



Sustainability Tools

The sustainability tools complement the *La Crosse Small Business Toolkit on Sustainability* and provide additional information in related categories. Sustainability Tools are overviews of sustainability sub-topics, followed by more in-depth Deep Dive Tools. Together, these tools expand on information in the toolkit.

The Sustainability Tools cover material that may help your staff understand the goals of a sustainability plan and engage in initiatives appropriate for your business. The sustainability plan overview and sample plan can help you with the nuts and bolts of putting a plan in place and measuring its effectiveness.

The Deep Dive Tools provide details on specific aspects of sustainability, including types of emissions, heat pump systems, measurement of the company's environmental footprint, components of green marketing campaigns, and options to include in a corporate travel policy.

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Sustainability Tool 1: Why Go Sustainable?

In La Crosse, we have had increases in the rate and severity of storms, rising temperatures, a higher rate of flooding, and changes to the local growing season. In fact, the La Crosse region has changed from a USDA Hardiness zone of 4 to 5 in recent years(explain?). To remain competitive, businesses need to adapt.

Cost or Resiliency Investment?

According to [Forbes](#), [“Climate change will cost companies \\$1.3 trillion by 2026.”](#) Businesses can either spend money trying to keep up with extreme weather or invest in sustainable strategies that help the business save money and help the community.

By adopting a planet-friendly strategy, small businesses can invest in their own futures and gain dedicated customers and staff. Businesses across the planet are embracing the reality that [what’s good for the world is good for business](#).

Sustainability Advantages

Backing policies that are good for the planet is good for your bottom line. A significant majority of consumers prefer purchasing from sustainable businesses. [“87% of customers](#) will purchase a product from a company that advocate[s] for an issue they care about [...]”.

“The government estimates that installing energy efficiency measures could [reduce the energy costs](#) of an average SME [small- to medium-enterprise] by up to 25%.”

“More than six in 10 businesses (62%) [believe] sustainability to be as important or more important than financial success. Of the companies that have embraced sustainability, [42% of businesses have made sustainability a priority](#) because it improves operational efficiency and reduces costs; another 33% make it a priority because of “attracting, motivating, and retaining employees.”

“Research from Oxford University showed that among [companies with sustainability strategies](#), [90% had lower capital costs](#), [88% had improved operational performance](#), and [80% had improved share price performance](#).”

The role of sustainability is an enormous issue for small- to medium-size businesses, as evidenced by an article in Time magazine: [Without a Climate Plan, Small Businesses Will Not Survive](#).

Creating a sustainability plan is important to business survival and success. To summarize, a company committed to helping reduce pollution and pursuing environmentally friendly action gains economic and social advantages that include:

- Saving money
- Increasing customer and employee loyalty
- Cutting business costs
- Ensuring the future of the business.



In the long term, every investment a business makes into sustainability pays for itself. Going green is good for business.

Sustainability Tool 2: Build a Sustainability-Minded Culture

To create a sustainable business, you need to make sure your employees understand the business's goals and are engaged in achieving them. The advantages to going sustainable are clear:

- Helping the bottom line through energy and resource savings.
- Gaining new customers.
- Lowering operating costs.

To engage the staff, actively involve them in the green initiatives. Start with a formal launch to your sustainability plan and any data you have gathered on current carbon footprint and energy use.

Encourage employees to suggest ideas to support the company's sustainability goals. Those working in the various departments may have great insights into areas that can help the company.

Consider assigning staff members specific ownership of the initiatives. You may want to assign specific leaders, so someone drives efforts in programs such as recycling; energy conservation; and employee commute/company transportation. Employee enthusiasm is a big driver of productivity and achievement of green goals. Successful teams can be awarded perks such as time off or a company-sponsored vegetarian, no-waste lunch.

Organize company, departmental, or team actions such as volunteer efforts to plant trees, participate in Earth Day, or set up a bike to work effort. This builds energy around green efforts and staff camaraderie.

Employee Engagement Techniques

To engage staff, appeal to rational, motivational, and emotional drivers of behavior.

For some staff, providing a rational approach is the most effective. These approaches include:

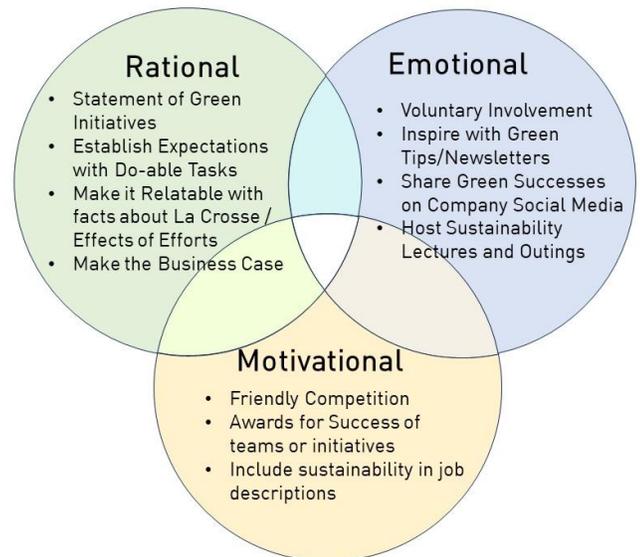
- A clear statement of green initiatives in the context of the business mission/vision.
- Establishing expectations of staff to include sustainability and environmental responsibility.
- Providing relatable information about environmental changes in La Crosse and the effects of actions taken by the company.
- Stating the business case for staff, so they understand the advantages of sustainability that include energy savings, savings that accrue to the bottom line, and gaining customer loyalty.
- Lectures on sustainability, by experts and by staff who volunteer to research a topic and speak on it.

Another method of engaging staff involves helping them become emotionally involved. Along with mentioning that helping the world ensures the future for their children and the next generation, appeal to employees through:

“Organizations that collected data on their footprint [...] were roughly three times as likely to have a successful program.”

“Organizations with a method for employees to share ideas were more than six times as likely to have a very effective program.”

<https://greenbusinessbureau.com/>



- Voluntary staff participation, especially when starting a sustainability program. This may be multiplied when employees take it back to their homes or other communities.
- Inspirational information through environmental stories and green tips.
- Staff stories about green accomplishments on corporate social media.
- Lectures on sustainability, by experts and by staff who volunteer to research a topic and speak on it.

