WITH EYES TO SEE

CONCERN AMERICA

ideas for teachers

who want to integrate social justice concepts

into what and how they teach

April 2008

GLOBAL WARMING
THINKING GLOBALLY, ACTING LOCALLY

Once upon a time, the Earth faced an environmental crisis caused by humans. It was feared that without definitive action across the globe, the Earth and its inhabitants would suffer greatly. Despite the overwhelming evidence of the causes of the problem, some sectors of the world's community, led by various industries, fought against making the necessary laws to avert the environmental disaster claiming that such changes would harm businesses, hurt workers, be a drain on the economy, and, ultimately, cause more problems than they would solve. Thankfully, the people of the world and most of their leaders understood the risks and they acted, passing sweeping reforms that have all but averted the environmental crisis.

This is not a futuristic story about global warming, though it is hoped that such a tale can be told in the not so distant future. This story is about chlorofluorocarbons, or CFCs. In the late 1920s it was discovered that CFCs could be safely (or so it was thought) used in a variety applications, and these "miracle chemicals" found their way into refrigerators, air conditioners, spray cans, foams, and solvents. It wasn't until the mid-1980s when holes in the Earth's ozone layer were discovered and linked to CFCs that widespread cries went out to ban them from use. The results of the laws and regulations passed in response to the damages caused by CFCs, despite fears by some of how these changes would hurt businesses and economies, have shown how acting to save the environment can be a "win win": the ban of CFCs has lead to an ozone layer that is recovering, reduced health risks due to a decrease in exposure to harmful UV rays, and many new technologies that have reduced the use of harmful chemicals, increased the energy efficiency of many items (reducing the need for fossil fuels), and stimulated new businesses and improved business practices.

Could a similar story be told about global warming? Is another environmental success story possible? This edition of With Eyes to See will challenge students to Think Globally about global warming and Act Locally to help make a change. Ozone depletion was a global problem, but it took each country, industry, and person around the world to do their part.

Stay tuned for the third and final edition of With Eyes to See for this school year which will cover "The Politics and Global Dimensions" of global warming.

CONCERN AMERICA
HOME OFFICE: P.O. BOX 1790, SANTA ANA, CA 92702
(714) 953-8575 ~~ CONCAMERINC@EARTHLINK.NET ~~ WWW.CONCERNAMERICA.ORG

IDEAS

"I am only one, but still I am one. I cannot do everything, but still I can do something; and because I cannot do everything, I will not refuse to do something I can do."
-Edward Everett Hale

Go On a Diet (Carbon that is)

We often hear the term "greenhouse effect," the process by which our planet traps some of the Sun's warmth, keeping us at temperature levels that support life as we know it. Unfortunately, with the increase in the production of "greenhouse gases" predominantly through human activity, our greenhouse is trapping more heat and leading to global warming. The top three greenhouse gases are Carbon Dioxide (also known as Carbon or CO_2), Methane, and Nitrous Oxide, with Carbon far and away the most produced gas. Therefore, one of the best ways for us to reduce global warming is to reduce the amount of Carbon we produce (or that is produced to support our lifestyles). This is especially important for those of us living in the United States, the country that emits the most Carbon in the world.

To help us reduce our Carbon footprint, we can go on the *Low Carbon Diet: A 30 Day Program to Lose 5000 Pounds* by David Gershon. Mr. Gershon has produced an easy to use, fun, and challenging handbook that can be used individually, as a family, or even a classroom team to reduce our Carbon weight. Try the following:

1. Buy the book! *Low Carbon Diet* is available through the Empowerment Institute for only $12.95 (www.empowermentinstitute.net, 866-821-8225), along with other useful environmental-centered resources. The book does a great job of leading an individual/group through a process of looking at our lives and acting on ways to reduce our Carbon impact.

2. Even without the *Low Carbon Diet* book, visit the Empowerment Institute site for more information, ideas, and a handy CO_2 Reduction Action worksheet that lists more than 25 actions we can take around the house and the resulting reduction in annual pounds of CO_2.

3. Talk about Carbon with the students. Where does it come from? How does it operate in the environment? How can we reduce our production of Carbon? A quick way to get a good overview of which of our common activities/lifestyle choices produce the most Carbon is to fill out a Carbon Footprint quiz. There are many, but try the following two: www.nature.org/initiatives/climatechange/calculator/, or www.carbonfootprint.com/calculator.aspx.

"The chief object of education is not to learn things but to unlearn things."
-Gilbert Chesterton

4. Have the students list all of their activities for one day. For each activity, the students will identify which natural resources were used to make it possible (getting to school in a car = gas; listening to music on a stereo = electricity; eating a hamburger = a cow, etc.). Which of these produces greenhouse gases? What could each student do to reduce her/his activities that produce these gases? Remember, for example, that livestock, such as cows, produce Methane gas, and since Methane is more potent than CO_2 as a greenhouse gas, it is estimated that livestock cause as much global warming as driving.

5. Have each student consider the energy sources used in their homes for heating, cooling, cooking, lights, hot water, etc. Contact the local energy companies for this information, but also ask them to provide information on where they obtain the energy (location of plants, origin of resources, types of resources). For example, some people think that electricity is a "clean energy" but don't consider how and where it was produced in the first place. Electricity is mostly produced by using coal, oil, natural gas, nuclear energy, and hydropower, and to a lesser extent geothermal energy, wind power, biomass, solar energy, or fuel cells. What is the Carbon and/or environmental footprint of each of these sources?

Focus on Food

A common theme that should emerge when students go through the Carbon Diet profiled on the previous page is the connection between the food we eat and its relation to global warming. In a 2006 Food and Agriculture Organization of the United Nations report(1), it was estimated that 18% of the world's total greenhouse gas emissions are related to livestock, the business of which is growing faster than any other agricultural sub-sector; as well, the land and water degradation of industrial scale livestock farms cannot be overstated.

