American Society of
Landscape Architects

ASLA
Fund

Towards Zero Emission Business Operations

A Landscape Architect's Guide to Reducing the Climate Impacts of Offices

About ASLA

Founded in 1899, the American Society of Landscape Architects (ASLA) is the professional association for landscape architects in the United States, representing more than 15,000 members. The Society's mission is to advance landscape architecture through advocacy, communication, education, and fellowship.

Cover Image:
Irvine Nature Center Stream & Wetland Restoration. Biohabitats (Image credit: © William Wilhelm Photography LLC, courtesy of Biohabitats, Inc.)

ASLA Climate Action Committee

The ASLA Climate Action Committee leads the implementation of the ASLA Climate Action Plan. The committee provides input to ASLA leadership on strategies for communicating the role of landscape architecture in mitigating climate change and increasing and protecting biodiversity. The committee develops and promotes programs, products, and services that provide research data and learning opportunities to practitioners. The committee advances the adoption of climate positive design and nature-based solutions in the practice and teaching of landscape architecture.

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The ASLA Climate Action Plan calls for landscape architects to reduce their project and business emissions by 50-65% by 2030 and achieve zero emissions by 2040.

This guide outlines how landscape architects, whether they work in an office of 1, 10, 100, or 1,000, can reduce the impacts of their business operations and help achieve the goals of the plan.

This guide sets landscape architecture firms on a path to achieving zero emissions. It offers ways to measure your business carbon footprint, develop your own climate action plan to reduce greenhouse gas (GHG) emissions, and take action to reduce your Scope 1, 2, and 3 emissions.

The ASLA Climate Action Committee recommends developing a plan with short- and long-term goals. Don't let yourself get discouraged and do nothing at all. Every action to reduce your company's emissions matters.

At the Starting Gate

If you work in a small, medium, or large office, the process for reducing your GHG emissions is largely the same. However, reaching your goals may require different strategies that work with your office's size, location, and culture.

Five key steps:

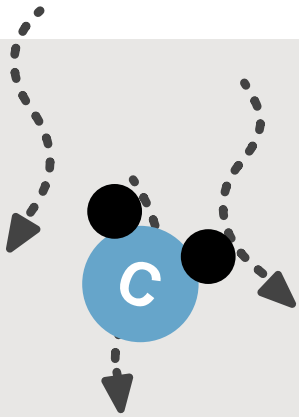
1) Measure your baseline Scope 1, 2, and 3 GHG emissions.

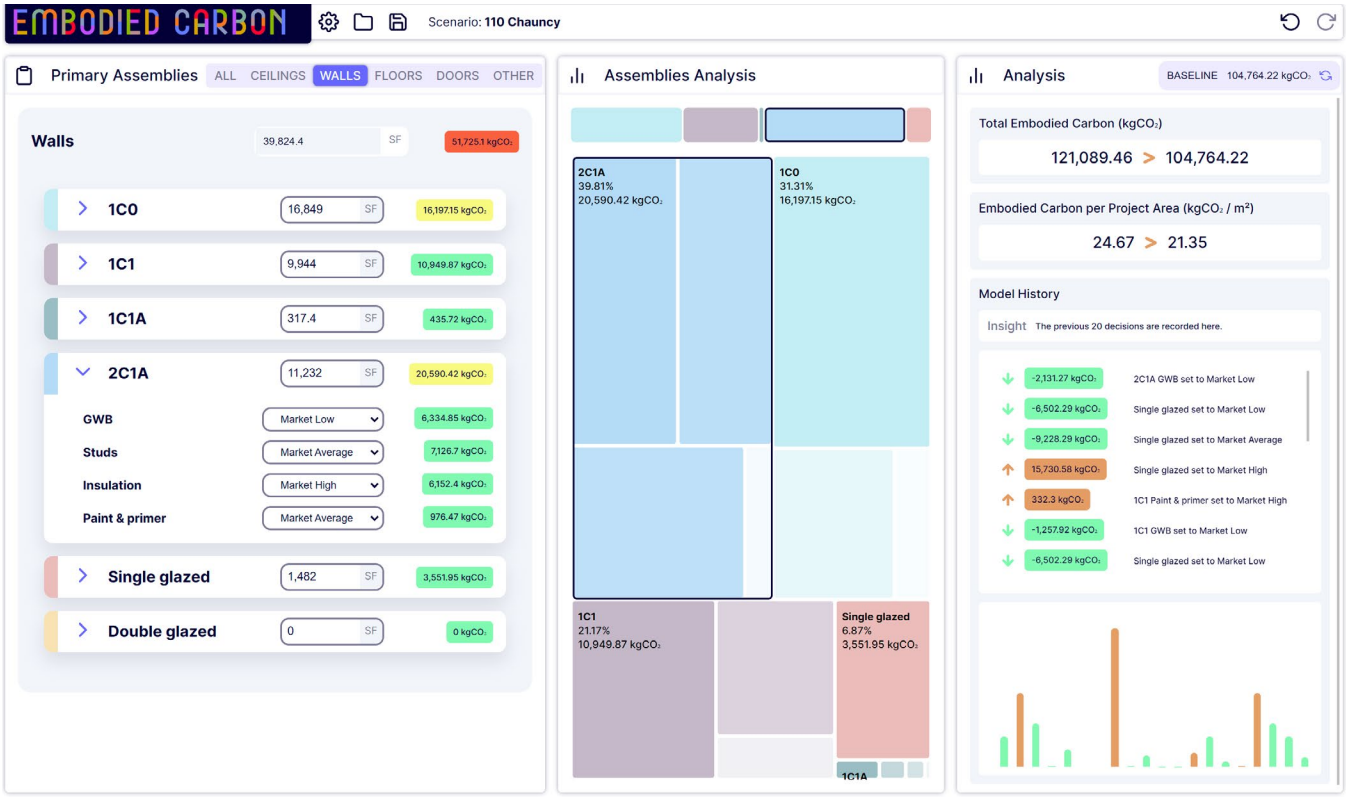
2) Create an action plan to reduce your emissions. Set long-term and short-term goals with strategies to achieve them.