“The trick is not to let any excitement around green go to waste.”

[Andrew Winston](#), innovator in Sustainable Business

Staff may also be engaged through overtly motivational efforts.

- Sponsor a friendly competition between green teams or departments, such as which can recycle the most batteries, compost the most, or use the least paper.
- Offer awards for the most successful initiatives or most original green solution.
- Include green and sustainable goals in employee job descriptions, so their job success and financial gain have a sustainable component.
- Listen to staff suggestions, respecting their mastery over their specific responsibilities, and support their initiatives whenever possible, which gives them autonomy. Both of these contribute to a sense of purpose, a powerful driver of employee enthusiasm and productivity.

Checklist for Keeping it Going.

- Seasonal campaigns: bike to work in warmer seasons; water conservation in the summer; energy conservation in the winter, etc.
- Ask social media staff to promote environmental awareness on a regular interval.
- Challenge other businesses to go green; award to the company that reduces emissions the most.
- Ask a green team or staff volunteer to post reminders to turn off lights and computers, and to provide tips on printing more efficiently, such as printing two-sided, etc.
- Make sure recycling is easy to do—add recycling containers, and provide methods to collect harder to recycle materials, that can then be disposed of safely.
- Procurement: Switch to post-consumer-waste paper products, LED light bulbs, and rechargeable batteries.
- Facilities: Hire a green cleaning company or purchase eco-friendly cleaning products; plant native species to reduce run-off and water-waste.
- Prioritize vegetarian and vegan options, or optionally chicken, for company sponsored meals.
- Information Technology: Go with green hosting company.
- Host workshops on green subjects, such as reducing food waste and planting pollinator gardens.
- Implement compost collection and host a workshop on reducing food waste.
- Switch to a renewable utility provider.
- Offer a points system for carpooling or biking to work, with rewards available for point accumulations.
- Switch to renewable auto-fleet.

Resources

Pink, D. H. (2011). *Drive: the surprising truth about what motivates us*. First Riverhead trade paperback edition. New York, Riverhead Books.

Sustainability Tool 3: Understanding Emission Sources

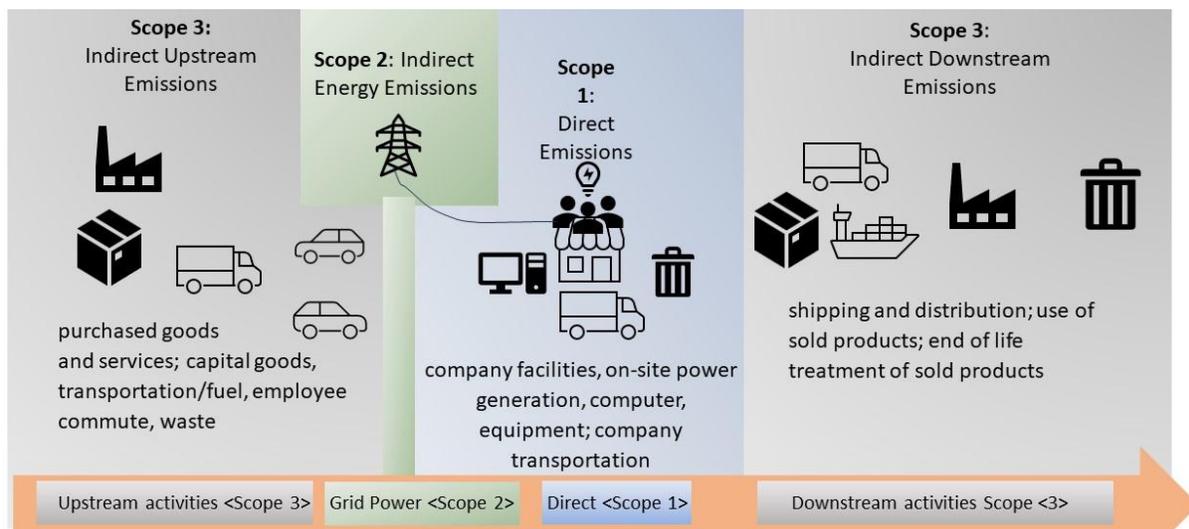
Every business, organization, service, and product has an environmental footprint. By measuring the footprint of each, we can compare values before and after taking steps to limit it. The emissions are defined as scopes 1, 2, and 3. It's important to take into account all major sources of emissions.

Scopes

Scope 1 emissions: Direct emissions of a company are caused by heating and cooling the company's workspace and equipment the company owns or controls.

Scope 2 emissions: Indirect emissions are power purchased from an energy utility.

Scope 3 emissions: Indirect emissions are upstream and downstream of each product's value chain—that is, processes and materials involved with a company's product or something the company uses that someone else manufactures, along with energy and resources involved with the product after it leaves the company. Measuring Scope 3 emissions involves tracking activities across the entire business model – or value chain – from suppliers to end users, through product end-of-life (such as a landfill).



[Although scope 3 emissions are outside of a company's direct control](#), companies can hold other companies accountable to measure their emissions and can choose to use sustainable suppliers, supplies, and shippers, and by designing products that can be recycled or reused.

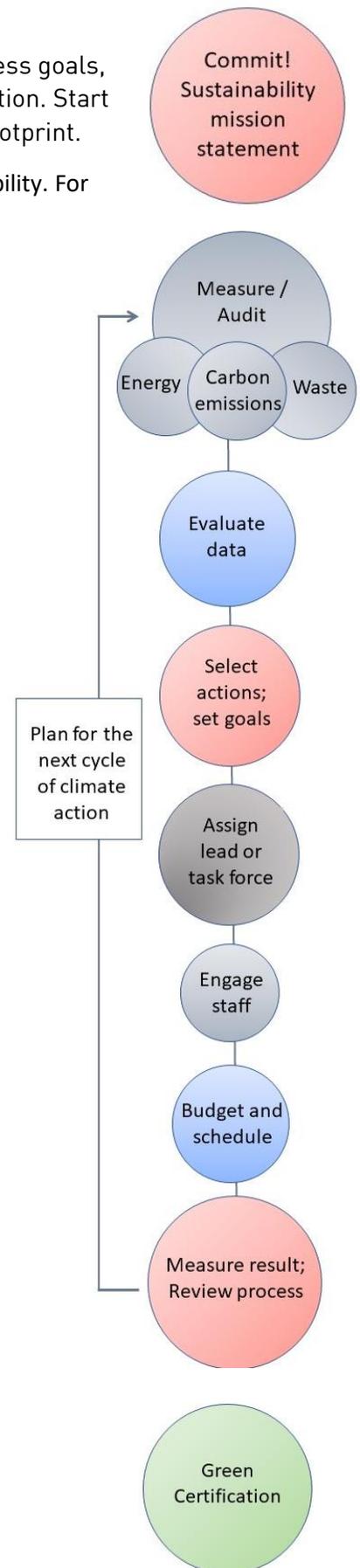
Resources for Scope 1, 2, and 3 Carbon Emissions

