U.S. DEPARTMENT OF ENERGY | Energy Efficiency & Renewable Energy

BioenergizeME Office Hours

Guide to the 2016 BioenergizeME Infographic Challenge

October 15, 2015

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Agenda

- Overview
- Research Topic Areas And Prompts
- Research Resources
- Infographic Resources
- Rubric
- Social Media Campaign
- Awards
- Registration
- Resources for Educators
- Questions

Questions and Comments

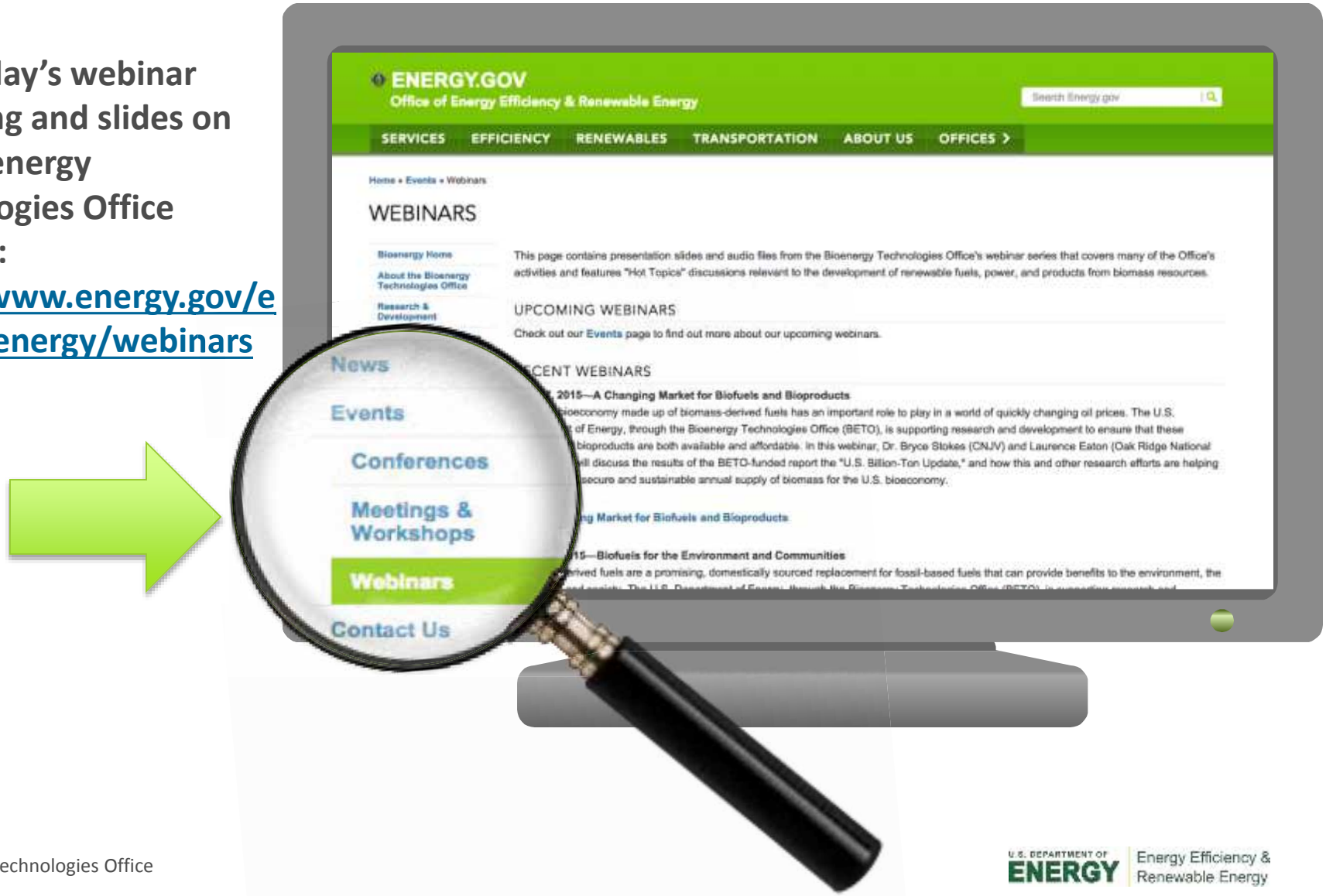
Please record any questions and comments you may have during the webinar and send them to BioenergizeME@ee.doe.gov

As a follow-up to the webinar, the presenter(s) will provide responses to selected questions.