Considering the impact of food choices on global warming, try the following:

Pose the following question to the students: "Would changing the foods you eat help stop global warming?" In pairs, have the students answer the question without looking at any resources for support, and then share their thoughts with the class. Quantify the responses and use this information as a baseline for research. Next, have the students do background research on food and global warming; each pair could take on a different question to answer. Related questions can be: "What types of foods cause the most global warming?" "How do livestock cause global warming?" "What environmental problems are caused by livestock and other agricultural sub-sectors?" "Which cultures around the world eat the most and the least global warming producing diets?" "What are the eating habits of the students of the class?"

Using the answers from the above questions, talk as a class about what they will do with the information. Eat different foods? Eat less meat? Buy locally produced, primarily organic foods? Nothing? Have the students make a list of five things they will do to reduce their food-related global warming impact, and check back at regular intervals to determine success. Of course, many factors may affect the ability of youth to make food choices considering that often parents buy the food, buying local/organic foods often costs more, etc. Let these issues enter the discussions.

Another food-related activity of use, considering the greenhouse gases generated by producing our food and its packaging and the trash created by the same, try the following lunch activity(2):

Have the class dine together for lunch, and when finished, pile all of the waste together (it would help to separate pieces by putting food waste in one pile, paper in another, plastics in a third, etc.). Quantify the waste as possible (pounds, number of pieces, etc.). One activity can then be to brainstorm ways to reduce the waste (lunch boxes versus paper bags; home-made food versus pre-packaged "Lunchable" type meals; composting at the school/in the classroom, etc.). Another activity is to estimate the lunchtime waste produced at school over the entire year: multiply the waste amounts by the number of school days; multiply this by the number of students/teachers in the school. Come up with school-wide activities to reduce waste around lunch. Two relevant websites worth checking out: www.wastefreelunches.org/schools.html (an effort by a school in California), and http://compost.css.cornell.edu/schools.html (for information on composting, ideas for schools, and related science activities).

(1) *Livestock's Long Shadow: Environmental Issues and Options*, by H. Steinfeld, P. Gerber, T. Wassenaar, V. Castel, M. Rosales, C. de Haan, 2006, 390 pp.

(2) Adapted from With Eyes to See, February 2003 (www.concernamerica.org/WETS/ednews-ECIII.pdf).

"A kilogram of beef is responsible for more greenhouse gas emissions and other pollution than driving for 3 hours while leaving all the lights on back home."
-New Scientist

"Unless someone like you cares a whole awful lot, nothing is going to get better. It's not."
-Dr. Seuss, from The Lorax

RECOMMENDED

"I am not one of those who believe that devotion to international aims interferes with love of country any more than devotion to family detracts from good citizenship; rather. . . the duties of family, nation, and humanity are but concentric circles."
-Jane Addams

RESOURCES

FOOD AND GLOBAL WARMING:

• Try the documentary ***The Real Dirt On Farmer John*** about an organic farmer in rural Illinois whose life journey to save his family farm and redeem his own life lead to the founding of Angelic Organics, one of the largest Community Supported Agriculture (CSA) farms in the United States.

• Read ***Fast Food Nation: The Dark Side of the All-American Meal***, a book by investigative journalist Eric Schlosser that examines the local and global influence of the United States fast food industry. The book was made into a movie of the same name in 2006.

• ***The Omnivore's Dilemma: A Natural History of Four Meals*** by Michael Pollan is a comprehensive book about how our food is grown and what goes into the food we are eating.

GLOBAL WARMING AND CARBON:

• The author of *Low Carbon Diet*, David Gershon, has also written ***Journey for the Planet: A kid's Five Week Adventure to Create an Earth-Friendly Life.*** *Journey for the Planet* "is a fun, engaging illustrated workbook for every child who wants to make a difference for the world...[and is a] series of action steps that can impact both climate change and the environment as a whole."

• Another Carbon diet-style book is ***The Climate Diet: How You Can Cut Carbon, Cut Costs and Save the Planet*** by Jonathan Harrington, due out in April, 2008.

CONCERN AMERICA

is an international development and refugee aid organization that sends doctors, nurses, engineers, educators, and nutritionists as volunteers to train and empower the materially poor in Mexico, El Salvador, Guatemala, Colombia, Ecuador, Mozambique, and West Africa.

In support of these projects, Concern America offers educational services in California which include:

* Walk Out of Poverty
* Infusion Methodology Workshops for teachers
* "Training for Transformation" Workshops for adults
* School and parish consulting for the implementation of the Bishops' Pastoral: "Sharing Catholic Social Teaching: Challenges and Directions" (June, 1998)
* Lending library for resources of peace and social justice

Feel free to contact the Education Coordinator at Concern America for more information on any of these projects.

Driving and Global Warming: Two Activities

With Eyes to See often draws ideas from the progressive education magazine *Rethinking Schools*. In recent editions of the magazine there have been two excellent articles looking at the vehicles we drive and their impact on global warming. It is worth checking out the following articles by educator Jana Dean for classroom ideas that center around math, science, and challenging students to critically look at their lives and act to reduce global warming. Both are available online.

1. *Teaching About Global Warming in Truck Country: A middle school teacher helps the heirs of truck culture examine climate change*, Fall 2005 (www.rethinkingschools.org/archive/20_01/truc201.shtml).

2. *The Future of Driving: 8th-grade algebra meets rising gas prices and peak oil*, Winter 2006 (www.rethinkingschools.org/archive/21_02/futu212.shtml)