- [Tools from the group that defined the greenhouse gas protocol.](#)
- [Education about calculating](#) emissions.
- [Education about greenhouse gas standards.](#)

Sustainability Tool 4: Creating a Sustainability Plan

When creating a business sustainability plan, take into account your business goals, your customers, and the environmental commitment across your organization. Start by committing to sustainability. The next step is to measure your carbon footprint.

1. **Commit:** Talk with the leadership team and commit to a goal of sustainability. For example, you may want to write a green mission statement.
2. **Measure:** Collect and calculate.
 - Collect data and measure the organization's carbon footprint.
 - Complete a waste audit.
 - Complete an energy audit.
 - Calculate energy expenditures.
3. **Strategize:** Review possible actions and create a reduction strategy, with available budget. Evaluate corporate emissions and determine the best steps for your organization. (Optionally engage staff now.)
 - Consider tackling your biggest source of emissions.
 - Determine how to make the biggest impact with the available budget.
 - Set a do-able but optimistic target, such as reducing emissions by 25%.
 - Adjust business strategy AND policies to support environmental goals, including travel and procurement guidelines.
4. **Launch/Engage Staff:** Communicate the goals and plan to all employees.
 - Hold a company-wide sustainability launch meeting.
 - Ask for employee suggestions and volunteers.
 - Create a green team.
 - Engage staff by asking for ideas and incorporate them into the plan.
5. **Schedule:** Define dates for launching initiatives with leads or teams.
 - Implement a green procurement policy.
 - Recycle and reduce waste.
 - Improve energy efficiency.
 - Reduce transportation-related carbon emissions.
6. **Measure:** Determine your progress.
 - Let customers know of your successes through marketing and social media.
 - Reward and acknowledge employee efforts.
 - Consider pursuing green certification to emphasize your commitment.
7. **Start again!** Make a new plan and set new goals.



Sustainability Tool 5: Example Sustainability Plan

Sustainability Action Plan

[Indicate period over which plan will be executed]

Sustainability Goal and Plan Overview

A brief statement of the goal, and an overview of the primary plan initiatives.

Example:

The goal is to halve the company's emissions and reduce 30% of energy costs. We will implement initiatives to address:

- Energy use
- Waste reduction
- Water conservation
- Transportation-related emissions
- Environmental commitment

Resources: Sustainability Goal and Plan Overview

[Supply Chain Sustainability](#)

[Creating a Sustainability Plan](#), Green Business Bureau.

[Guide to Setting Up a Small Business Sustainability Plan](#); requires signing up.

Initial Measurements

Summarize original measurements used as a starting point for this sustainability plan.

Example:

Metric	Value
Carbon Footprint:	_____ tons
Energy Consumption:	_____ kWh
Gas Consumption:	_____ Therms
Amount of Waste Generated:	_____ cubic yards
Amount of Recycling:	_____ cubic yards

Resources: Initial Measurements

[La Crosse Small Business Sustainability Tools and Toolkit.](#)

Initiatives and Actions

The following are some example initiatives and targets. This format, for example used in a spreadsheet, may simplify tracking goals and progress.

Initiative: [category example - Reduce Energy Use]

Action	Target	Manager/Team	Timeframe (such as monthly)	Notes
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Example-power off computers

Example – maintain HVAC

Example – add solar panels

Initiative: [category example - Reduce Waste]

Action	Target	Manager/Team	Timeframe	Notes
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Example – set out recycling containers

Example –implement recycling

Initiative: [category example - Reduce Water Use]

Action	Target	Manager/Team	Timeframe	Notes
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Example – install water-smart fixtures

Initiative: [category example - Reduce Transportation Pollution]

Action	Target	Manager/Team	Timeframe	Notes
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Example – offer public transportation passes

Example – encourage cycling/walk-to-work

Initiative: [category example – Contribute to Community]

Action	Target	Manager/Team	Timeframe	Notes
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Example – planting a pollinator garden in community gardens or on-site.

Example – join a local organization to help with environmental project

Resources: [Initiatives and Actions](#)

[Sample Sustainability Plans](#); more detailed, including resources required for each action, etc.

[IBM Sustainability Sample Template](#)

Sustainability Tool 6: Overcoming Obstacles to Sustainability

The goal of sustainability brings benefits to companies, but it can also be challenging for small- to medium-sized businesses. Multiple obstacles block forward motion in creating a plan to address the broad issues involved in sustainability. Sustainability initiatives may include:

- reducing energy use
- limiting resource waste
- minimizing water use
- addressing carbon pollution as it relates to a business across the supply chain.
- supporting the community, the environment, and the bottom line.

“[Research from Oxford University](#) showed that among companies with sustainability strategies, 90% had lower capital costs, 88% had improved operational performance, and 80% had improved share price performance.”

The following can help your small- or medium-sized business address some of the most common obstacles to implementing a sustainability plan.

Obstacle: Will I Need to Hire a Consultant

Some businesses assume they need to hire a consultant to create a sustainability plan. That is not necessary!

This tool, and the toolkit resources, provide you with the information you need to get started on a sustainability plan. You can also work with allied business organizations to create your plan.

Obstacle: How to Start

Tools in this *La Crosse Sustainability Toolkit for Small Businesses* can help you get a start; you may also want to use or adapt existing frameworks, such as [Green Business Certification](#), [Green Seal](#), or [B Corp Certification](#). Business professionals report that going through a certification process is very informative in starting a sustainability initiative. External sustainability certification can also support your marketing efforts. Also, check across the community for help with sustainability efforts.

