SUMMARY
This activity engages students in reading and analyzing editorials regarding bioenergy and examining multiple perspectives on the issue. Students participate in group and class discussions and complete a worksheet to analyze and critique the perspectives on biomass presented in editorial articles. In addition, students take part in a panel discussion/debate regarding the various perspectives presented in the articles.

BACKGROUND
Energy is a hot topic in the news today. Many people are advocating for increased utilization of bioenergy resources to reduce dependence on fossil fuels, reduce greenhouse gas emissions, and help meet increasing energy consumption rates in the U.S. and internationally. Others argue that, without fully understanding the long-term effects of increased utilization of bioenergy resources, we could be inviting additional complications and problems. Any group that has a stake in the issue can provide information that emphasizes their point of view and omits other relevant facts. This is the art of persuasion, and it makes it a challenge to obtain a thorough and balanced view of any current issue. To see the growing controversy, we can just look at some of the recent editorial headlines regarding bioenergy: “Corn Can’t Save Us” (David Pimentel, St. Louis Post-Dispatch, March 18, 2008), “New Trend in Biofuels Has New Risks” (Elisabeth Rosenthal, New York Times, May 21, 2008), or “Biofuel Critics Stray from the Facts” (New Fuels Alliance, January 2008).

As can be gathered from reading these articles, there are multiple perspectives on the issue, and the topic brings forth
emotionally-fraught opinions and statements regarding the advantages and disadvantages of increasing biomass utilization for energy. Writers often present only one viewpoint or pit arguments against one another to create a sense of conflict. Because bioenergy is a complex topic, it is important that we, as citizens and consumers of energy, critically analyze where we get our information and ensure we are seeking multiple sources of information to gain a balanced perspective.

To help us understand and analyze editorial articles, it is helpful to evaluate the major components of the argument presented by the author and to identify bias presented in the article.

**COMPONENTS OF AN ARGUMENT**

- **Claim:** The main point or thesis of an argument. The claim answers such questions as “What is the author trying to prove?” or “What does the author want his or her audience to think or do as a result of reading the argument?” The claim often is implied in the headline and usually is stated early on in the article and (with different wording) reiterated in its closing. The claim completes the sentence, “The author wants us to believe that…”

- **Evidence:** The information and details that the author presents to support and back up his or her claim. The evidence answers the question, “Why should I accept this claim? Because the author tells us….”

- **Assumptions:** The broad overarching values or principles that underlie the claim and connect it to the evidence. While the evidence is visible in the article, the assumptions often are not. Uncovering or revealing the assumptions in an argument, therefore, is the most challenging yet most crucial aspect of critically analyzing an argument. For example, in the article “Corn Can’t Save Us,” David Pimentel wants his readers to assume that because he is a professor of entomology at the College of Agriculture and Life Sciences at Cornell University, the evidence he presents to back his claim is reliable even if he does not provide citations to document the validity of the evidence.

Aspects of an individual’s background or beliefs may influence or sway this individual’s thinking, leading to bias. Bias can be detected by examining an author’s word choice, what information the author chooses to include or omit, how the author frames the message, and the balance or imbalance of sources cited.
Teacher Instructions

Preparation
1. Read the Background Information provided at the beginning of this activity and make copies if you plan to assign reading before doing this activity.
2. The following is a list of recommended articles to use with this activity. You can also use other articles that you find. If you do so, it is important to provide students with articles that present contrasting perspectives on the issue. Perspective-rich articles are typically found on the editorial or opinion sections of a newspaper or in organizational magazines and newsletters.

Recommended Articles

Practice Article:
- “Corn Can’t Save Us” by David Pimentel. Published March 18, 2008 in the St. Louis Post-Dispatch. http://www.commondreams.org/archive/2008/03/18/7746/

Articles with a pro-bioenergy slant for Student Worksheet:

Articles with an anti-bioenergy slant for Student Worksheet:

3. Read through the articles and select one “pro-bioenergy” and one “anti-bioenergy” article to be used for the Student Worksheet.
4. Make copies of the sample article, “Corn Can’t Save Us,” the two articles to be used for completion of the Student Worksheet, and Student Worksheet.

Procedure

Part I: Understanding the Basic Components of Argument and Critical Analysis of Bioenergy Perspectives
1. Divide students into small groups of two or three students, pass out copies of the practice article, “Corn Can’t Save Us,” and have groups read through the article.
2. As groups are reading through the article, write the following questions on a board or overhead:
   - Does the article seem positive or negative?
   - Who or what organization wrote it?
   - Who was interviewed or who presented a perspective on the topic?
Extensions

- Ask students to write their own editorial regarding biomass in their community.
- Ask students to bring in an additional editorial article regarding biomass or energy to share with the class. Students should be prepared to lead a class discussion on the article they found, outlining the components of the argument and identifying bias and other perspectives.