3) Assign a staff member or a consultant to track your progress each year.

4) Prioritize tackling the largest sources of GHG emissions and also the low-hanging fruit.

5) Implement your plan to reduce Scope 1, 2, and 3 emissions and make incremental progress each year.





Carbon Conscience dashboard. Sasaki.
(Image credit: Sasaki)

Measuring Your Emissions

The first – and necessary – step is to create an inventory of your office's current GHG emissions. You can think of this as analyzing a site before beginning to plan and design a project.

There are many ways to make this assessment – from using a free carbon calculator to hiring a sustainability consultant.

There are several calculators that can provide an estimate of your office's current carbon footprint after a few hours of adding business data. Other tools require more comprehensive data to calculate emissions but may provide more accurate or comprehensive information.

Your firm will benefit most from a more detailed assessment that provides accurate information that can better inform GHG emissions reductions going forward.

A baseline footprint will enable your organization to track your progress and assess the effectiveness of your strategy.

A more detailed accounting will enable your firm to focus attention and resources on the largest sources of emissions so the biggest reductions and low-hanging fruit can be achieved quickly.

Calculators prepared by government entities or non-profit organizations:

- U.S. Environmental Protection Agency (EPA) Simplified GHG Emissions Calculator
- United Nations Climate Neutral Now Calculator
- Greenhouse Gas Protocol Calculator, prepared by the World Resources Institute (WRI) and the World Business Council for Sustainable Development (WBCSD), is most helpful for Scope 1 and 2 emission calculations.
- SME Climate Hub

Once you have started to reduce your emissions, keep measuring your progress on an annual basis. Evaluate your progress, adjust your methods, and expand your focus each year.

Possible approaches for institutionalizing this effort in your firm:

Small Firms:

- Assign tasks to yourself or an employee
- Form a committee or task force
- Hire a sustainability consultant

Medium / Large Firms:

- Form a committee or task force
- Assign this work to one or more dedicated positions
- Create a sustainability leadership position
- Hire a sustainability consultant
- Look for consultants who can certify to the Greenhouse Gas Protocol Corporate Accounting and Reporting Standard.

Climate Week activities at OLIN office.
(Image credit: Gabby Bond, courtesy of OLIN)

Developing Goals and a Plan

Once your company has completed a baseline measurement of its carbon footprint, develop an emissions reduction strategy that is right for your firm. This strategy can be compared with a master plan for a project – an ambitious plan that can only be achieved over multiple years.

Set your goals. Then create short, medium, and long-term actions to achieve them.

Your company's plan can be formalized in a **climate action plan** that focuses on reducing GHG emissions to mitigate climate change or a **sustainability action plan** that addresses broader environmental impacts beyond climate change. Both climate action plans and sustainability action plans can address equity, advocacy, and economic benefits.

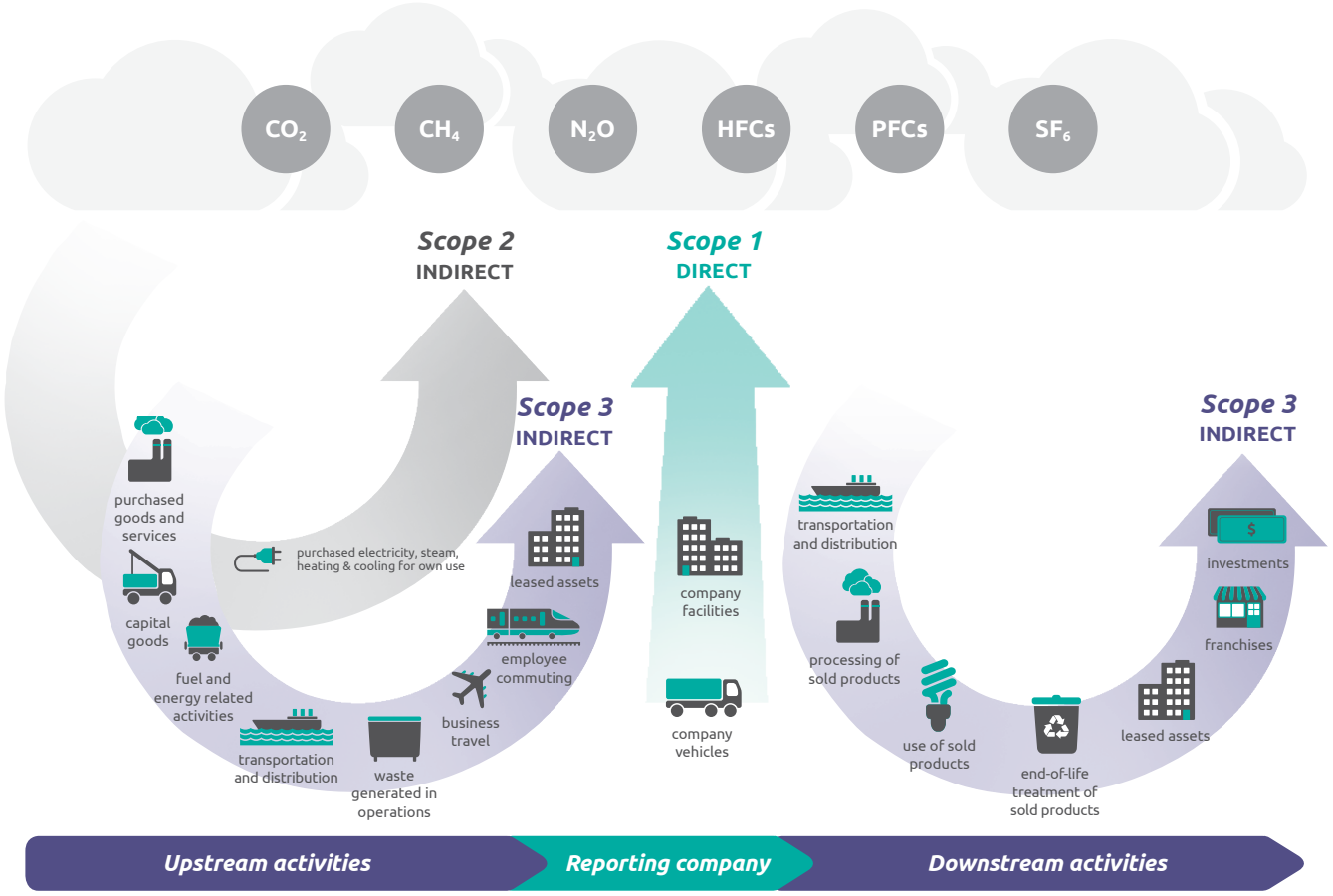
The American Institute of Architects (AIA) has produced a useful guide to sustainability action plans.