Picking a focus for a sustainability plan can also be challenging. A possible first step is to assess energy use, waste considerations, and a measure of carbon pollution, a common benchmark in establishing a starting point. The toolkit lists easy-to-use resources for doing your benchmarks. With this data you can get started.

Obstacle: Money

For smaller organizations trying to maintain profitability, finding capital to invest in sustainability may feel like an insurmountable challenge. The good news is that [“sustainability is all about consuming fewer resources.”](#) That means savings. The best strategy is to start with projects that have a good payback, such as pursuing energy and lighting efficiency initiatives. These projects immediately reduce energy bills. Further, with the many rebates and incentives

[“In today’s world, to be a great business, you have to be a green business.”](#)

available, the upfront costs are much less daunting. As a bonus, these demonstrate your commitment to sustainability, which may help you secure future funding.

Obstacle: Time

You can't create time, but you can be efficient in applying a little time toward sustainability. Even a few hours a month can make a difference and save money. The first step is to establish priorities and pursue those first. The priorities need to align with your overall business goals and have a payback period that works for your business. For example, depending on your priorities, one easy and quick option is to switch to renewable energy from your energy supplier. That is readily available through Xcel's [Energy Connect program](#).

Involve staff in any sustainability efforts. Their suggestions can be illuminating, and their efforts will help the plan move ahead. Incorporate sustainability tasks into staff jobs—for example, a facilities manager may be able to help with recycling; adding a green element to marketing lets you reach a larger customer base, including younger consumers who are willing to pay more for products from sustainable companies.

Not wanting to add to employee stress is real, but the flip side is that most employees are typically more than willing to take on sustainable and environmentally friendly tasks. Often employees will push for green initiatives. Having a sustainability plan gives you a chance to engage employees, both by acting on their suggestions, and by recognizing their accomplishments as they help implement the plan.

Obstacle: Marketing/Customers

Make sure you explain the benefits of your products and services. If your product is non-toxic, do your customers know? If the product or its packaging is recyclable or uses post-consumer content, make sure you let people know. Most importantly, tell the truth about your efforts. This preempts any accusation of greenwashing. Customers prefer and are drawn to businesses that are committed to something bigger than just profit, including the helping community, protecting the environment, and limiting pollution. Use your sustainability plan to reach more customers.

[“Research from Cone found 90% of Gen Z believes companies must act on social and environmental issues.”](#)

Obstacle: Vendor Support

A product's or business's sustainability initiatives need to consider all aspects of how it affects the environment and community. Consider working with vendors who are also sustainable and concerned about pollution and the environment. Get started by simply talking to your vendors about sustainability. You can also ask if the vendors are certified as a B Corp or have other sustainability certifications. You can ask your purchasing group to create a sustainable supply chain policy or encourage existing vendors to engage in sustainable options.

Resources

- [Small Business Sustainability: 7 Challenges](#)
- [Overcoming the Top 5 Sustainability Challenges to Small Business](#)
- [Making Sustainability a Company Focus](#)
- [Small Business Sustainability Challenges](#)

Deep Dive Tool 1: Environmental Footprint

Gather information that will help the business make decisions about what to put into a sustainability plan and how to assign priorities. To get started, measure your current carbon footprint and evaluate waste and energy use, by following these steps:

- **Environmental Footprint and Energy Analysis:** Collect a year's worth of energy bills.
 - If you can, break out the type of energy used (coal, gas, renewable, other). You can use these to figure out costs and refine the accuracy of your carbon footprint. This data may not be available, in which case, use whatever information you have.
 - Use this to estimate annual energy expenses for the business.
- **Environmental/Carbon Footprint:** Pull together relevant information about your business, including:
 - Number of staff;
 - Number of square feet of your business;
 - Commuting miles of staff per month, roughly;
 - Business travel costs broken out to include travel method and miles;
 - Number of miles traveled by company fleet (if any);
 - Type and number of vehicles in the fleet (if any).
- **Waste Audit:** In La Crosse, contact [La Crosse county, which offers free waste auditing](#).
- **Energy audit:** Either contact energy auditors or self-audit using [online tools](#).

This gives you a baseline. With this data, calculated annually or regularly, you have enough information to start making a plan. If you can't do it all at the beginning, schedule it to happen over time, so you have the data at some point. With this data, you can measure your carbon footprint with an [easy-to-use carbon-footprint calculator](#); analyze waste costs and options; and estimate energy use and efficiency.

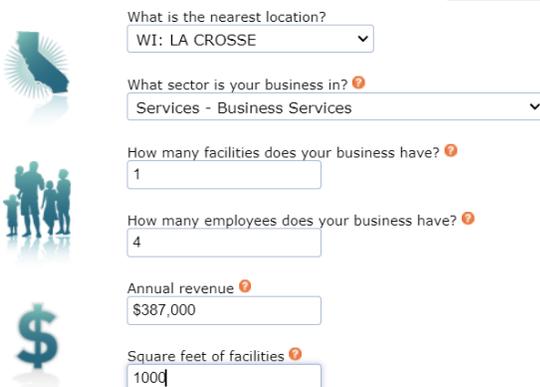
Example: Using a Simple Carbon Calculator

The following example has been created with an [easy-to-use carbon-footprint calculator](#) for a fictional 4-person business services firm, with annual revenue of \$387,000 in La Crosse, WI:

Start with a quick carbon footprint estimate

Next

Calculator Tutorial



What is the nearest location?
WI: LA CROSSE

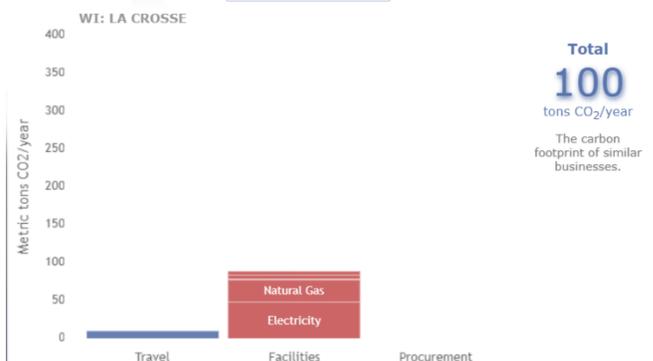
What sector is your business in?
Services - Business Services

How many facilities does your business have?
1

How many employees does your business have?
4

Annual revenue
\$387,000

Square feet of facilities
1000



This calculator estimates the amount of the business's carbon emissions: a total of 100 tons of CO₂/year.

