

Global Sustainability is a bilingual course that offers college credit for AP (AP Environmental Science) and IB (Spanish). The class examines global issues through the lens of the 17 United Nations Sustainable Development Goals and the four Global Competencies (Understand Perspectives, Communicate, Investigate the World, and Take Action). It also works with community partners on bilingual projects who also serve as mentors to students.

Any questions about the Global Sustainability class can be directed to Kelly Holtzman holtzmak@oasd.org and/or Danielle Chaussee chaussed@oasd.org

Defining Carbon Jargon Resource Guide

Carbon Dioxide VS. Greenhouse Gases

Case Studies

[Pathways to 100% Renewable Madison](#)

Madison's mission of creating a net zero carbon city and how anyone from private residents to businesses to government can help with the bold but hopeful community goal they have set.

[Climate Report 2019 Pathway to a Cleaner Energy Future](#)

A full 2019 climate report from WE energies discussing their carbon reduction goals and what they've done to start measuring and reducing more. They also illustrate some of their major accomplishments in the fight against fossil fuels by reviewing their shut down of a Milwaukee coal plant and their newest plans for the future with shutting down other coal plants.

[Methane and CO2... Which is Worse?](#)

The video explains which GHG is the worst: CO2 vs Methane. In the video a member of the Morgan Foundation talks about the overall impact of the two gases and which one has a greater impact over time on the Earth's climate over time.

Carbon Dioxide

CO2 is the most common of the greenhouse gases and is usually calculated separately due to its larger scale. It is also the one businesses want to primarily focus on.

Basic Greenhouse Gases

Even though they are quite less common, they can still be just as harmful and still need to be monitored and reduced.

Scope 1, 2 & 3

Scope 1: These are the emissions directly created from the companies burning of fuels.

Scope 2: These emissions are generated by electricity the company is consuming and purchasing.

Scope 3: These are emissions produced by companies in the supply chain that do not fit into scope 1 or 2, they are still monitored and reported but differently than other emissions reports.

The screenshot below is from Outpost Natural Foods. They do a really good job of showing what they calculated into each of their scopes.

GHG Scope - Description	FY14	FY15	FY16	FY17	FY18
	Metric Tons CO2e	Metric Tons CO2e	Metric Tons CO2e	Metric Tons CO2e	Metric Tons CO2e
Total Direct/Scope 1 GHG Emissions - Total CO2 equivalents from fuels burned in company-owned vehicles	44.9	53.7	69.6	72	65
Total Indirect/Scope 2 GHG Emissions - From electricity purchased through our utility for all stores (kWh)	2339	2360	2350	2354	2376
Total Indirect/Scope 2 GHG Emissions - From gas purchased through our utility for all stores (Therms)	565	614	547	559	588
Total Annual Gross GHG Emissions	2948.9	3027.7	2966.6	2985	3029
CO2e of RECs purchased	2062	2365	2372	2427	2553
Total Annual Net GHG Emissions: (Gross GHG Emissions minus RECs)	886.9	662.7	594.6	558	476

Notes: This GHG chart has updated carbon footprint data from previous reports due to updating our region from SERC Midwest to RFC West. Additionally, the CO2e of RECs were calculated here and used to subtract from total gross GHG emissions numbers for updated net GHG emission numbers. Scope 3 has begun to be measured by tracking our shipments from our largest distributors, but is not a part of this chart.

The total GHG Emissions calculated at 3,029 CO2e2 metric tons are equivalent to 327 homes electrical use for one year. With our Renewable Energy Credits however it brings that number down to 476 CO2e2 metric tons, which is 51 homes, a reduction of energy use equivalent to 276 homes in one year!

[Explanation Video of the Scopes](#)

This video goes into great detail of what makes up the scopes and what goes into each different scope.

Carbon Footprint

Carbon footprint is the amount of carbon dioxide and other carbon compounds emitted due to the consumption of fossil fuels by a particular business operation, supply chain, product, service, etc.