Examples of plans from large firms:

- Biohabitats
- GGLO

Other approaches to explore:

- Become a Certified B Corporation
- Become JUST certified (International Living Future Institute)
- Join 1% for the Planet



Overview of GHG Protocol scopes and emissions across the value chain.
(Image credit: GHG Protocol)

Understanding Scope 1, 2, and 3 Emissions

The Greenhouse Gas Protocol is the world's most widely used GHG accounting standard. It organizes emissions into three categories: Scope 1, 2, and 3.

This guide uses this system as a structure to recommend emission reduction measures. The International Standard for GHG Emissions Inventories and Verifications (ISO 14064) uses this standard and exists as a guide in developing GHG inventories for organizations. It addresses the quantification and reporting of greenhouse gas emissions and the verification of this information.

Your firm will need to measure your emissions across these three scopes and create a plan that reduces all of them. In the sections below, there are potential strategies your firm can use.

Start reducing your emissions **immediately**. There are many ways to begin. This guide organizes the many actions your company can take in Scope 1, 2, and 3 categories.

Electric vehicle (EV) charging. (Image credit: istockphoto.com, DaveAlan)

Reducing Scope 1 Emissions

Scope 1 emissions come from burning fossil fuels from sources that your firm owns or controls. Sources can include:

- Gas for office-owned vehicles
- Fossil fuels (most frequently natural gas) in on-site furnaces for HVAC systems or water heaters, stoves, and barbecues.
- Gas for back-up power generators.

Learn more about GHG Protocol Scope 1 Emissions.

This section is relevant for landscape architecture firms that own their office buildings or vehicles. There are some actions firms that rent office space can take as well. In many cases, firms can negotiate rental agreements that push office owners to make changes that lower GHG emissions.

Key ways to reduce Scope 1 emissions:

- Go Electric: Transition from on-site fossil fuel use to electric power, which shifts GHG emissions from Scope 1 to Scope 2. Your business can then take advantage of the renewable energy transition described in Scope 2.
- Transition from on-site fossil fuel use to on-site renewable energy.
- Conserve fuel and prevent leakages of GHGs.

Go Electric

Transitioning from using fossil fuels to purchasing electricity shifts emissions from Scope 1 to Scope 2. These can later be removed from your footprint once your company transitions purchased electricity to renewable energy sources.

- Replace gas-powered office vehicles with electric vehicles (EVs). Use EVs to get to client meetings and job sites. Install an office EV charger. The cost of operating electric vehicles is almost always cheaper than gas powered vehicles.
- Replace stoves and barbeques with energy-efficient electric ones to save money and energy.
- Replace furnaces and traditional air conditioners with electric heat pumps, saving money and energy.
- Replace gas water heaters with electric hot water heaters or tankless electric water heaters that only heat on-demand, which can result in cost savings.
- Replace gas-powered grounds maintenance equipment with electric or hand powered equipment.

Transition from on-site fossil fuel use to on-site renewable energy

Your geographic location, office building type, ownership or rental agreements, and local environmental conditions will dictate the feasibility of these options:

- Install solar water heating (water heated directly by the sun) to replace gas water heaters.
- Install geothermal heat and cooling systems to replace burning oil or gas for heating.
- Consider hydrogen-powered office vehicles as an alternative to electric if it is advantageous in your area.
- Replace oil or gas heaters with heat pumps that are run by your own solar or wind systems. (See more information under Scope 2)
- Stay informed about new renewable energy technologies and ideas.

Conserve fuel and prevent leakages of GHGs

- In offices that rely on gas heating, improve insulation and heating efficiency along with other measures to conserve energy. These measures can result in cost and energy savings.
- Fix small leaks in fuel delivery to appliances and equipment. This can save money and energy.
- Buy appliances that are Energy Star-certified and do not use Hydrofluorocarbons (HFCs) or other harmful GHGs.
- Eliminate HFC emissions from leakages in your air conditioners, heat pumps, refrigerators, and other equipment through regular maintenance. Learn more.