Another section of this calculator makes it easy to estimate costs/savings/carbon reduction from steps you can take in a plan (see below). This gives you a starting point for your plan—a measure of carbon emissions and some steps you can take. Even small changes add up.

Plan	Tons saved CO ₂ /yr	Dollars Saved \$/yr	Upfront Cost \$/yr
Pledge Turn Down Thermostat in Winter	0.82	\$190	\$0
Pledge Turn Up Thermostat in Summer	0.7	\$113	\$0
Pledge Turn off Lights	0.68	\$11	\$0
Pledge Power Management of Computers	0.44	\$71	\$0
Pledge Install Low Flow Showerheads	0.36	\$100	\$30
Pledge Plant Trees	0.31	\$50	\$1000
Pledge Print Double Sided	0.26	\$15	\$0
Pledge Use Rechargeable Batteries	0.21	\$626	\$52

Carbon Footprint Worksheet

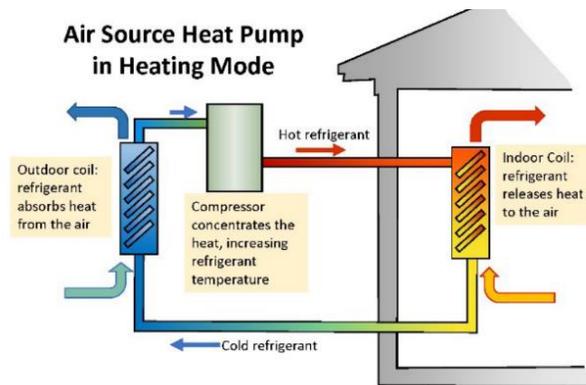
Task	Value
Collect a year's worth of energy bills	
• For electricity, cost/year or kWh/year	_____ \$/yr or kWh/yr
• For gas, cost/year or kWh/year	_____ \$/yr or kWh/yr
• For heating oil, cost/year or kWh/year	_____ \$/yr or kWh/yr
Waste: cubic yards per week (cubic yard=200 gallons)	_____ cubic yards
Recycling: cubic yards per week (cubic yard=200 gallons)	_____ cubic yards
Business Factors	
Number of staff	_____
Number of square feet of your business	_____ sq. feet
Estimate staff commute miles per year	_____ miles (total)
Estimate air travel for business per year	_____ miles (total)
Business owned vehicle (only gas- or diesel-powered)	
Vehicle 1	
• Miles per year	_____ miles/year
• MPG	_____ mpg
• Fuel type	Diesel Gasoline
Vehicle 2	
• Miles per year	_____ miles/year
• MPG	_____ mpg
• Fuel type	Diesel Gasoline

Deep Dive Tool 2: Heat Pumps

A heat pump is a system that in addition to cooling your home or business in the summer, can provide heating in the winter by absorbing heat from the outside air and releasing that heat inside. It may sound counterintuitive that heat can be pulled from cold air; however, heat pumps extract energy (which translates into heat) from the outside air, even when the outside air is cold.

Heat pumps are very efficient. A heat pump can replace your heating and cooling system entirely or just replace the cooling system and supplement your gas furnace using what is called a dual-fuel system. One reason heat pumps are more efficient is that they move existing heat, rather than generating heat (e.g., gas furnace).

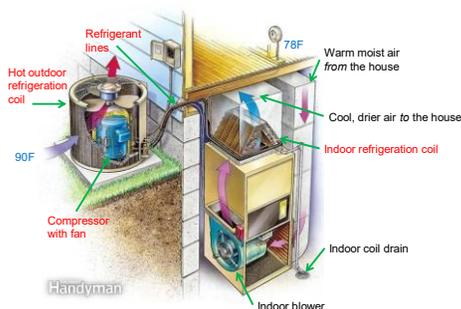
Heat pumps have been used in mild climates in the US and Europe for over 50 years. They are gaining attention with updated technology and renewed interest in electrification, along with potential economic advantages. Many HVAC manufacturers are now building *cold climate* (some manufacturers call them *all climate*) heat pumps. These devices absorb enough heat from the outside air to keep your house or business comfortable even in places with very cold winters such as the Midwest, Canada, and Alaska.



[Diagram of a heat pump / cold- or mild climate](#)

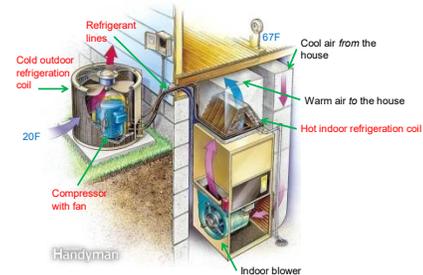
The following diagrams show how a heat pump system operates throughout the year.

What happens inside a heat pump in the summer



Heat Pump Operation in Summer

What happens inside a heat pump in the winter



Heat Pump Operation in Winter

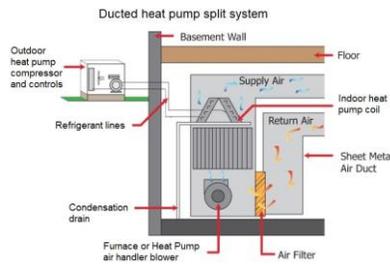
Cold-Climate and Mild-Climate Heat Pumps

A mild climate heat pump (some call it a "regular" heat pump) usually has a single speed compressor, single speed fans, and less sophisticated controls. They are usually sold at a lower

cost than the cold-climate version. A cold climate heat pump typically has variable-speed fans and a variable-speed compressor, along with electronics and devices that provide more capacity and smoother operation even during the coldest times of the year.

