faceted, complex, and tailored to each organization. What all successful corporate decarbonization programs have in common is that they drive corporate action through an articulated common vision and strong commitments from leadership.

It's not enough to just do good now. Organizations need to look ahead to the good they can do in the future. That may require companies to revisit how they approach short-term financial implications and instead embrace longer-term investments — allowing them to prosper in the future, not just survive.

To-do: Establish the Why

Consider what factors would be most impactful in driving your organization's decarbonization strategy:

- **Achieve long-term cost savings**
- **Limit environmental damage**
- **Attract and retain talent**
- **Meet expectations for good corporate behavior**
- **Enhance our brand profile**
- **Respond to customer demands**
- **Ensure regulatory compliance**
- **Respond to employee demands**
- **Increase efficiency of our operations**
- **Respond to shareholder demands**
- **Keep pace with, or leapfrog, competitors**
- **Safeguard the future of civilizations**

Understand both the long-term and short-term impact each of these factors would have on your organization. Consider financial implications, as well as customer, employee, and shareholder implications.

Validate which factors best align with the existing core strategy of your business to facilitate alignment and approvals. For any factors that don't, explore whether adjustments should be made to the factor or to the core business strategy.

GOVERNANCE AND ALIGNMENT

Establishing governance around a corporate decarbonization strategy may follow how other corporate programs are developed and implemented. Specific governance models will vary among organizations, but generally there should be:

- A steering committee that includes multiple executive members
- Ongoing support and involvement from the entire c-suite and board
- A cross-team collaborative body that includes representatives for each department
- Local teams — potentially by department or site-specific — for each office or facility

Gaining alignment should also follow established strategic best practices. Up-front discussions will need to define roles and responsibilities among stakeholders. Proposals should be driven by a strong business-case for the overall decarbonization strategy — as well as for individual projects — with a balanced focus on financial implications. Presentations should utilize good corporate storytelling and data-driven insights.

Some organizations like the Task Force on Climate-Related Financial Disclosures (TCFD), the International Financial Reporting Standards (IFRS) and the International Sustainability Standards Board (ISSB) include existing recommended frameworks in place which may help develop the proper governance for each organization.

Education

Just as you might use existing corporate infrastructure as the foundation for developing sustainability governance and accountability, any educational frameworks currently in place may be adequate for initial and ongoing instruction across the organization.

Employee education is two-fold: one, the basics around climate science, modeling and terminology; and two, the details of the organization's decarbonization vision and employee-specific action items. There are existing resources — like the Clean Energy Buyers Association (CEBA) and Project Drawdown — which can provide basics around climate education.

To-do: Governance, Alignment, and Education Planning

Gain alignment from the executive board and c-suite on the Why that is driving the corporate decarbonization strategy.

Establish roles and responsibilities for a decarbonization steering committee and its individual members, as well as for a cross-functional collaborative body.

Develop an all-employee climate basics curriculum, as well as education specific to individual roles and responsibilities.

CURRENT STATE ASSESSMENT

Using data, analytics and technical expertise will help everyone gain a holistic understanding of an organization's current state. An initial current-state assessment would utilize materiality assessments, organizational capability assessments, stakeholder interviews, and more to:

- Identify data management system(s)
- Review of company and site-level data
- Perform peer and industry benchmarking
- Establish baselines

With initial assessments in hand, you can develop science-aligned targets in hand, it's important to perform a reconciliation exercise against existing corporate goals. Where existing organizational efforts present a clear coupling with emissions targets, creating complementary benchmarks and KPIs will work to strengthen those established efforts.

Where there may be a conflict between emissions targets and established strategic business objectives, adjustments will need to be made — preferably prioritizing the established, science-based decarbonization goals.

To-do: Initial Assessments

Perform initial inventories to assess which sites you'll be able to implement changes for, and the current state of Scope 1, Scope 2 and Scope 3 emissions.

Analyze your organization's current capabilities, overall strengths and areas for investment.

Research industry trends and standards, as well as publicly available data, to establish peer benchmarking.

Evaluate the flexibility, resilience, or performance of an organization.

Assess findings to inform targets, then align emissions goals with corporate strategy.

SETTING EMISSION TARGETS AND CORPORATE GOALS

Like any corporate objective, decarbonization efforts will have a greater impact if they include specific, measurable, science-aligned targets. It's not enough to just want to reduce emissions, it needs to be clear what reporting standards will be used, what metrics will be used to quantify progress, and what the ultimate objective is.

Science-aligned emissions reduction targets will provide companies with a clearly defined pathway to future-proof growth by specifying how much and how quickly they need to reduce their greenhouse gas emissions. A climate transition plan should contain time-bound, verified science-aligned targets which are in line with the latest climate science. There are multiple, established organizations with existing frameworks to work within.

For example:

- Science Based Targets Initiative (SBTi) has established a Net Zero Standard and "provides the guidance and tools companies need to set science-based Net Zero targets."
- RE100 — a global corporate renewable energy initiative — has published rules and criteria to follow in order to adhere to their framework.

Developing your organization's science-aligned targets will include both near-term and long-term objectives, each with established boundaries, timeframes and methods. It should also include an annual Scope 1, Scope 2 and Scope 3 emissions inventory that is complete, accurate, transparent, consistent, relevant, and verified by a third-party.

2,500+

Companies which have adopted SBTi science-based targets

400+

Companies part of RE100

To-do: Science-Aligned Targets

Establish which combination of science-aligned emission targets frameworks best fit with your organization.