Rooftop solar panels at SWA office. (Image credit: William Tatham, courtesy of SWA Group)

Reducing Scope 2 Emissions

Scope 2 emissions are indirect emissions from the generation of **purchased** electricity, steam, heating, and cooling. This energy is consumed by your company but generated by a utility provider.

Learn more about GHG Protocol Scope 2 Emissions.

This section is relevant for firms that rent or own their offices.

Key ways to reduce Scope 2 emissions:

- Conserve office energy use.
- Transition energy purchased from a utility provider to renewable energy.

Conserve office energy use

All these measures will save both money and energy.

LIGHTING

- Install energy-efficient LED lights.
- Turn off lights when not in use or put lights on timers, vacancy sensors, or daylight responsive controls to reduce lighting use.
- Maximize natural lighting using solar tubes, skylights, and windows near workspaces.
- Use task lighting.

HEATING and COOLING

Building Envelope:

- Especially in warm climates, install reflective roofing, such as high albedo content roofs and walls to reflect radiant heat. Cost and energy savings in air conditioning will be considerable.
- Maximize insulation in walls and ceilings and make sure cracks are sealed well in the building envelope.
- Make sure all glass windows, skylights, and doors are well caulked and use double or triple pane
- Use window treatments, roof overhangs, and awnings to provide shade along sides of building with the greatest sun exposure in summer and allow radiant heat in winter.
- Use passive solar design strategies.
- Use planting to improve the energy efficiency of the building. For example, plant deciduous trees or vine-covered trellis or arbors on south and west sides of buildings to reduce heat in summer and maintain heat gain in winter. In warm climates, use evergreen plants as shade to extend the shade season. Consider large canopy trees to reduce the heat island effect and shade facades further.
- Consider installing a green roof or usable sustainable wood decking over a flat accessible roof to improve insulation, sequester carbon, and provide added use. Wood products store carbon and delay the release of CO2 during their lifetime.

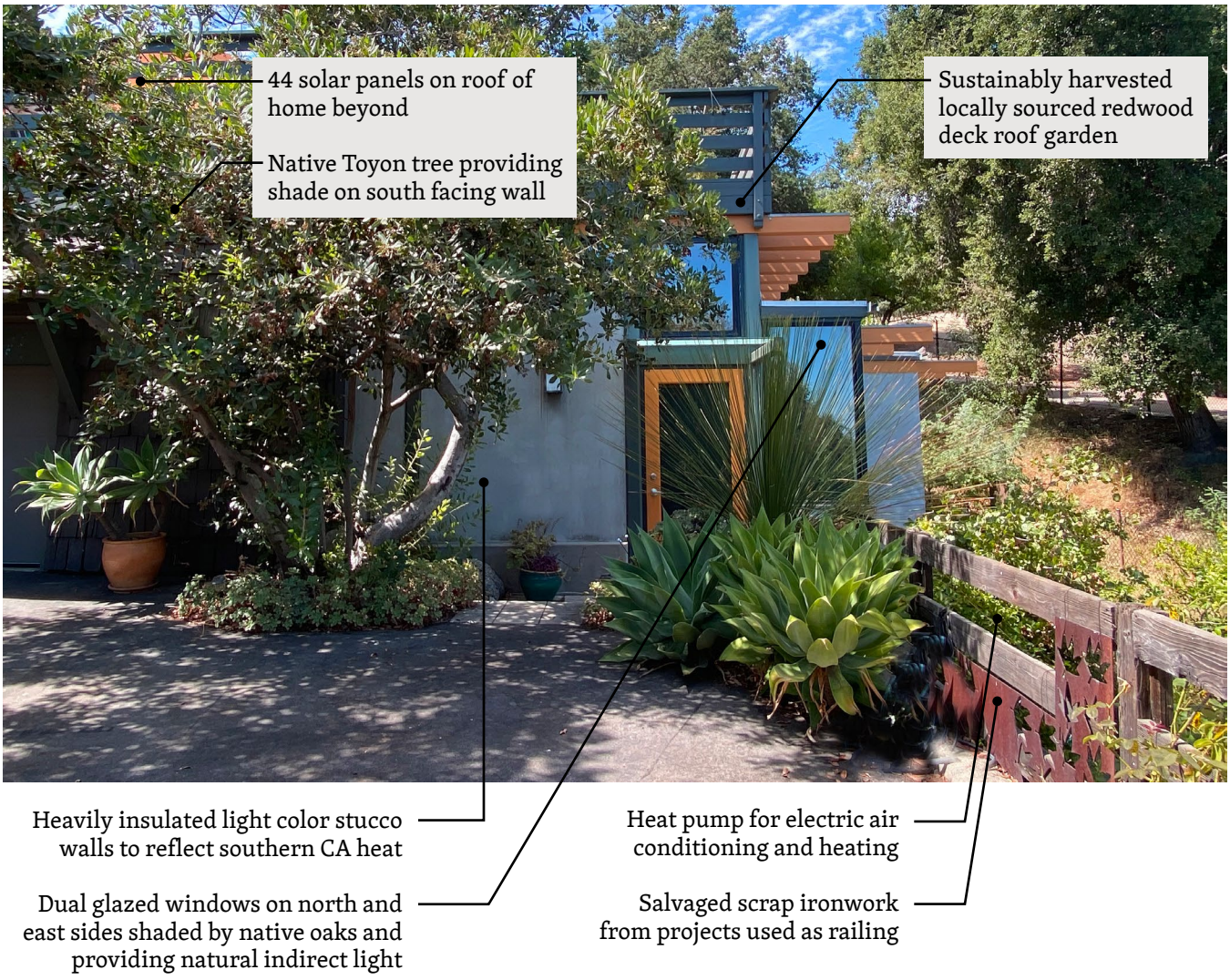
HVAC and Water Systems:

- Use smart thermostats.
- Set indoor temperature to comfort levels of lowest energy use while promoting proper seasonal clothing to stay comfortable.
- Ensure thermostats are set appropriately for maximum conservation of energy for non-working days.
- Zone your HVAC to reduce unnecessary usage. Having heating and cooling systems in different parts of the building run on separate thermostats increases control of comfort and reduces the waste of energy in rooms that are not used or have different ambient temperatures.
- Audit the building's HVAC systems to detect areas with poor insulation or ventilation and correct the problem.
- Provide natural cross ventilation in summer with operable windows, and ceiling fans to cool workspaces.
- Use a solar or electric on-demand hot water heater.