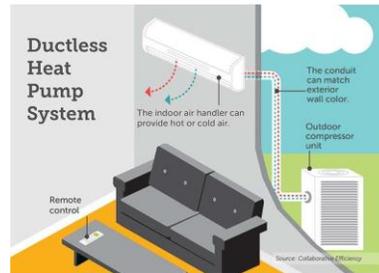
Types of Heat Pump Systems

Heat pumps are available for homes and buildings using a range of installation technologies: most use existing or newly installed distributed air ducting systems. Some applications lend themselves to ductless systems. Most heat pump systems are *air-source*, meaning the outside air provides the energy for heating. And finally, some systems called *ground source*, use the earth as an energy source for heating, require underground piping. Choosing which type comes down to building construction, currently installed systems, comfort, and relative cost.



- Advantages:**
 Best air distribution, even heat and cool
 Air filtration can be superior to ductless
 Can use gas heat as backup for very cold days
- Disadvantages:**
 More complexity
 Takes up more space

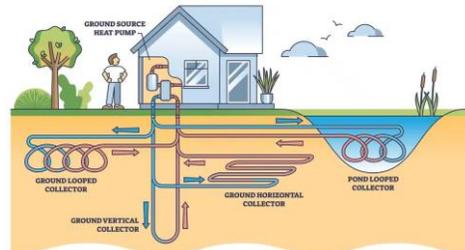
Conventional Duct System



- Advantages:**
 Best efficiency available
 No ducting
 Can be supplemented with radiant heat (hot water)
- Disadvantages:**
 Uneven heating and cooling
 Requires multiple systems

Ductless System

Ground Source Heat Pump (also called Geothermal heat pump)



- Advantages:**
 Ground temperature is mostly constant year around
 Heating capacity is constant
 Backup heating systems not needed
 Ducted or ductless
 Successfully used in very large systems, such as college campuses or hospitals
- Disadvantages:**
 By far the most expensive
 Requires extensive yard space or deep vertical well
 Pond loop (shown) only works with large water volumes
 Easiest to install in rural settings

Ground Source Heat Pump

Do you currently have electric heat?

If you are currently using electric baseboard or radiant heating or have an air handler with electric heat strips, a properly sized and installed heat pump will save you a lot of money in the winter.

If you have a mild-climate heat pump installed, your electric heat strips will only be used when the outdoor temperature drops below what is called the 'balance point', a temperature of

usually between 25°F and 35°F, at which point your electric furnace will take over the work of heating your business or home.

If you have a cold-climate heat pump installed, your electric heat strips will only be used when the outdoor temperature drops below a much lower balance point, usually 5°F or lower. With the very best cold-climate heat pumps your electric heat strips may never be needed at all in the winter.

Do you currently have gas heat?

Because a heat pump moves heat rather than burning fuel to create it, your carbon footprint will be lower using a heat pump for heating, regardless of fuel type. Heat pumps are almost always more efficient than oil or propane furnaces. Heat pumps can heat more economically than a natural gas furnace during the majority of the heating season.

Utility rates vary by location and time of year. Depending on your electric rate and gas rate, a high efficiency natural gas furnace may cost less to heat your home or building than a heat pump on days of the year where the temperatures are low. A good energy analysis can provide what is called an “economic balance point” so that the start-up technician (and you) can know when your heating system should switch from heat pump to furnace to save heating costs. This can be compared to a hybrid car, where the electric motors are supplemented with the gas engine.

Working with Heat Pump Suppliers

If you are considering having an upgrade to your existing system:

- Make sure the contractor assesses your home or business with a load calculation to ensure that your new system is sized properly. An improperly sized heat pump system can be inefficient and uncomfortable.
- Find a supplier you trust and can communicate with: Your contractor should be well aware of everything that this information sheet contains, plus much more. Mild climate heat pumps as well as cold climate heat pumps are both sold around the country. Make sure that you and your contractor understand what you are considering investing in.
- Ask the contractor to estimate the potential cost savings and to help you navigate the various rebate programs available through your utility.

Terminology

When you talk to a contractor or start looking at various utility rebate options, it can help to be familiar with some terminology. The following are just a few terms related to efficiency and system type. It's not necessary to have an in-depth understanding of these, but rather, to understand their relative importance. It also reduces the intimidation factor when researching heat pumps.

AHRI Certified – American Heating Refrigeration Institute, Certified. This organization certifies that heat pump equipment performs to the manufacturer's published claims.

Air source – A heat pump that absorbs heat from the outside air (most common).

Water Source (or) Ground Source* – A heat pump that absorbs (or releases) heat to/from underground piping or a water source such as a pond (less common).

*Sometimes ground source systems are referred to as 'geothermal'.

Ducted/ Ductless – See illustrations above.

COP - Coefficient Of Performance. This heating ratio of energy out to energy in compares the instantaneous (not average) efficiency of a heat pump at a given condition to the efficiency of electric heating. A number greater than 1.0 is more efficient than electric. The COP drops as the outside temperature drops.

EER2 – Energy Efficiency Ratio. The ratio of British thermal units (BTUs) cooling output to the power input (in watts) is the peak load efficiency ratio of a heat pump or cooling system at specific cooling conditions: an indoor temperature of 80°F and 50% humidity, and an outdoor temperature of 95° F. This is a helpful measure in hot/ dry climates such as the Southwest US.

SEER2 – Seasonal Energy Efficiency Ratio. This ratio is the average certified efficiency of a heat pump or air conditioner over the cooling season. The higher the SEER2, the less energy your system uses.

HSPF2 – Heating Seasonal Performance Factor. This ratio is the average certified efficiency of a heat pump over the heating season. The higher the HSPF2, the less energy your system uses.

Interpreting Specifications

The following heat-pump terminology is typically used in heat pump manufacturers and utility rebate specifications. This example is taken from the requirements for a utility heat pump rebate:

Cold Climate Air Source Heat Pump (existing primary heating fuel: natural gas or electric)

Minimum requirements:

Ducted 15.2 SEER2 | 10.0 EER2 | 8.1 HSPF2 | 1.75 COP at 5°

Ductless 16.0 SEER2 | 9.0 EER2 | 9.5 HSPF2 | 1.75 COP at 5°

The preceding example of rebate requirements describe:

- a cold-climate air-source (not ground source) heat pump.
- an existing system that currently uses either natural gas or electric as the primary heating fuel.

For ducted systems, this rebate requires that the heat pump has these minimum efficiencies:

- SEER2 must be at least 15.2.
- EER2 must be at least 10.0.
- HSPF2 must be at least 8.1.
- COP must be at least 1.75 at an outside temperature of 5° F. (In this example, 1.75 means that the heat pump efficiency at 5F outside temperature is 1.75 times higher than the efficiency of electric heating).

