CLASS 4
INTRODUCTION AND LIST OF RESOURCES

I. Introduction

The fourth class focuses on environmental regulation and the use of "cap and trade" as a means to regulate environmental pollution. The class involves a short video presentation regarding cap and trade and a presentation by firm leaders on acid rain and environmental regulation. The student activity is to play a board game with the students to illustrate how cap and trade works. We also have purchased allowances on the Chicago Board of Trade on behalf of the students.

Allowance trading, or cap and trade, is a market based mechanism that controls the total amount of pollution emitted, while allowing flexibility in how producers of pollution comply with the law. Essentially, emitters of SOx are allowed to pollute as much as they like, as long as they can buy enough allowances to cover their emissions. Likewise, emitters that go beyond the requirements of the law may sell their extra pollution allowances. This market based mechanism has been highly successful in reducing SOx emissions in the U.S.

The video we have included about allowance trading was made by Environmental Defense (EDF) and it runs under 10 minutes. It is a good introduction to the concepts of pollution allowances, cap and trade, SO_2 pollution and acid rain. The real attraction for our classes has been that it shows our students' school building (Birney Elementary) and David Friedland of our law firm. As David always attends this class, the highlight is watching the students realize that they are in the presence of a film star. After the video, we repeat the concepts of cap and trade using charts and answering questions from the students.

The cap and trade board game is always a highlight for the students. The game was created by the Clean Air Conservancy, and we have attached copies of the game materials. The students play electric utilities that must comply with the cap and trade program. The utilities earn and lose pollution credits and money as they play the game. They also can participate in auctions where they can buy and sell allowances from each other. The player with the most money/profit at the end of the game wins. The class should be divided into groups, with each group of 3-5 students representing one player in the game. Each group should have its own copy of the board, so that they can follow where they are and how they are doing. The firm leader of the class coordinates the game by indicating when it is a group's turn, reading the chance cards and generally keeping the game moving. As the game is a little complicated, you must play the game with the people from the firm before playing it with the class.

The game and video are included with the materials we have provided. Some preparation ahead of time is necessary for printing the game and cutting out the game cards and pieces. The chance cards need to be printed double sided, or glued together, so that on one side it says chance, and on the other side are the instructions for the player(s). Once you have created all the pieces, you should organize little packets of the correct number of allowances and money cards in ziplock bags for each team. We suggest using colored paper to aid in the presentation of the game. You also will need enough dice so that each group of students has one die. We also

suggest laminating the game materials if you intend to use them repeatedly. We have included copies of the charts that we have used to illustrate cap and trade to the students, although you might wish to make bigger versions of them by hand.

We suggest having two class leaders to present the concepts. In addition, at least four firm members should attend, so that each group of students has an adult assigned to help them understand the issues.

Additionally, the firm has purchased SO_2 allowances on behalf of the school. We have used the Clean Air Conservancy as our broker to purchase allowances on the Chicago Board of Trade. The price of allowances has varied from year to year, and the total cost has varied from $200-400 per year. We have presented the students with the certificate retiring the SO_2 allowances either at the end of this 4th class or at the conclusion of the course.

Tips:

- Remember to make the appropriate number of copies of the gameboard and other materials so that each group of students has everything it needs to play.
- Make sure that the teacher will have a working VCR in their class the day of the presentation, so you can easily play the video.

II. Resources

If you are not familiar with all or some of the concepts, simply would like a refresher, or desire plenty of ammunition for responding to questions, below are some good internet resources. Additionally, some of the resources for the other classes overlap with Class 2's topics. Likewise, see the Resources section of the Introduction to the Class Series for general resources and teaching materials.

EPA

Air - http://www.epa.gov/ebtpages/air.html
Acid Rain - http://www.epa.gov/ebtpages/airairpolacidrain.html
Kids Page - http://www.epa.gov/acidrain/site_students/index.html
Allowance Auction - http://www.epa.gov/airmarkets/auctions/factsheet.html
Cap & Trade Basics - http://www.epa.gov/airmarkets/trading/basics/index.html

DOE - Energy Information Administration

General - www.eia.doe.gov
Kids Page - http://www.eia.doe.gov/kids/index.html

Clean Air Conservancy

www.cleanairconservancy.org

Environmental Defense

Air Quality - http://www.environmentaldefense.org/system/templates/page/issue.cfm?subnav=5

Edison Electric Institute

Homepage - www.eei.org

Handbook to Electricity Industry - http://www.eei.org/industry_issues/industry_overview_and_statistics/nonav_key_facts/index.htm

Miscellaneous

How Power Distribution Grids Work - http://people.howstuffworks.com/power.htm/printable