OTHER ENERGY CONSERVATION IDEAS

- Opt into a demand response program with your utility to reduce energy at peak energy need hours. Decreasing energy use during peak use times often saves emissions and money by allowing utility companies to run with less power-generating infrastructure.
- Only use energy-efficient appliances, such as Energy Star certified appliances, and size the equipment to fit the need.
- Talk to your IT professional about how to reduce your server's footprint through computing use, storage, remote work, and server choices. Explore cloud computing options.
- Save power from office equipment use.
- Introduce energy-saving power strips.
- Participate in a VPP (Virtual Power Plant) where possible, using large-scale batteries.

A carbon neutral home office. (Image credit: Ronnie Siegel, ASLA, courtesy of Swire Siegel, Landscape Architects)



Transition energy purchased from a utility to renewable energy

Convert the electricity your firm purchases to renewable energy. Your geographic location, office building type and its orientation will dictate the feasibility of various options listed:

If your company owns or rents your property:

PURCHASE RENEWABLE ENERGY THROUGH YOUR UTILITY PROVIDER

- Go to your current utility provider or shop around for another provider that will allow you to opt for renewable energy only. Read the fine print of your utility contracts to see if you can count this use as renewable energy and make sure the utility company has not already sold the offset to someone else. Utilities are currently allowed to sell their renewable energy as carbon credits to others as a way to profit and keep utility costs lower to the customer.
- Explore other options energy providers may offer. For example, many providers receive grants to manage energy reduction and management programs for businesses within their service area. Programs can include: audits, management programs, rebates for energy saving appliances, forecasting reductions, and access to renewable energy.

If your company owns your property:

SOLAR POWER

- Where feasible, replace utility purchased electricity with solar photovoltaic (PV) electric and/or solar water heating on your building. There are federal and often state incentives to help your firm finance this solution. Once your firm achieves the average 7-12 year payback period, your company will have free energy for the lifetime of the solar equipment.
- To avoid an initial investment in solar, your company can enter a PPA Power Purchase Agreement, an arrangement in which a third-party developer installs, owns, and operates a renewable energy system on a customer's property. The customer then purchases the system's electricity for a predetermined period.

WIND POWER

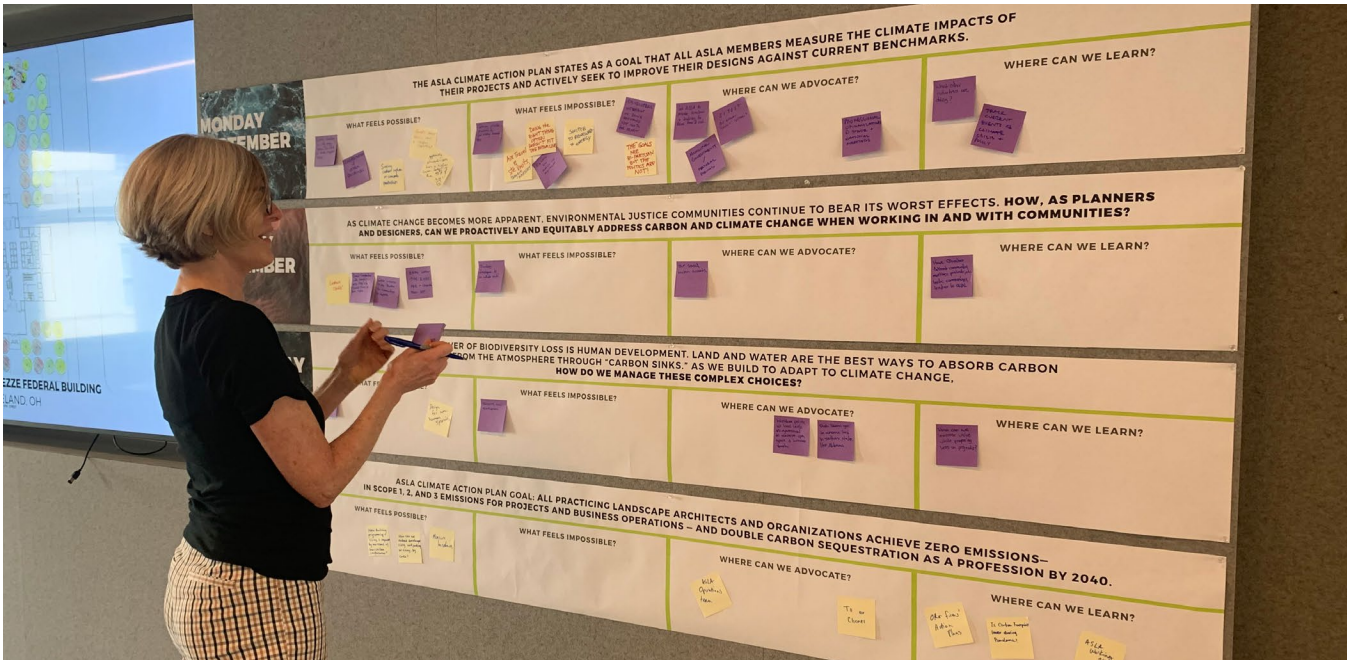
- New wind-generated turbines are becoming available even for small roof installation to replace purchased electricity. Look into this option if you are in a good location for generating wind energy, as it can have a faster payback than solar.