For general questions regarding the BioenergizeME Infographic Challenge, please email BioenergizeME@ee.doe.gov

Questions and Comments

Find today's webinar recording and slides on the Bioenergy Technologies Office website: http://www.energy.gov/eere/bioenergy/webinars



Overview

Purpose

- Provide an engaging virtual venue for 9–12th-grade participants to gain foundational knowledge about bioenergy and to educate others about what they have learned.
- Their enhanced energy literacy will enable them to be better consumers of energy information and to dispel energy myths they encounter in the media and from other sources.

Challenge Activities

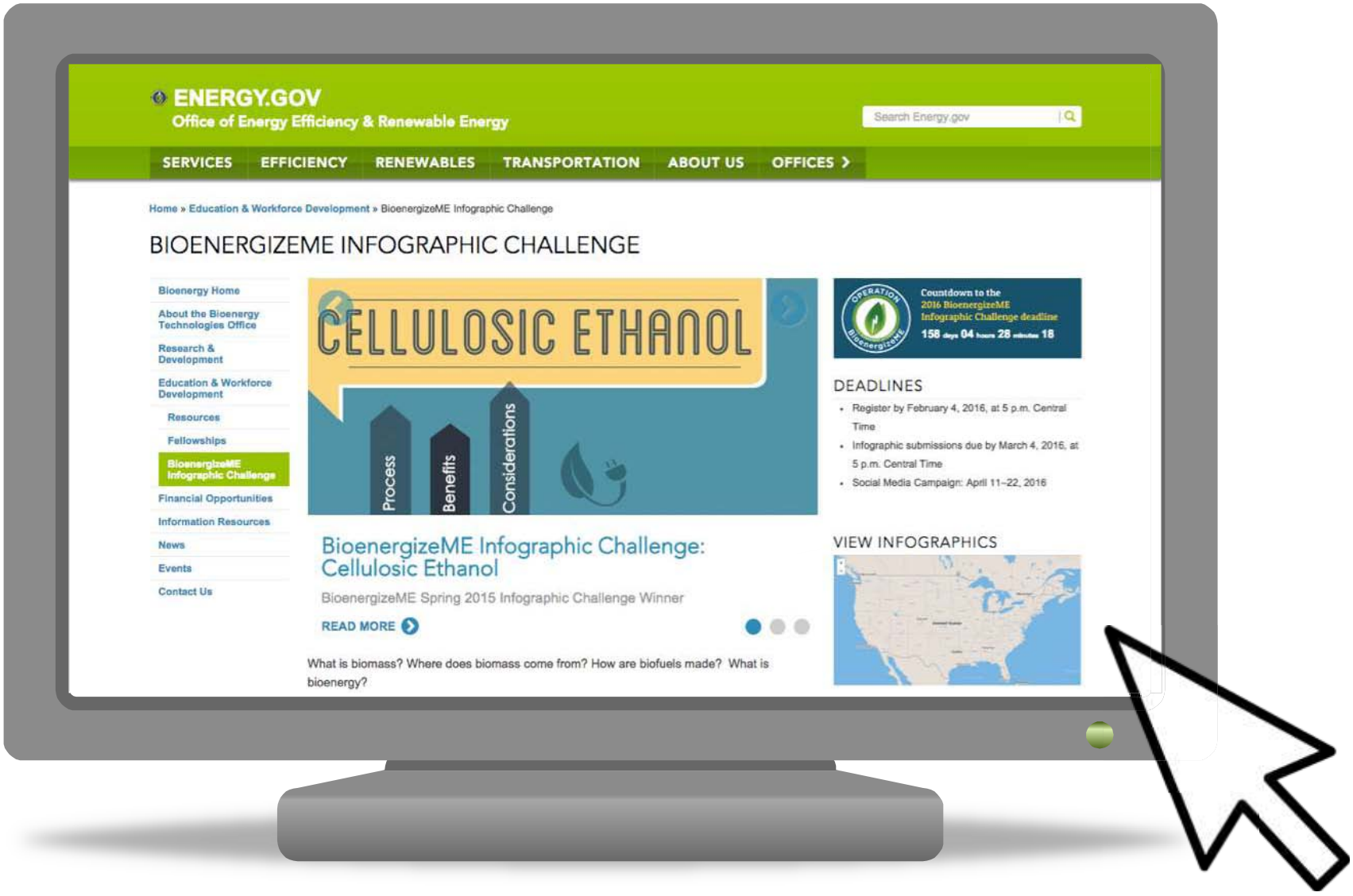
- Student teams research bioenergy topics and report their findings in an infographic.
- Selected teams promote their infographic in an 11-day social media challenge.
- Winners are selected in two categories: (1) infographic quality and (2) design and effectiveness of social media campaign.

