

CARBON FOOTPRINT EXERCISE

Complete this exercise before your group meets to discuss Session 1. Whether or not you use the worksheet sheet we provide below or choose one of the online calculators listed below, we recommend you plan for about 20 minutes to gather energy bills and compile your information. The information you gather from this exercise will be used to guide your Action Plan in later sessions.

Each of these calculators have their limitations but they do provide *approximate* household CO₂ emissions

for one year. None of the calculators incorporate every possible source of emissions (i.e. public transportation). However, they do provide insight into some of the main contributors and show which areas you can directly impact through personal action. If you are part of an organizational team, please see the "Organizational Focus" box on the next page for additional ideas and resources to move your organization forward in addressing its carbon footprint.

Weekly Calculations	Units x Conversion factor x time period = annual CO ₂	Daily choices/ideas
1. Estimate gallons of gasoline purchased per week. (From last month's gasoline receipts, or number of miles driven weekly divided by your car's miles per gallon)	$\text{___ gallons} \times 19.6 \times$ $52 \text{ weeks} = \text{___ lbs. CO}_2$	Car pool Combine trips Vehicle efficiency Public transport Walk/Bike
2. Estimate weekly waste disposal. Typical kitchen trash containers hold 13 gallons; outdoor wheeled containers usually 50 gallons.	$\text{___ gallons} \times 104 \times$ $52 \text{ weeks} = \text{___ lbs. CO}_2$	Reduce, reuse, recycle Buy in bulk Compost Buy used—no packaging
Monthly Calculations		
3. Find your electricity bill from April or October (as an average for the year) and find kWh used or gather your electricity bills for the year and divide by 12.	$\text{___ kWh} \times 1.3 \times$ $12 \text{ months} = \text{___ lbs. CO}_2$	Sweater to warm Clothesline to dry Fluorescent bulbs Water heater at 120°
4. If you use natural gas, find your April or October bill (as an average bill) and find how many therms you used.	$\text{___ therms} \times 11.7 \times$ $12 \text{ months} = \text{___ lbs. CO}_2$	Ideas above, plus: Change furnace filter Insulate
Annual Calculations		
5. If you use heating oil, estimate total gallons purchased per year.	$\text{___ gallons} \times 26.0 = \text{___ lbs. CO}_2$	See heating ideas above
6. Estimate the average number of miles that your household travels by air each year.	$\text{___ miles} \times 1 = \text{lbs. CO}_2$	Travel close to home Buy offsets Teleconference

ANNUAL HOUSEHOLD CO₂ EMISSIONS:

1. Gasoline _____
2. Waste disposal + _____
3. Electricity + _____
4. Natural gas + _____
5. Heating oil + _____
6. Air travel + _____
- 7. Total CO₂ emissions: = _____**

ONLINE CALCULATORS:

www.carboncounter.org
www.b-e-f.org
www.carbonfund.org
www.safeclimate.net/calculator

For more daily choices and ideas to lower your carbon footprint, visit www.carbonrally.com.

FOLLOW UP QUESTIONS: After completing the carbon footprint exercise, answer the following questions:

What was your reaction to learning your carbon footprint?

In relation to your carbon footprint, what are your primary areas of focus for change?

NOTES FROM READINGS/REFLECTIONS/IDEAS/QUESTIONS:

ORGANIZATIONAL TEAM FOCUS

ADDITIONAL DISCUSSION QUESTIONS:

1. What are you most motivated to change in your personal practices, community or organization?
2. If you are an employee or member of an organization, where do you see opportunities for leadership?
3. How can the actions under "Putting It Into Practice" on page 14 be adapted and applied to reduce carbon emissions within your organization?

FURTHER RESOURCES

- Your team may wish to conduct a carbon footprint exercise for your organization to gain more detailed information about carbon emissions. A sustainability consultant can work with to help you assess this information. Also, you may want to consider a life cycle assessment, waste and energy audits, and a carbon footprint analysis as primary data collection tools.

