

Teaching about U.S. Climate Policy and the 2009 Copenhagen Conference

C. Frederick Risinger

This was by far the most difficult column I've had to write. Many of the best resources seem to be oriented toward K-12 science teachers, making it difficult not to aim my column at the same audience. Yet, this is an important international conference and decisions made there may affect U.S. foreign policy for years to come. As readers of this column know, I have often focused on environmental issues and have written about how global climate change could alter the course of human history. I believe in this strongly, and I urge classroom teachers, teacher supervisors in the schools, and college-level teacher educators to take a look at some of my selected websites and see if there's a way to integrate these topics and issues into the curriculum.

The 2009 Copenhagen Conference will take place December 7-18 in the Bella Conference Center just a few miles from the Copenhagen airport. Emissaries from 170 nations are expected, with several other smaller countries sending representatives. More than 8,000 people are expected to attend, including members of the press.

Why is the conference receiving so much attention? And why is it important for classroom teachers and other educators to know about it? Well, in 2012, the Kyoto Protocol will expire and the Copenhagen Conference is being held to establish new plans to deal with issues of global warming and ways to reduce carbon dioxide and other environmentally harmful emissions. The Kyoto Protocol, completed in 1997, is an international environmental treaty with the goal of achieving "stabilization of greenhouse gas concentrations in the atmosphere

at a level that would prevent dangerous anthropogenic interference with the climate system."¹ The treaty entered into force in 2005 and as of January 2009, 183 parties had signed on. (This number includes three non-nation entities, such as the Cook Islands, which are self-governing, but not independent from New Zealand.)

However, the United States has not ratified the Kyoto Protocol. When the treaty was being debated, the U.S. Senate passed, by a 95-0 vote, a resolution stating the "sense of the Senate" was that the U.S. should not be a part of any treaty that did not include binding targets and timetables for developing nations as well as industrialized nations or it "would result in serious harm to the economy of the United States."² Although then-vice president Al Gore symbolically signed the accord in 1998, the Clinton administration did not submit the treaty

to the Senate for ratification. The Bush administration was even more opposed to the Kyoto Protocol and thus there was absolutely no discussion of sending it to the Senate.

This stance changed with the 2008 presidential election. Within weeks of taking office, President Obama's chief climate negotiator said that the United States would be involved in the deliberations for a new treaty (the one to be developed in Copenhagen) "in a robust way." The perception that the U.S. is serious about controlling greenhouse emissions has set off a flurry of diplomacy around the world. As a leading environmentalist and supporter of the Kyoto Protocol, Bill McKibben, said, "The lesson of Kyoto is that if the U.S. is not taking it seriously, there is no reason for anyone else to."

Most of the discussions leading up to the Copenhagen Conference focus on methods for reducing greenhouse gas emissions through a "cap and trade" approach. Cap and trade is an administrative approach where some type of central authority (usually a government or an international body) sets a limit, or cap, on the amount of a pollutant that can be emitted by nations or corporations. These entities are issued emission permits or "credits." If the companies are successful in reducing the amount

of the pollutant's emissions, they can sell or "trade" their unused credits to corporations who have reached their credit limits. The United States successfully used a cap and trade system in the Clean Air Act of 1990 in order to reduce the amount of acid rain. At the time, it was seen as the greatest environmental advance made by governmental action in U. S. history. An informative article on cap and trade appeared in September's issue of *Social Education* (Harold Beedle and Bruce Calhoun, "Copenhagen 2009: Could a Cap-and-Trade Market Combat Global Warming and Conserve Earth's Tropical Forests?"). It offers excellent background for this column. It also provides links to handouts (primarily suited for upper middle and high school students) that teachers can use.

There is, however, a financial downside to the environmental gains the world might experience from a cap and trade system. The recent *Kiplinger Letter*, a forecasting letter for "management decision-making," predicts that it would raise electricity rates by 20% and add \$2 per gallon to gasoline prices.

Currently, one of President Obama's biggest legislative priorities is a comprehensive energy bill, known as the American Clean Energy and Security Act of 2009 and a key part of the bill is a cap and trade system. The bill is facing tough congressional opposition, particularly from representatives of states where the overwhelming source for electrical energy is coal-fired utility plants.

This list of recommended sites includes some that primarily describe the cap and trade system. There are some sites with lesson plans and resources for classroom teachers. I strongly encourage educators to find ways to bring this topic into the classroom so that students are able to understand the impending hoopla about the energy bill and U.S. participation at the Copenhagen Conference. This would provide a wonderful opportunity for social stud-

ies and science teachers in the middle and upper grades to work together on cooperative projects and assignments for students. Elementary teachers could link both subject areas together in a true multidisciplinary endeavor. Although I know that some disagree, I do believe that climate change is a major threat to civilization.

The Pew Center on Global Climate Change-Kids Page

www.pewclimate.org/global-warming-basics/kidspage.cfm

The Pew Center is cooperating with Nickelodeon to help kids understand global warming—what causes it and what can be done about it. Nickelodeon has a companion site, "The Big Green Help" (www.nick.com/minisites/biggreen/index.jhtml#) where SpongeBob guides young people toward simple ways to save energy and slow down global warming. There are several other useful links aimed at elementary age students including one from the United Kingdom and a link from the European Space Agency.