This is a model to understand the components of a carbon footprint.

Case study

[The Carbon Footprint Case Study](#) describes Oakhurst family business findings. This includes their goals and boundaries for tracking emissions.

Resources

[Explanation](#) The actions you leave on the environment will increase your carbon footprint.

[Ways to Reduce Carbon Footprint](#)

How to Measure Carbon Footprint - Tool and Resources for measuring

- GHG Protocol - [Greenhouse Gas Protocol](#) |
- UC Berkeley - [CoolClimate Calculator](#)
- EPA - [Greenhouse Gas Equivalencies Calculator](#) | [Energy and the Environment](#)

Carbon Accounting

Carbon Accounting is the process in which companies quantify their carbon emissions. This data can then be used to set goals and make changes within the company that will drive them towards more sustainable business practices.

Carbon Accounting Video

[RightShip](#) uses a specific carbon accounting method to quantify the company's carbon emissions. The quantified data is then applied to company business practices so that operations can become more sustainable.

Carbon Accounting Resources

A UK report focusing on how businesses can succeed at measuring and reporting their greenhouse gas emissions.

[Guidance on How to Measure and Report Your Greenhouse Gas Emissions](#)

An example of software available for businesses to use to help aid them in quantifying carbon emissions.

[Carbon Tracking and Reporting](#)

Another example of carbon accounting software that aids companies with quantifying carbon emissions.

Case Study: [What is Carbon Accounting? How It Affects Major Corporations](#)
Microsoft Case Study: [How putting a price on carbon saved Microsoft \\$10 million a year](#)

Carbon Neutrality

[Video about Carbon Neutrality](#)

Carbon Neutrality is achieving net zero carbon dioxide emissions by balancing carbon emissions with carbon removal or eliminating carbon emissions completely.

Case Study

[Kohler Sustainability](#)

Kohler company is working towards having a net zero environmental impact. They work to reduce or offset all greenhouse gas emissions, and create new energy/water saving products. Kohler even sponsors education programs to encourage future generations to save our planet. Kohler also has a waste lab, which turns old products, such as old tiles and manufacturing dust, into new resources. They have created products like the “Crackle Collection” which use their old pieces and turn them into beautiful new tiles. Excess dust is used for new coloring and concrete. Below is an example of a new product created to sustain the environment



Resources

[Evolution Marketing Example](#)

This is an impact report featuring Lisa’s work to reach a carbon neutral business. An exemplary model of the business steps required for carbon neutrality. Lisa’s business is a microbusiness, which means it is relatively small. Even so, a large portion of its resources go towards carbon tracking and reducing. Evolution Marketing is unique because of its dedication to carbon neutrality, even with limited resources.

[Economic Transition to Carbon Neutrality](#)

The link above focuses on how a changing world fosters a future of carbon neutrality. This includes reasons why a carbon neutral economy is possible.

[Social and Political Factors Surrounding Carbon Neutrality](#)

This link explains how a business can start going towards the steps of carbon neutrality by providing examples of what other businesses have done and how that has worked for them.

Resources for a Business to Become Carbon Neutral

[Business Steps](#)

This link is a basic guide to becoming a carbon neutral business. A great resource providing the details of the transition to carbon neutrality.

[4 Specific Steps Towards Carbon Neutrality](#)

This article goes into a deep explanation of four steps that can lead you to carbon neutrality.

[10 Recommendations for Planning Carbon Neutrality](#)

The link above does a great job of providing examples on how to get into the carbon neutral mindset. The link is a fantastic resource to show you how you can start making small changes for the better.

Carbon Neutrality Case Study

[How Two Wisconsin Cities Want To Transform Their Energy Use](#)

Madison and Eau Claire plan on going carbon neutral. Madison is still working on the timeline and Eau Claire has it set by 2050. They are planning to reduce the amount of energy they are using and go to only using renewable energy sources.