To get started:

- Environmental Management Systems (EMS) explains the EMS set of processes and practices that an organization can use to reduce its resource use and increase efficiency. Visit www.epa.gov/ems.
- Oregon Natural Step Network provides a Sustainability Resource Guide with a useful list of resources in key areas such as transportation, electronics, and building facilities. See www.ortns.org/SustainabilityResourceGuide_008.pdf.
- For more information about life cycle assessments, www.epa.gov/nrmr/lcaccess/ is a good introduction.
- The Natural Resources Defense Council Greening Advisor contains information for businesses or organizations looking to reduce environmental impacts. Go to www.nrdc.org/enterprise/GreeningAdvisor.
- *The Business Guide to Sustainability: Practical Strategies and Tools for Organizations* by Darcy Hitchcock and Marsha Willard (2006) shows how organizations can incorporate sustainability in their everyday work via tools and self-assessments.

SESSION 2 ACTION PLAN: IMMEDIATE ACTIONS

Please complete after you've read through Session 2. Brainstorm ideas for simple, easily accomplished actions you can take right away to lower your carbon footprint. Consider the obstacles and competing values you might encounter, as well as the rewards and advantages you will enjoy. Then focus on the resources and support you will need to complete the actions you commit to. For suggestions, see the "Putting it Into Practice" on the previous page, or the Sample Action Plan on page 6. If you are part of an organizational team thinking of integrating climate action into your strategic planning, use the action plan to clarify immediate organizational actions.

Category	Immediate Actions	Obstacles/ Competing values	Rewards/ Advantages	Resources/ Support Needed	Timeline	Done?
Transportation & Air Travel						
Energy						
Food						
Waste						
Consumption						
Community						
Citizenship						

FOLLOW UP QUESTIONS: After filling out the chart on the previous page, answer the following questions:

Which of these immediate actions is most realistic?

Which of these immediate actions are you most motivated to accomplish? Why?

Being as specific as possible, commit to accomplishing at least one of these actions before your group meets again.

NOTES FROM READINGS/REFLECTIONS/IDEAS/QUESTIONS:

ORGANIZATIONAL TEAM FOCUS

ADDITIONAL DISCUSSION QUESTIONS

1. In relation to your organization's carbon footprint, what are your primary areas of focus or change?
2. As part of an organizational team, what organizational practices most concern you? Where can you begin to effect change?
3. How can the actions under "Putting It Into Practice" on page 26 be adapted and applied to reduce carbon emissions within your organization?
4. As a team, clarify your goals here that you hope to achieve by the end of the course.
5. How will you address challenges and barriers to success?

FURTHER RESOURCES

- Business Link (www.BusinessLink.gov.uk) provides a strategic approach to developing a sustainable plan for your business as well as information on improving environmental performance.
- The City of Portland Office of Sustainable Development offers templates for integrating sustainability into your organization. See www.portlandonline.com/osd/index.cfm?a=155834&c=41630.
- Make Me Sustainable offers tools for individuals and organizations to conceptualize and reduce their environmental impact. Visit www.MakeMeSustainable.com.
- The U.S. Department of Energy has helped simplify the task of launching a community sustainability endeavor at <http://www.smartcommunities.ncat.org/management/tensteps.shtml>.

SESSION 3 ACTION PLAN: FURTHER ACTIONS

Please complete after reading through Session 3. Now that you've taken some initial actions, consider what you can do to continue to lower your carbon footprint. Use this page to help you brainstorm further actions. Consider the potential obstacles, and competing values you might encounter, as well as the rewards and advantages you will enjoy. Then focus on the resources and support you will need to complete the actions you commit to. For suggestions, see "Putting It Into Practice" on page 44 or the Sample Action Plan on page 6. Think of actions you can begin this week, 3 months from now, 6 months, and similar long-term timelines. If you are part of an organizational team planning to integrate climate action into your strategic planning, please use this page to clarify further organizational actions.

Category	Immediate Actions	Obstacles/ Competing values	Rewards/ Advantages	Resources/ Support Needed	Timeline	Done?
Transportation & Air Travel						
Energy						
Food						
Waste						
Consumption						
Community						
Citizenship						

FOLLOW UP QUESTIONS: After completing the chart on the previous page, answer the following questions:

Which of these further actions are most realistic?