For ductless systems, this rebate requires that the heat pump has these efficiencies:

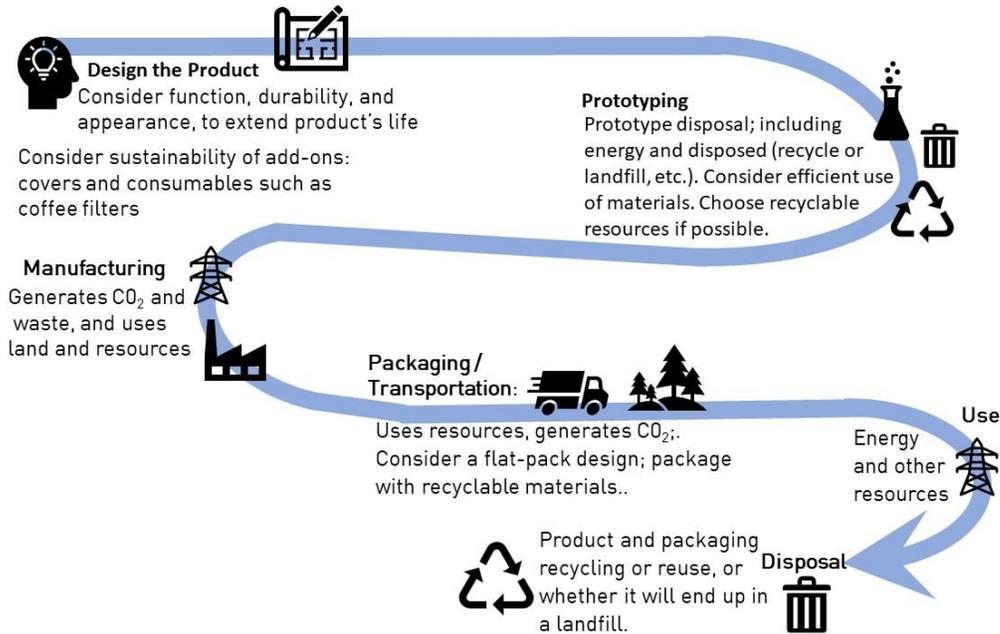
- SEER2 must be at least 16.0.
- EER2 must be at least 9. 0.
- HSPF2 must be at least 9.5.
- COP must be at least 1.75 at an outside temperature of 5° F. (A value greater than 1 shows the unit is more efficient than using electric heat).

More Information on How Heat Pumps Work

- An excellent *This Old House* video with a solid explanation of how a heat pump works:
<https://www.youtube.com/watch?v=-vU9x3dFMrU&t=195s>
- A video with good explanations about heat pump systems, cost savings, and great comments:
<https://www.youtube.com/watch?v=wbY3n5ofevU>
- An overview of heat pumps and some information about questions to ask installers/suppliers:
<https://www.mged.com/DocumentCenter/View/370/NEEP-Heat-Pump-Guide-PDF?bidId=>

Deep Dive Tool 3: Lower Emissions through Product Design

Assessing a product's greenhouse gas emissions can be evaluated across its life cycle. This provides a comprehensive measure of [the role a product plays in climate change](#). A product's life cycle extends beyond a typical value-chain analysis, given that it starts with principles of eco-design, and concludes at the product's disposal at end-of-life. This life cycle includes:



According to the U.S. Environment Protection Agency (EPA), between 70 to 80 percent of a product's environmental impact is locked-in during the design and development stage. Across the life cycle, the product requires resources, including energy and water, and creates waste, pollutants, and greenhouse gas emissions. Assessing these helps evaluate the product's environmental impact.

Consider the following:

- For products going to the landfill, avoid combining organic and other materials. Mixing organic materials into a landfill prevents the disintegration of the materials, and instead generates methane, a greenhouse gas that is up to 68 times more damaging than the greenhouse gas CO₂.
- Find innovative ways of reducing the impacts of your product throughout its life, from packaging to its care, and end of life.
- Select energy- and resource-efficient manufacturers and production processes.
- Find manufacturers and transportation services that are committed to sustainability and climate-positive actions.
- If appropriate, make the product serve multiple purposes, to extend its useful life.
- In production, aim for zero waste – finds uses for material left over from the process, to minimize contributing to a landfill.
- If possible, work with customers to ensure that the product is disposed of properly. Perhaps your firm can let customers return it, or trade it in, so you can dispose of the product properly.

Resources

[GHG/Lifecycle emissions](#). Comparison of two ways to measure a product's effect on the environment by the EPA.

[Product Lifecycle Emissions](#). UN overview.

[Product Lifecycle Assessment](#). A review of the product lifecycle by a bio-energy perspective.

Online course: [Evaluating a product's carbon footprint across its lifespan](#) (fees apply)

Deep Dive Tool 4: Green Marketing

Creating and following a sustainability plan saves your company money and gives you opportunities in your market. Customers are drawn to sustainable products and staff is happier working with businesses that sustainable. All of this kicks in once you have the sustainability plan.

It's important to let customers, vendors and other business partners, and the community know about your efforts. Marketing your sustainability provides a way to distinguish your business and compete, all while saving money through your sustainable initiatives.

Getting Started

All you need to do to start a marketing push is create a sustainability plan. Once you commit to and engage in the plan, you are good to go.

But go where? As with any marketing strategy, it depends on the business. In framing the strategy, review creating a sustainable mission statement or commitment while evaluating a few key initiatives.

Small efforts, as well as large efforts, deserve marketing attention. Big companies, such as Patagonia and Ikea, capitalize on big efforts; but smaller business efforts are also noteworthy. Pick something that suits your firm. "[This may be as simple as giving one percent of your profits to charity](#) or as complex as devoting your business model to a specific cause," said Joe Davies, founder of digital marketing firm Fatjoe.

All companies can:

- Promote the company commitment to sustainability—including anything your firm is doing to support the planet and the community, including recycling, permitting telecommuting, engaging in community volunteer programs, using renewable energy, and limiting paper use, such as engaging in digital marketing.
- Market any switch to sustainable website hosting; for companies that offer this, check TechRadar's [best green website hosting companies](#), which may offer services at multiple price points.