Resources

- American Society of Newspaper Editors: High School Journalism Lesson Plans: [http://www.highschooljournalism.org/Teachers/Lesson_Plans/Archive.cfm](http://www.highschooljournalism.org/Teachers/Lesson_Plans/Archive.cfm)
- University of Michigan News Bias Explored: The Art of Reading the News: [http://www.umich.edu/~newsbias/index.html](http://www.umich.edu/~newsbias/index.html)
- University of North Carolina Writing Center: Evaluating Print Sources: [http://www.unc.edu/depts/wcweb/handouts/evidence.html#6](http://www.unc.edu/depts/wcweb/handouts/evidence.html#6)

- How does the article influence your perspective on the topic?
- Why do you think it is important to critically examine the source and perspective of an editorial?
- Identify particular phrases or statements that you think are biased.

3. Ask groups to discuss these questions and write down ideas to share with the class.
4. Reconvene class for discussion, and ask groups to share their ideas.
5. Introduce and discuss the three major components of an argument and the concept of bias described in the Background Information. Discuss how these components are used in the sample article. See the Teacher Key for help in assessing the article.
6. Next, ask the groups to brainstorm some of their own perspectives and beliefs about biomass for energy in their community. Prompt groups to examine their own bias toward this issue by thinking about reasons why they hold these beliefs or perspectives.
7. Reconvene class for discussion.
8. Ask groups to share their perspectives and record various perspectives on the board.
9. Next, as a class, brainstorm a list of organizations or industries that are likely to have a position on biomass and identify their bias (e.g., utility company, forest landowner, logger/hauler, pulpmill owner, environmental organization, fossil fuel producer, etc.).
10. Ask the class what claims, evidence, and assumptions they expect these people to use. What evidence or facts might they choose to leave out?
11. Ask why it is important to seek out multiple sources of information. Help the students understand that when a community is making decisions about energy sources, it is important to seek out reliable information that includes multiple perspectives in order to make informed decisions. Any one source is not likely to tell the whole story on an issue.
12. Introduce the homework assignment: Biomass Perspectives Student Worksheet. You can also use this as an in-class assignment, if time permits.
13. Explain that each student will receive two editorial articles related to bioenergy. Each student is to complete two student worksheets (one for each article) as a homework assignment and be prepared to share their initial and follow-up reactions to the articles in class.

Part II: Panel Discussion/Debate

1. Divide students into small groups and ask them to spend 5-10 minutes sharing their initial and follow-up reactions to the articles.
2. Randomly select two groups to participate as panelists in a discussion/debate: one group to advocate the argument presented by one of the writers; the other group to advocate the argument presented by the other author.
3. Each group can take several minutes to prepare their position. Meanwhile, ask the remaining student groups to work together and write down questions to challenge the arguments presented by the two panels. Remind all students that they should show off their critical-thinking skills—analysis, evaluation, and synthesis (for more information see the Critical Thinking section of the Teacher Introduction).
4. Let the debate begin . . . Allow each group 5 minutes to advocate their argument.
5. After the debate, open the floor for questions and challenges from the audience and responses from panelists.
6. Allow each group a chance to present a brief closing argument.
7. About 5 minutes before the class ends, ask each student to write down his or her verdict as to which writer’s argument is more likely to persuade a group of critical thinkers such as themselves. Tally the votes, and report the class’s final assessment.
Carefully read both of the editorial articles provided to you. You will need to complete a worksheet for each article. First, record the title, author, publisher, and publication date of the article.

- **Title:**
- **Author:**
- **Publisher:**
- **Publication Date:**

Next, answer the following questions about the article.

I. **PERSONAL REACTION:**
- Describe your first response to the argument presented in the article.
  1. Briefly describe the perspective on bioenergy presented in the article.
  2. What were your initial thoughts as you read the article?
  3. Did the author convince you to agree with the perspective presented in the article? Why or why not?

II. **CRITICAL ANALYSIS:**
- Describe the components of the argument presented in this article.
  1. What is the claim (for example, the author wants the reader to believe that...)?
2. What evidence is presented to support the claim?

3. What assumptions does the author use to make the reader think that the evidence presented to support the claim is reliable (for example, position or authority of author or people cited; linking evidence to personal values)?

4. To whom does the author target as his or her audience (note the place of publication)?
5. In regard to biomass, what potential bias or slant do you think the author may bring to the argument?

6. If the article includes information, facts, and statistics, are the sources identified, and, if so, do you think these sources are reliable? Why or why not?

7. Brainstorming: What might be another side to this argument?

III. RETHINKING YOUR PERSONAL REACTION:

- Read what you wrote initially in response to the argument presented in the article.

1. Has your opinion of the argument changed (a change in your thinking may include strengthening, as well as challenging your first response)? Explain this change in your opinion.

2. Explain why your opinion might have changed in the way it did.