Follow SBTi's Set a Target (or similar) process to commit, develop, submit, communicate and disclose established targets

STRATEGY AND ROADMAP DEVELOPMENT

While there is urgency to decarbonization, not everything needs to happen all at once. Organizations need a phased plan that outlines actionable steps, sometimes one step at a time, even if that first step is discussions around aligning decarbonization efforts with the strategy of your core business.

It will be important to prioritize the different actions your organization will want to take, which can be done in parallel and which to start with. For instance, it may be best to find opportunities that more directly align with existing corporate strategies and goals — making any projects feel like less of a cultural or operational shift from the current state.

Once the initial assessments, robust data, science-aligned targets and governance are in place, an organization is prepared to begin developing their strategic decarbonization roadmap. The roadmap would cover how to integrate the right technologies, unlock financing, and break down organizational silos in order to successfully deliver outcomes on time and on budget.

The roadmap will serve as the manual for the implementation work moving forward — a holistic action plan that lays out a clear vision of the pathways and milestones needed to achieve decarbonization targets. The roadmap is informed by the vision and strategy and is specific to an organization's unique requirements.

Its development requires an analysis of the gaps between current and future state of carbon emissions, data-rich scenarios with relevant business cases, a consideration of the complex cost structures, policy dimensions and community implications of proposed solutions, and a clear assessment of the financial appetite of the business.

This process will involve significant time and resources — from a wide range of stakeholders — but will be crucial for the overall success of the

To-do: Decarbonization Roadmap Development

Document the objectives, resources and timing of the planned decarbonization initiatives. Identify how and when the right enablers — e.g., innovative finance models, data management — will be activated.

Collaborate with value chain partners to co-develop Scope 3 solutions.

Define the blueprint for your transformed organization and build a plan to achieve the goal.

IMPLEMENTATION

Throughout the advisory, strategic, and roadmapping process, one of the gaps that will likely be identified is where an organization — especially smaller organizations — may lack the employee resources or expertise necessary to execute on the roadmap. Today's decarbonization leaders are often the larger companies which had sufficient financial resources, but most companies starting now may find themselves more resource constrained.

Some of those gaps can be addressed with proper prioritization. Organizations don't have to do it all at once. Other gaps may become more evident once the work transitions into the implementation phase, meaning an implementation partnership may be the best path forward. Regardless, the foundational principles will be the same:

- Creating accountability through clear workstreams, agreed-upon KPIs, and regular, visible progress reporting.
- Aligning resources — human resources and financial capital — to plans.

While each organization will have a customized approach to which decarbonization levers they will use, the most common levers include:

For Scope 1 and Scope 2

- Energy Efficiency / Operational Improvement: Implementing projects that result in using less energy to provide the same product/service
- Renewable Energy Sourcing: Purchasing electric from renewable sources like solar or wind
- Fuel Switching: Switching natural gas to electric or renewable sources
- Offsets: Purchasing the removal of GHG emissions to account for hard to abate emissions

For Scope 3

- Relationship-building/SBT Alignment across Value Chain: Encourage value chain partners to reduce emissions and set SBTs

Organizations considering themselves as moderately, considerably or extremely successful in executing their corporate decarbonization program:

2020	2021	2022
65%	77%	80%

REPORTING AND COMMUNICATION

As implementation efforts begin, so do reporting and communication efforts. There is a combination of **data collection, management, reporting and communication** each organization should plan for as part of their decarbonization program.

Data

New decarbonization efforts bring new data. The potentially varied sources of those data need to be identified, validated, standardized and consolidated. This is especially true when dealing with multiple sites across multiple regions — each of which may have been gathering and reporting data in slightly different ways.

Required Reporting

There will be some carbon reporting required by law and government regulations. What that reporting includes and the cadence of it will vary by region and industry, and it will be important to establish early on what those requirements are.

External and Internal Communication

There should also be an intentional approach to how and when an organization shares its progress internally to the executive board and other employees, as well as externally through marketing and public relations efforts. It's important to celebrate milestones and create cultural touchstones.

Voluntary Reporting

There is an opportunity — often with positive results — to report more information, and more often, than legally required. Additional transparency and frequency around decarbonization progress can be a boon to relationships with employees, shareholders, customers and the general public. There are also non-profits and other organizations who accept and consolidate voluntary disclosures in order to provide most complete climate action reports, including:

- Climate Disclosure Project (CDP) is a non-profit disclosure system to help organizations manage their environmental impacts. Reporting through CDP can allow proactiveness of regulatory and policy changes, mitigate growing risk, and identify opportunities to take further action.
- United Nations Sustainable Development Goals (UN SDGs), a globally-recognized framework, is comprehensive and provides high level guidance to assess organizational impact. It includes a blueprint for assessing business contribution to addressing 17 global challenges (e.g., gender equality, responsible consumption & production).

CONCLUSION

Organizations looking to take action on climate change and pursue corporate decarbonization efforts will be most successful if they start with a comprehensive overview of the basics of corporate decarbonization. **With the basics established, organizations can implement the appropriate governance and alignment structure, develop a clear purpose and strategy, and build stakeholder consensus around the best path forward.**

It is more important than ever for organizations to act on climate change. Sustainability officers, executives, and anyone looking to lead on climate change within their organization can move forward with a clear and concise understanding of corporate decarbonization — and begin empowering others at their organizations to make sustainability happen today.

Contact Us To Get Started On Your Sustainability Journey

engieimpact.com