Carbon footprint

Since the Industrial Revolution (from about 1850 to the present) an astounding amount of greenhouse gases have been introduced into the earth’s atmosphere. This is primarily due to increased use of fossil fuels for generating power.

As Americans we are huge consumers of products that use enormous amounts of energy and generate huge amounts of waste.

A carbon footprint is the amount of carbon dioxide that a person, family or business emits through the use of fossil fuels.

Your carbon footprint is the impact your lifestyle choices have on the earth. Two of the biggest contributors are your driving and travel habits, and your electricity use at home. Other impacts come from your diet and the products you buy.

Have you stopped to consider your personal contribution to climate change?

Did you know that you send greenhouse gases into the atmosphere when you...

- watch TV
- play video games
- turn on a light
- ride in a car
- put trash in a landfill
- use electricity to listen to music
Global Warming
Some of the news you may have heard

- **Polar bears** are losing their habitats
- **Sea level** is rising
- **Hurricanes** are getting bigger and stronger
- **Glaciers** are melting fast
- **Temperatures** are going up

*How do we know?*
Scientists have been able to study climate change by looking at tree cores, atmospheric composition, sediment cores, ice cores, and through observation.
Impacts on the Hudson Valley

As temperatures increase around the world, weather patterns and seasons will change here in the valley. These changes in climate are already having troubling effects:

- higher temperatures
- more intense rain and floods
- less snow
- increased droughts
- increased cost of food
- poor air quality
- loss of forests and wetlands
- sea-level rises (remember, the Hudson River is connected to the Atlantic Ocean)

Does this affect you?

Use the resources provided in this booklet to further investigate.

*Information from the Hudson River Estuary Program at: www.dec.ny.gov/ and the Union of Concerned Scientists: www.climatechoices.org

www.scenichudson.org
FOCUS ON PLANT AND ANIMAL IMPACTS

As the climate changes in the Hudson Valley, species in our very own backyard will be affected. Impacts might be: loss of habitat, loss of native plants, changes in pollination, change in migration patterns, shifts in food availability for humans and wildlife, possible extinction.

THINK ABOUT THIS
How is the habitat of the polar bear affected by climate change? What species in the Hudson Valley will be affected by climate change?

To learn more about the ecology of the Hudson Valley—Visit a Scenic Hudson park. Scenic Hudson is dedicated to protecting, preserving and restoring the Hudson and the riverfront as a public and natural resource. Learn more about the Hudson Valley’s ecosystem. Go to our Web site, www.scenichudson.org, for more information, maps and directions to each park.
“Every little thing counts!”  
—Mia, sixth-grader

Be a part of the solution!  
What you can do:

Reduce, reuse, recycle!  
Bike or walk instead of driving  
Carpool with others to school  
Conserve water  
Get educated about taking care of the environment  
Use both sides of paper  
Organize a class project to teach others about climate change solutions  
Be energy efficient... Turn off lights, unplug electronics, use a power strip, unplug chargers (cell phone, iPods, etc.) when not in use  
Bring lunch in reusable containers

What your family can do:  
Reduce, reuse, recycle!  
Buy a hybrid car  
Use compact fluorescent light bulbs  
Go solar  
Walk instead of drive  
Buy local  
Shop at the farmers’ market  
Use less hot water  
Use products made from recycled paper  
Bring a reusable cloth bag to the store  
Plant a tree  
Cut down on products with excess packaging  
Hang laundry out to dry  
Compost

www.scenichudson.org
YOU Can Make a Difference!

What are you doing now? What will you change to make a difference in the world?

*Be a part of the solution.*

**Get involved**
- Volunteer in your community.
- Write to your elected officials—tell them your hopes for a healthy environment.
- Start a school project to educate others.
- Plant trees.

**Reduce**
- Take canvas bags to the grocery store.
- Bring your lunch and drinks in reusable containers.
- Cut down on the amount of trash you produce.

**Save energy**
- Turn off lights, TVs, computers and radios when not in use. Unplug your stuff!
- Turn down the heat or air conditioning.
- Walk or ride your bike whenever possible.

**Conserve water**
- Turn off the faucet when brushing your teeth.
- Take shorter showers.

**Recycle**
- Recycle paper, metal, glass and plastic.
- Use recycled products.
- Use rechargeable batteries.
How will you challenge yourself to lower your impact?