The U.S. Environmental Protection Agency

www.epa.gov/captrade

This site provides one of the best descriptions of the cap and trade concept and discusses how it has been used successfully in recent years, most particularly the Acid Rain Program and the regional program to reduce nitrogen oxides from power plants in the northeastern United States. It's well written, easy to understand, and has some features, such as a "Where You Live" section, which lists major pollutants in your area.

One World.net's Kids Channel

http://tiki.oneworld.net/global_warming/climate_home.html

OneWorld.net is based in the United Kingdom, but has websites that focus on different areas of the world and is presented in several languages. This particular page takes you to Tiki, a penguin, who will guide students through a

discussion of global warming and other sustainable existence-oriented subjects. The information is first rate and is presented in a way that will appeal to elementary and middle-grade groups.

The Online NewsHour Extra

www.pbs.org/newshour/extra/features/science/july-dec09/captrade_07-21.html

This reputable site give a very good description of cap and trade issues and policies; but, more importantly, provides links to classroom activities, an excellent lesson plan, and a student worksheet with reading and discussion questions. The materials are primarily for the secondary grade levels, although middle school students could also use them. It also has a news feature on the narrow approval of the American Clean Air Act by the House of Representatives in late June and gives reasons why many representatives voted against it. Finally, there's a preview of the upcoming Copenhagen Conference.



Deliberating in a Democracy

www.deliberating.org/index.php

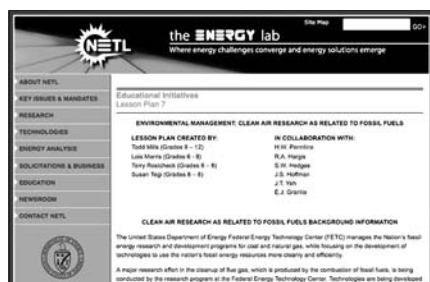
Deliberating in a Democracy is an outstanding program of three partner groups: The Constitutional Rights Foundation-Chicago, the Constitutional Rights Foundation in Los Angeles, and StreetLaw, Inc. Funded by the U.S. Department of Education, it focuses on the role of freedom of speech and discussion in a democracy. If you haven't heard about this program or its resources, make sure you take a look. In Prague, I watched Czech students discuss and deliberate the role of immigration in their nation. It was a great experience for them, and for the

U.S. educators who were visiting. This site offers lesson plans on a wide variety of important political and social issues. From the home page, click on “Lessons” and scroll down to “Global Climate Change.” Be sure to check out the other great lesson plans also.

EFMR-Coal Energy: Lesson Plans and Resource Guide

www.efmr.org/edu/coal2009.pdf

EFMR is a not-for-profit group set up after the Three Mile Island disaster to monitor radiation levels in that area of Pennsylvania. It has also looked at new ways to use traditional energy sources such as coal. This is a very well designed series of activities aimed at elementary students. They are keyed to Pennsylvania *science* standards and would be an excellent way for an elementary teacher to integrate social studies and science instruction.



U.S. Dept. of Energy National Energy Technology Laboratory-Lesson Plan

www.netl.doe.gov/education/teacher/lesson-plans/lesson7.html

This is another lesson that would be suited to an integrated social studies-science unit, but at the middle school and secondary level. The lesson and activities were designed by classroom teachers. It involves students working in cooperative groups to collect samples and data about air pollution in and around their own school. Then, a series of activities and experiments are conducted and students learn about techniques for using fossil fuels, such as coal and natural gas, safely and effectively.

Kentucky Coal Education "Kentucky Coal and Energy Education Project"	
Lesson Plans for All Grades	
Name Of Lesson Plan	Discipline
A Penny's Secret	Science/Math (Grades 3-8)
A Penny with a Twist	Math/Science/Language Arts (Grades K-12)
Enhanced Mining Activity	Social Studies/Math/Science (Grades K-12)
Coalcore Core Sampling	Earth Science/Math (Grades K-12)
Career Match	Social Studies (Grades K-12)
Environmental Bright	Reading/Language Arts/Science (Grades 4-12)
Education: What's in the coal you eat?	Science/Math (Grades 3-12)
Fracturing: How to Make a Nut Feed	Earth Science (Grades 3-12)
Industrial Minerals Around the House	Earth Science
Layer Cake Core Drilling	Social Studies/Math/Science (Grades 6-12)
Minerals: A Matter of Minerals	Earth Science/Economics
Minerals and You	Earth Science/Economics

Kentucky Coal Education

www.coaleducation.org/lessons/allgrade.htm

Yes, this program was initiated by folks who want to encourage coal mining and energy use. However, I've looked at these lessons and they don't try to cover up the environmental damage that coal mining and coal use have caused over the years. They present a series of lessons aimed at elementary, middle, and high school students that examine the problems with coal and point to scientific advancements that make it more environmentally friendly. The lesson plans are

categorized by subject area and include social studies, science, and reading/language arts. Several are co-listed such as “Social Studies/Math/Science.”

I wish I had more room to include more websites, but I know that teachers who regularly use this column will do some of their own searching. I used “global warming” and “K-12 education” as my first search terms; followed by “cap and trade” and “Copenhagen Conference.” You will be able to find several more useful websites. 🌐

Notes

1. *The United Nations Framework Convention on Climate Change*, Article 2, unfccc.int/essential_background/convention/background/items/1353.php.
2. Byrd-Hagel Resolution, sponsored by Senator Robert Byrd (D-WV) and Senator Chuck Hagel (R-NE), www.nationalcenter.org/KyotoSenate.html.

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