GEOTHERMAL ENERGY

- Geothermal energy can be used in some locations for geothermal heat/cooling systems and future power generation.

OTHER

- Stay informed about new renewable energy technologies.



Climate Week activities at OLIN. (Image credit: Julie Donofrio, courtesy of OLIN)

Reducing Scope 3 Emissions

Scope 3 emissions include everything not in Scope 1 and 2. They are emissions not produced by your company itself but emissions your company is indirectly responsible for producing.

Some of the most common examples of Scope 3 emissions include:

- Manufacturing, growing, processing, and transporting goods and services your company purchases, such as:
  - Supplies
  - Office equipment
  - Food
  - Cleaning products
- Office travel
- Employee commuting
- Waste disposal
- Any office construction or renovation your company undertakes.

Scope 3 emissions are often the largest contributor of office emissions and the most difficult to reduce because your organization does not have direct control over them.

Still, there are many ways you can reduce your Scope 3 emissions and inspire change in upstream or downstream companies.

ISO 14064 and ISO 141613-2 currently allow for the option of excluding part or all of this scope in your carbon inventory for reporting and verification purposes.

The GHG Protocol organizes the Scope 3 emissions into 15 categories. Many are not generally applicable to a landscape architecture office. The most relevant categories are listed below.

Learn more about the categories of GHG Protocol Scope 3 Emissions.

The World Economic Forum also offers a clear explanation.

This section is relevant if you rent or own your office.

Key ways to reduce Scope 3 emissions:

- Do the best you can to measure and reduce your Scope 3 emissions, knowing that the process will become more accurate and simplified over time as better tools and guides become available.
- Try to tackle your largest sources of emissions as well as the ones that can save you money and are easy to implement.

Reduce your emission in these categories:

PURCHASED GOODS AND SERVICES — Extraction, production, and transportation of goods and services purchased or acquired by your company.

Office supplies:

- Create a procurement policy to streamline the decision-making process for choosing suppliers. Create purchasing criteria and research sources of low-carbon products.
- Support local vendors, especially ones that promote sustainability, to reduce emissions from transporting goods.
- Use green printing for publications, cards, stationary, etc.
- Use green cleaning products.
- Use Green Seal or UL EcoLogo approved materials.

Office furniture made from discarded construction material. (Image credit: Ronnie Siegel, ASLA, courtesy of Swire Siegel, Landscape Architects)

Office Construction, Renovations, and Furnishings:

- Use the highest green building standards and purchase building materials that are lowest in embodied carbon.
- Select contractors that put sustainability and GHG emission reduction as a priority.
- Create an embodied carbon procurement policy if you are a design-build firm or have ongoing office construction work to do.

Food:

- When catering meetings, source locally grown and prepared food and lower carbon foods such as vegetarian or vegan choices.

Consulting services:

- Select consultants that put sustainability and GHG emission reduction as a priority. Ask for impact reports and published policies.

CAPITAL GOODS — Embodied carbon emissions from the building your company purchases or renovates counts the year it is bought or built.

- Use locally sourced low-carbon materials or recycled materials.

UPSTREAM TRANSPORTATION AND DISTRIBUTION — Transportation emissions for the items shipped to your company.

- For supplies shipped to your company, source locally and save shipping costs and transportation emissions. Always consolidate shipments.
- Minimize the number of samples requested for projects and keep them in a supply library to share with employees.
- Reuse and reduce supplies shipped to your company.

DOWNSTREAM TRANSPORTATION AND DISTRIBUTION — Transportation emissions from the items your company ships out.

- For postal, courier, and freight, explore the most sustainable options, such as the EPA's SmartWay program.
- Forward your material samples to another firm that may need them rather than sending them back to the vendor. If this isn't possible, return them to the vendor to avoid sending them to the landfill.

WASTE GENERATED IN OPERATIONS — Emissions to remove and dispose of waste.

By reducing waste, your company also reduces emissions from: producing products; transporting products; and product decomposition in landfills. As a bonus, your company will save money.

Reduce:

- Reduce waste and track progress. For example, provide reusable cups, cutlery, plates, and bags for employee use and when catering meetings, thereby eliminating single-use items.
- Compost green waste instead of sending it to the landfill to reduce methane emissions.
- Reduce plastic waste by using compostable plant-based trash bags instead of plastic.
- Replace plastic water bottles with reusable aluminum or glass water bottles and filtered refill stations.
- Set the printer default to double-sided and limit unnecessary printing.
- For catering, consider packaging in your meal choice and planning. Choose larger group catering containers instead of individual meal boxes to reduce plastic and recycling needs. Ask for compostable / biodegradable containers when possible.
- Add C&D waste diversion to the RFP process when doing any office renovations or new office construction.

Recycle:

- Create a comprehensive recycling plan. Provide bins for separate waste streams – e-waste and batteries, plastics, metal, glass, and composting paper – and measure outputs to encourage positive behavior.
- Purchase post-consumer recycled paper of 50% or higher and recycle it.
- Donate old electronics to a charity or school.
- Host an office or community recycling exchange day for clothes, office equipment, appliances, furniture, etc.
- Share or sell products using websites and apps such as NextDoor or Craigslist.
- Office furniture: Use locally-sourced low-carbon furniture or build on-site with recycled materials or wood to sequester carbon. Using recycled materials can result in cost savings as well.