[City of Madison Sustainability Plan](#)

[Eau Claire](#)

Reduction Strategy Tools:

RECs

Renewable energy certificates represent the energy generated by renewable energy sources. Buying RECs is not equivalent to buying electricity. Instead, RECs represent the clean energy attributes of renewable electricity.

Offsets

Carbon offset providers primarily work to reduce future emissions by investing in clean energy technologies.

[11 Best and Popular US Carbon Offset Providers](#)

Renewable Energy Business

Businesses that monitor storage and distribution and try to conserve and not be wasteful.

WI Based Strategies

We can look at Madison's strategy for trying to unite the city with one common goal of

sustainable energy

We Are Still In Pledge

The #WeAreStillIn campaign uses a bottom-up approach to help climate change; it relies on small changes made at the local and community level in order to support the mission of the Paris Agreement.

[We Are Still In](#)

B Corp Climate Collective Pledge to be NetZero by 2030

As the UN Climate Change Conference, COP25, is underway in Madrid, over 500 companies are publicly committing today to accelerate the reduction of their greenhouse gas emissions to reach a 1.5 degree trajectory leading to net zero by the year 2030—20 years ahead of the 2050 targets set in the Paris Agreement.

[500+ B Corps Commit to Net Zero by 2030](#)

Free Tools to Use:

The Green Masters Program: The Green Masters Program is a recognition and assessment program for Wisconsin businesses interested in improving and being recognized for their sustainability initiatives. They will assess and score you and tell you what your business can improve on, and what you've been doing good with.

[Green Masters Program](#)

SDG Action Manager: This was created by the UN for businesses to put all of their info into, and it scores you on environmental impact and other related factors.

[SDG Action Manager](#)

CDP

Otherwise known as the Carbon Disclosure Project; they help investors, businesses and cities to take action on creating a sustainable economy by measuring and becoming aware of their environmental impact

[More Info on CDP](#)

The Climate Group

The Climate Group is working hard to help further climate action. They bring together companies and governments to create innovative solutions that initiate change in global markets and policies.

[The Climate Group](#)

Three Global Alliance 3% Club

The Climate Groups EP100 Program: EP100, led by The Climate Group in partnership with the Alliance to Save Energy, brings together a growing group of energy-smart companies committed to doing more with less to improve their energy productivity.

[EP100](#)

The Climate Group EV100 Program: EV100 is a global initiative bringing together forward looking companies committed to accelerating the transition to electric vehicles (EVs) and making electric transport the new normal by 2030.

[EV100](#)

The Climate Group RE100 Program: Convened by The Climate Group in partnership with CDP, RE100 is an ambitious global initiative to engage, support and showcase influential companies committed to using 100% renewable power.

[RE100](#)

The Renewable Energy Buyers Alliance

REBA is an alliance of large clean energy buyers, energy providers, and service providers that, together with NGO partners, are unlocking the marketplace for all nonresidential energy buyers to lead a rapid transition to a cleaner, prosperous, zero-carbon energy future.

[Renewable Energy Buyers Alliance](#)

The We Mean Business Coalition

The We Mean Business coalition is catalyzing business action and driving policy ambition to accelerate the zero-carbon transition.

[We Mean Business Coalition](#)

The UN Global Compact

The United Nations Global Compact is a voluntary initiative based on CEO commitments to implement universal sustainability principles and to undertake partnerships in support of UN goals.

[UN Global Compact](#)

CEO Climate Leaders (associated with the World Economic Forum)

CEO Climate Leaders What is it? CEO Climate Leaders –comprising CEOs and chairs from the world’s largest companies – are signatories to a statement that expresses support for concrete, business-led, climate solutions.

[World Economic Forum](#)

The Task Force on Climate Financial Disclosures:

The FSB Task Force on Climate-related Financial Disclosures (TCFD) will develop voluntary, consistent climate-related financial risk disclosures for use by companies in providing information to investors, lenders, insurers, and other stakeholders.

[Task Force on Climate-related Financial Disclosures | TCFD](#)