To calculate your carbon footprint:
http://www.zerofootprintkids.com/kids_home.aspx

To test your green knowledge:
nationalzoo.si.edu/Publications/GreenTeam/GreenQuiz.cfm

To play the Consumer Consequences game:
sustainability.publicradio.org/consumerconsequences/

For information about energy facts and efficiency go to the Web site for students at the Energy Information Administration:
www.eia.doe.gov/kids/

One of Scenic Hudson’s contributions is lowering the carbon footprint by...

**Preserving FORESTS!**

Trees, through photosynthesis, absorb and store carbon dioxide. They act as natural air filters. Trees help to control erosion and flooding.

**DID YOU KNOW**

1 tree consumes 1 ton of carbon dioxide during its lifetime!
Our planet is a complex ecosystem with dynamic interactions, but we all breathe the same air and drink the same water. The issue of climate change impacts your life no matter where you are—and its up to all of you to be part of the solution.

Everyone on earth is affected.
Key Concepts

climate change—a term used to describe trends in the earth’s climate. For example, scientists see that the planet’s average temperature is rising. This affects wind and ocean currents, as well as yearly amounts of rain and snow. Climate change affects different parts of the world in different ways. Take a look at what is happening in the Arctic as compared to the Hudson Valley.

global warming—refers to the general increase in the earth’s average temperature, which causes changes in climate patterns across the globe. The earth’s average temperature has been increasing over the last century. For example, there is some evidence that suggests that the U.S. Northeast will be getting colder as the poles melt due to cold fresh water changing currents near the East Coast.

Keywords to explore and know: acidification, alternative energy, atmosphere, biomass, carbon cycle, carbon dioxide, carbon footprint, conservation, deforestation, ecosystems, energy, estuary, feedback loops, food web, fossil fuels, fuel efficiency, greenhouse effect, greenhouse gases, habitat, Industrial Revolution, invasive and native species, natural resources, ozone, photosynthesis, pollution, renewable and solar energy, species migration, symbiosis, systems thinking, watershed.

Look up key events in American environmental history—for example, Earth Day, an environmental movement that was founded in 1970 when 20 million Americans protested for a healthy and sustainable environment. Earth Day represents the hope for a clean environment. Other examples are the Clean Air Act, Clean Water Act, Endangered Species Act, Kyoto Protocol, and the SCENIC HUDSON DECISION.
Resources

There are many resources available for more information on climate change and global warming. Here are a few:

FOR STUDENTS

On the Web:
Environmental Protection Agency, www.epa.gov/climatechange/kids/
National Oceanic and Atmospheric Administration (NOAA)
For grades 6-12
www.ncdc.noaa.gov/oa/climate/globalwarming.html
OneClimate.net, offers links to other climate change sites
tiki.oneworld.net/global_warming/climate_home.html
Nature Conservancy
www.nature.org/initiatives/climatechange

Books:
Dr Art’s Guide to Planet Earth,
Art Sussman, Ph.D.
An Inconvenient Truth: the Crisis of Global Warming. Adapted for a New Generation, Al Gore
A Down-to-Earth Guide to Global Warming, Laurie David and Cambria Gordon
How Do We Know What We Know About Our Changing Climate: Scientists and Kids Explore Global Warming, Lynne Cherry
50 Simple Things Kids Can Do to Save the Earth, Andrews McMeel Publishing
The Solution is You! An Activists Guide, Laurie Davie

FOR TEACHERS AND PARENTS

Union of Concerned Scientists
http://www.climatechoices.org
Nature Conservancy
www.nature.org/initiatives/climatechange/calculator

For curriculum:
EE Week
www.eeweek.org/resources/climate_curriculum.htm
Time for Kids
www.timeforkids.com/TFK/Teachers/minilessons
Center for Environmental Education
www.ceeonline.org/climatechange/tools/default.cfm#climate19
National Wildlife Federation
online.nwf.org/site/PageNavigator/ClimateClassroom/cc_homepage
Earth Day Network
www.earthday.net
Global Warming Education
climatechangeeducation.org/
Zero Footprint Kids Calculator For Teachers
www.zerofootprintkids.com/kids_teacher.aspx
Teaching about Climate Change: Cool Schools Tackle Global Warming, edited by Tim Grant and Gail Littlejohn
Low Carbon Diet, A 30 Day Program to Lose 5000 Pounds, David Gershon
Your Choices Matter

The choices each of us make will determine the extent of climate change.

Who’s Scenic Hudson?
We are a group of dedicated people who care about the area we live in—the Hudson River Valley. Over 40 years ago, our founders fought to protect a mountain from being made into a power plant. Since then, we have continued to work together with towns like yours to protect special places and make them enjoyable for you to visit.

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