Recycling at GGLO office.
(Image credit: Marieke Lacasse, ASLA, courtesy of GGLO)

BUSINESS TRAVEL — Emissions include office plane, train, and vehicle trips, and hotel stays.

Reduce travel in general, which reduces emissions and increases cost savings. This was demonstrated during the Covid-19 pandemic.

- Track and reduce emissions from business travel. Use travel emission calculators or tracking programs.
- Consider the location of projects your firm accepts. Consider focusing your work in a state or small region to build relationships with local communities and reduce travel emissions.
- Consider creating temporary small satellite offices to deal with large projects far from the main office.
- When writing up contracts for new work, thoughtfully articulate to the client in the contract the timing and scope of meetings that are required in person.
- Encourage virtual meetings with clients to reduce travel time.
- Team up with firms in the area where the project is located to delegate local travel.

Air Travel:

- Minimize airplane travel. If you must fly, choose economy and fly nonstop. Offset emissions for every flight.
- Use airlines that have aircraft with more efficient mileage or alternative fuels, reducing emissions per trip.
- See Google Flights to find the lowest CO2 emission choices.

	7:00 AM – 11:59 PM Frontier	17 hr 59 min DCA–MSP	1 stop 11 hr 44 min DEN	209 kg CO_2 +31% emissions	$168 round trip
spirit	6:25 AM – 12:59 PM Spirit	7 hr 34 min BWI–MSP	1 stop 2 hr 54 min ATL	175 kg CO_2 +10% emissions	$205 round trip
	6:10 AM – 7:50 AM Delta	2 hr 40 min DCA–MSP	Nonstop	137 kg CO_2 -14% emissions	$258 round trip
	7:45 AM – 9:26 AM Delta	2 hr 41 min DCA–MSP	Nonstop	124 kg CO_2 -22% emissions	$258 round trip

Hotels:

- Skip room refreshing in hotels while traveling and reuse your towel
- Choose more sustainable accommodations if possible.

Local travel:

- Rent electric or hybrid vehicles when traveling.
- Use rideshare vehicles or public transit instead of single person taxis.

EMPLOYEE COMMUTING

Office location:

- Consider a more accessible office location within a 10-minute walk to public transit and bikeway.

Remote working:

- Encourage employee remote working to reduce transportation emissions. Include their home office energy use in your office GHG budget.
- Encourage employees to lower their home carbon footprint with incentives such as loans or end of year bonuses for renewable energy conversions or other improvements.

Public transit:

- Provide public transit benefits to employees such as public transit pretax programs in which employees and employers both save money.
- Subsidize the use of bikes, public transit, carpooling, and electric vehicles.

Bicycles:

- Provide bike racks or secure bike parking locations in or near your building and shower facilities and changing areas as incentives to bike to work.
- Provide your employees bicycle and electric bike rental credits.

Mithun team members biking to work. (Image credit: Hilary Noll, courtesy of Mithun)

Electric vehicles:

- Provide EV charging stations in dedicated parking spots to encourage the use of electric vehicles.

Carpooling:

- Promote carpooling, especially with electric vehicle owners.
- Reduce the number of parking spaces in your lot.

INVESTMENTS — Funds your company manages directly

- Consider putting your investments and retirement funds in banks and funds that invest in sustainability such as ESG funds, Clean Energy funds, local community banks, and those divested from oil and gas funding.

WATER — Water is not a specific category in the GHG Protocol. However, it is a Scope 3 emission that could be included in **Purchased Goods and Services** and **Waste**.

Conserving water means conserving the energy it takes to transport and purify water and dispose of wastewater, and the emissions associated with that energy use. This can be a considerable amount of energy depending on where you live. Saving water will also reduce costs.

Save water in buildings:

- Install an Energy Star-certified dishwasher and use it instead of hand washing.
- Install low-flush toilets and water-saving faucets and showerheads.
- Regularly inspect plumbing and repair leaks.
- Consider an on-site water treatment set-up to reclaim water.

Save water in landscapes:

- Implement rainwater harvesting and stormwater recharge.
- Install timers, moisture sensors, and water-conserving irrigation systems.
- Use native plants.
- Regularly inspect irrigation systems and repair leaks immediately. Include leak detection sensors.

PROJECT WORK — Not a specific category of Scope 3 emissions.

For Design Work Only: The calculation of emissions for the construction of the projects your firm designs should be reported by the company that gets paid to do the construction work. If your client pays other companies for construction work, emissions from the construction work your firm designed is **not** counted in your business' carbon footprint.

For Design-Build Firms: Your emissions do include the construction work that you are paid for by the client. This work would fit in the Scope 1, 2, and 3 categories listed above. For example: if your construction equipment is powered by fossil fuels, it would be in Scope 1. Your purchased electricity would be Scope 2. And your building materials, supplies, and waste disposal would be in Scope 3

Whether your project work is counted in your office emissions or not, promote carbon sequestration and greenhouse gas reduction in your project work to help reduce the impacts of climate change.

More often than not, projects have a greater carbon footprint than office operations. Set a goal of becoming carbon positive in all of your projects.

In the planning phase of your projects, use Carbon Conscience v2 to assess your carbon impact and guide early revisions to improve your final outcome. In the design and construction drawing stage of the project, use Climate Positive Design and Pathfinder as a tool in designing your projects.

Track both operational and embodied carbon emissions on projects going forward and strive to do better each year. Landscape architects have the rare ability to sequester carbon intentionally by design. We should make the most use of this power to reverse climate change.

Recruit staff with specialized training, experience, and commitment to carbon reductions.

Consider appointing a climate and sustainability specialist. Train the remainder of your staff in basic literacy.