Which of these actions are you most motivated to accomplish? Why?

Which of these actions will have the most impact in reducing your carbon emissions?

Being as specific as possible, commit to accomplishing at least one of these actions.

NOTES FROM READINGS/REFLECTIONS/IDEAS/QUESTIONS:

ORGANIZATIONAL TEAM FOCUS

ADDITIONAL DISCUSSION QUESTIONS

1. Can you think of actions similar to those listed under "Putting It Into Practice" that can be applied to reduce carbon emissions within our organization? Describe.
2. Reflect on challenges and successes your organization has met with while reducing your carbon footprint. What are the most effective avenues for change?

FURTHER RESOURCES

- The Climate Registry is a non-profit organization that supports both voluntary and mandatory reporting programs, provides meaningful information to reduce greenhouse gas emissions, and sets standards for measuring and reporting emissions. Visit www.TheClimateRegistry.org.
- The International Council for Local Environmental Initiatives (ICLEI) provides resources, such as technical consulting, training, and knowledge sharing, for the implementation of sustainable development at the local level. See www.iclei.org.

SESSION 4 ACTION PLAN: ORGANIZATIONAL

Please complete after finishing the Session 4 readings. Use this page to help you brainstorm immediate and further actions that will decrease the carbon footprint of an organization you belong to or work for. Choose an organization or group in which you feel you can have the most influence, such as your neighborhood, workplace, or faith community. Brainstorm the potential obstacles, and competing values your organization might encounter, as well as the rewards and advantages it will enjoy. For suggestions, see "Putting It Into Practice" on page 62 or the Sample Action Plan (Organizational Team Focus) on page 7.

Category	Actions	Obstacles/ Competing values	Rewards/ Advantages	Resources/ Support Needed	Timeline	Done?
Transportation & Air Travel						
Energy						
Food						
Waste						
Consumption						
Community						
Citizenship						

FOLLOW UP QUESTIONS: After completing the chart on the previous page, answer the following questions:

Which organizational actions are most realistic?

Which actions are you most motivated to accomplish? Why?

Being as specific as possible, commit to accomplishing at least one of these actions.

NOTES FROM READINGS/REFLECTIONS/IDEAS/QUESTIONS:

ORGANIZATIONAL TEAM FOCUS

ADDITIONAL DISCUSSION QUESTIONS

1. Reflect on your team's challenges and successes. What are the most effective avenues for change?
2. How can the actions under "Putting It Into Practice" on page 62 be adapted and applied to reduce carbon emissions within your organization?
3. Where do you see further opportunities for leadership?
4. What actions will your group take next in reducing carbon emissions? Identify which goals will be prioritized and integrated into long-term planning. Attach timelines and assign areas of responsibility to group members.

FURTHER RESOURCES

- *The Necessary Revolution: How Individuals and Organizations are Working Together to Create a Sustainable World* by Peter M. Senge et. al (2008) is an inspiring read on companies that are rethinking "business as usual."
- The President's Climate Commitment provides a framework and support for America's colleges and universities to go climate neutral. To learn more, visit www.PresidentsClimateCommitment.org.
- *Sustainable Industries* is a monthly publication known for its coverage of green business leaders. For articles and more information, go to www.SustainableIndustries.com.
- Greenbiz.com Toolkit has tools, case studies and resources to help businesses and organizations put sustainability practices to work. See <http://www.greenbiz.com/resources/tools>.

CLIMATE CHANGE ACTION PLAN

In the course of these sessions you're likely to have already taken some actions to reduce your and humanity's carbon footprint. Now is the time to look back on all the charts you've filled out in Sessions 2, 3 and 4, and collate any actions that are still outstanding. Or, you may wish to consider some other actions! For more ideas, visit climatecrisis.net. We encourage you to detach this chart and use it as a visible reminder of your goals.

Category	Actions	Obstacles/ Competing Values	Rewards/ Advantages	Resources/ Support Needed	Timeline	Done?
Transportation & Air Travel						
Energy						
Food						
Waste						
Consumption						
Community						
Citizenship						