Companies that create, distribute, or sell products, can market "green" aspects of the products. Your investment in a sustainable strategy can also justify higher product pricing, as many customers, especially Gen Z consumers, are willing to pay more for "green" products. Market features that include:

- Product quality and longevity; products that are useful over a long period, and can be repaired rather than thrown away, are features customers need to understand—these add value to your products.
- Products that use existing or recycled materials, and that are made sustainably, such as without toxic materials or processes that degrade the environment.
- Products that can be recycled or reused in some way.
- Packaging that can be recycled or contains post-consumer content, or both.

Sustainable policies let companies "[make their products more attractive to consumers, while also reducing expenses in packaging, transportation, energy and water usage, and more](#)" [Green marketing begins with a company \[...implementing and practicing sustainable business methods.](#)

You can market your company participation in programs that "[increase company-wide recycling, decrease waste disposal, and support community initiatives.](#)"

Restaurants and grocers can promote their efforts to sell locally produced and organic ingredients, and any zero-waste initiatives they are engaged in. Service businesses can promote green aspects of their service—using green hosting for their business, using non-toxic materials in their offices, or reducing energy use, such as the use of EVs, installing a heat-pump, or using solar power through installing solar power or using solar through [Xcel's Renewable Connect program](#).

Next Steps

Now your marketing group can get creative. Customers need to know about the company's efforts, in a way that is transparent and honest. Honesty is key to avoid being accused of green-washing, which some companies have engaged in—claiming environmental or sustainable initiatives without actually doing so.

Possible green marketing plans include:

- Engaging in [digital marketing strategies](#) to reduce paper use and associated costs, using social media to emphasize green aspects of the company, product, or both. Customers are engaged by efforts companies make, and crafting a narrative helps. For example, you can describe an initiative and its successes or failures.
- Adding [labels that emphasize green aspects](#) of the product. Education is part of the marketing effort.
- Advertising the company's efforts.
- Devising campaigns around green sales incentives, such as donating some percent of profit to a local group for purchases made during a defined period.
- Pursuing local press to cover the company's sustainable efforts.
- Consider applying for local, regional, and national awards for sustainability, the environment, and energy conservation. The following are some Wisconsin-based awards that you can apply for:
 - [Wisconsin Manufacturers & Commerce \(WMC\) business association](#)
 - [Wisconsin Recycling Awards](#)
 - [Wisconsin Sustainable Business Awards](#)
 - [Focus on Energy efficiency awards](#)

Certification as a Tool for Green Marketing

Consider pursuing certification for your sustainability efforts. This is a great marketing tool, and also supports your efforts to create a successful sustainability plan that saves the company money and increases its market appeal. Certification examples include:

- [Green Business Certification](#)
- [Green Seal](#)
- [B Corp Certification](#)

Go For It!

Once you invest the time and energy into a money-saving sustainability plan, make sure you capitalize on the effort through marketing. With a little effort, your company can stand out as a leader in sustainability.



[“Green marketing can be a very powerful marketing strategy.”](#)

Deep Dive Tool 5: Travel Policy

Business travel has changed since the pandemic. Videoconferencing is now a reasonable and affordable replacement for some business travel. This reduces the expense and time associated with transportation, entertainment, meals, and overnight accommodations.

Some travel, including an office commute, remains essential, and can be addressed with business sustainability initiatives. Consider setting policies to suggest sustainable alternatives for all aspects of travel, including transportation, lodging, meals, and commuting options.

Business Travel: Think Twice

Evaluate Necessity of Each Trip

Consider the necessity of each trip; determine whether an online meeting can be substituted.

- Suggested: Replace 2 of every 5 trips with virtual meetings

Consider whether a necessary trip requires air travel or if an alternative method of transportation would be feasible.

- Suggested: Consider the train, vehicular, or other means of transportation, which can reduce carbon pollution.

Air Travel: Booking

- Take direct flights without stops to reduce emissions. Even if more costly, direct flights reduce carbon pollution and contribute to your sustainability goals
- Combine meetings into a single location and timespan to reduce the number of flights.
- Fly during the day to take advantage of heat reflection by contrails.
- Consider the airlines you choose; some airlines make an effort to fly with a full load of passengers or are more fuel efficient, thereby reducing emissions.
- For global or professional meetings, choosing the best host location, based on the least carbon created and including sustainable travel options.
- Use online tools to identify the flights with the least carbon pollution.
 - <https://www.routerank.com/en/>

Find the best, fastest, cheapest, greenest way to get to your destination

from Address, city → to Address, city

21-07-2021

08:00

Find & Book

Return trip

Example search: Bern to Berlin

Staff Commuting

- Offer to help pay for public transportation with employee passes or contribute to electric bike purchases for staff.
- Provide bike storage to encourage bicycle commuting.
- Consider offering perks for those who don't drive, similar to the benefit of providing parking for those who do.
- Investigate solar covered parking, which can be used for recharging customer and staff electric vehicles.

Travel Accommodations

Choose green hotels, which are sustainable because they have reduced their environmental impact by saving water and energy, reducing waste, and considering staff well-being. Look for hotels that have third-party green certifications to ensure against greenwashing. Listed below are some credible green certifications recognized by the [Global Sustainable Tourism Council \(GSTC\)](#)

- [Green Globe](#)
- [Green Lodging Program](#)
- [Travelife Certification](#)
- [Green Key](#)
- [Tripadvisor Green Leaders](#)
- [EU Ecolabel](#)

Travel Meals

- Recommend that staff eat at places supporting local agriculture and organic food.
- Suggest they patronize zero-waste restaurants.

Resources:

<https://flygreenalliance.org/2021/06/17/7-steps-to-a-sustainable-travel-policy/>
<https://www.travelperk.com/>

Recap

Use these tools to supplement the *La Crosse Sustainability Toolkit for Small Businesses*. Sustainability is a broad topic; these provide additional details about specific aspects of sustainability, such as emission sources and common obstacles to implementing a plan. Additional tools review steps you can follow in creating a plan and an example sustainability plan that may serve as a model.

The deep dive tools provide in-depth information about how to calculate the company's environmental footprint, a review of emissions across the product design cycle, and information that can help with green marketing and creating a green travel policy.