Recognize designers and teams that excel in this area with compensation or awards. Make sure your leadership team has a climate lead.

Minneapolis, MN skyline. (Image credit: istockphoto.com, lavin photography)

Carbon Offsets

Strive to achieve zero emissions in your business operations and make the necessary investment to achieve this goal first. As a last resort, offset emissions that cannot be reduced through contributions to credible, vetted carbon offset organizations.

One unit of carbon offsets is measured as one metric ton of CO2.

To offset Scope 2 emissions only, you can purchase Renewable Energy Certificates (REC) but read the fine print.

The Australia Institute of Landscape Architects (AILA) has put together an excellent primer on carbon offsets. See AILA Climate Positive Design (page 26-35).

Determine a criteria that fits your firm's culture. For example, criteria developed by Sasaki, a landscape architecture firm, include:

1) Invest in carbon sequestration, not mitigation. Each dollar that goes to planting trees or restoring wetlands or prairies authentically offsets emissions.

2) Offset projects must support biodiversity – many tree planting projects are monoculture forestry projects that are more like tree farms and do not support structural complexity or biodiversity.

3) Offset projects must not be exploitative of local and indigenous populations. Restoration investments should be part of an integrated conservation and development program and support local jobs.

4) Offset projects must be third-party certified and measure results.

5) Trees used in offset projects must be protected for at least 20 years before they are harvested as timber or forest products.

ASLA recommends conducting your own research to select a transparent and accountable offset provider—an organization that fits your firm's philosophy and goals and is verified by an independent third party.

There are organizations working to increase the transparency and accountability of voluntary carbon credits and markets:

Voluntary Carbon Markets Integrity Initiative
The Integrity Council for the Voluntary Carbon Market

The Integrity Council for the Voluntary Carbon Market has issued a set of 10 core carbon principles for evaluating the value of carbon offsets:

Emissions Impact:
- Additionality
- Permanence
- Robust quantification of emissions reductions and removals
- No double counting

Governance:
- Effective governance
- Tracking
- Transparency
- Robust independent third party validation and verification

Sustainable Development:
- Sustainable development benefits and safeguards
- Contribution to net-zero transition

Biohabitats team members participating in volunteer tree planting.
(Image credit: © Biohabitats, Inc.)

Other Ways to Sequester Carbon and Reduce Emissions

In current GHG accounting systems, the following actions do not qualify as offsets but still work to reduce or sequester GHGs:

- Create your own energy from composting waste.
- Integrate porous green spaces around your office, minimizing hard-scape.
- Use native plants and trees to increase shade, support biodiversity, and sequester carbon.
- Install more renewable energy – solar panels or wind generators – than you use and feed excess electricity back into the grid.
- Organize and implement tree planting and native plant installations in local underserved communities.
- Design or redesign grounds for low or no maintenance regimes to reduce operational emissions.

Publishing and Certification

Publish your accomplishments on your website. Demonstrate your commitment to your clients and partners. Inspire others to follow in your climate-responsible footsteps.

Your company can also have its GHG emissions third-party verified and certified. Currently, third-party certifiers in the U.S. use a range of calculation methods that are often inconsistent with other certifiers. Third-party verification can be subjective. But it can be used to increase the credibility of your achievements.

Conclusion

We are in the dawn of a green energy revolution. In order to avert climate disaster, this revolution will need to unfold in a much shorter time frame than the industrial revolution of the past centuries. It is a time of great political, social, and economic change–and great opportunity.

Due to the speed of decarbonization, electrification, and the transition to renewable energy, navigating options can seem chaotic. However, with a clear plan, hard work, investment, and dedication, we have the opportunity to transform our planet into one in which humanity lives in harmony with a much healthier, sustainable, and biodiverse natural world.

Landscape architects are leading this effort and can set an example to others in how we work and live.

The intent of this guide is to help your firm navigate these transitions towards zero emission business operations more easily.

Resources

The Australian Institute of Landscape Architects' Climate Positive Design V-2 has produced an excellent guidebook with detailed information that should be consulted to augment information in this guide.

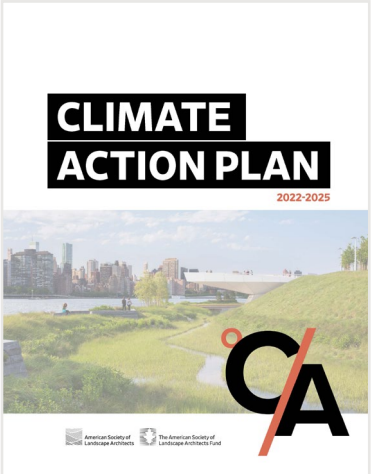
American Institute of Architect's Guide to Creating a Sustainability Action Plan

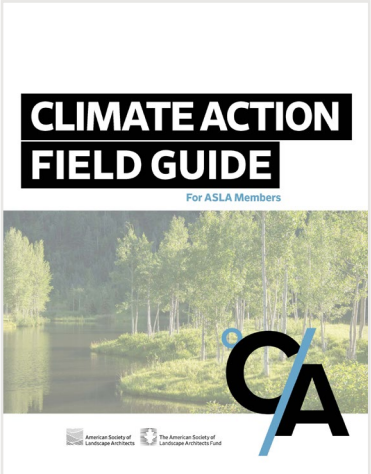
International Standard for GHG Emissions Inventories and Verification (ISO 14064)

Scope 1 & 2 GHG Inventory Guidance

Technical Guidance for Calculating Scope 3 Emissions

Please submit ideas and feedback on this guide to info@asla.org.





Download the ASLA Climate Action Plan and Field Guide at asla.org/climate