Overview – BioenergizeME Toolkit

The **BioenergizeME Toolkit** provides more information about the challenge structure & resources.

- Challenge Details & Rules
- Research Topics & Prompts
- Research & Infographic Resources
- Infographic Rubric
- Review & Judging
- Award Details

Overview – Challenge Website



Overview – Challenge Structure

Task 1

Students research a prompt from the list found in the annual update.

Task 2

Students create an infographic to communicate their research.

Task 3

Advisors use the rubric to review infographics & then submit them to the website.

Optional

Advisors return infographics that need revision to students prior to submission.

Task 4

BETO evaluates entries & selects finalists for social media campaign.

Task 5

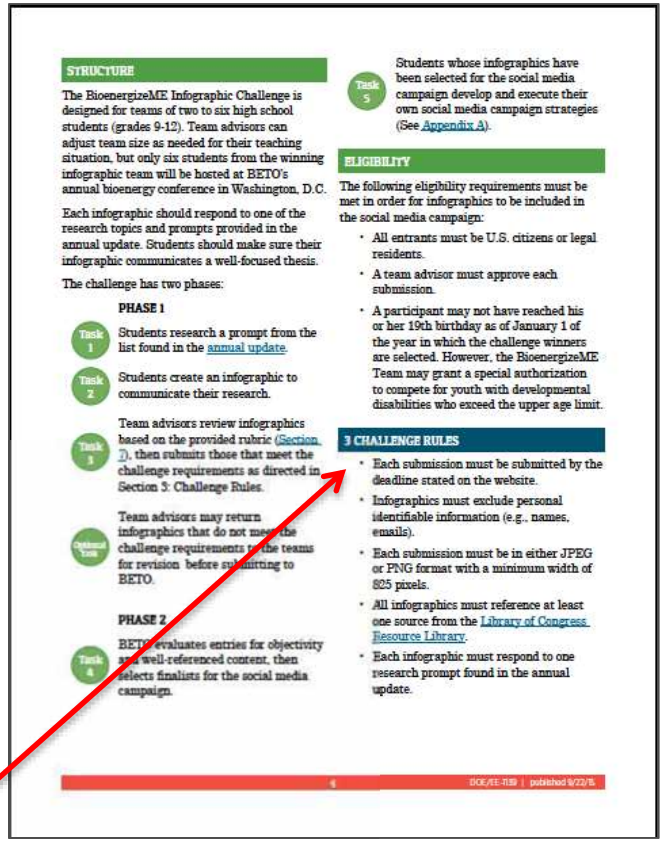
Selected teams develop & execute social media campaign strategies.

GRAND PRIZE WINNER SELECTION

Overall winner selected based on content, design, & results from social media campaign

Overview – Challenge Rules

- Infographics must exclude personal identifiable information (e.g., names, emails).
- Infographics must include a source citation for all facts and numbers. Sources should be referenced as footnotes at the bottom of the infographic.
- All infographics must reference at least one source from the Library of Congress Resource Library.
- Each submission must be in either JPEG or PNG format with a minimum width of 825 pixels.



STRUCTURE

The BioenergizeME Infographic Challenge is designed for teams of two to six high school students (grades 9-12). Team advisors can adjust team size as needed for their teaching situation, but only six students from the winning infographic team will be hosted at BETO's annual bioenergy conference in Washington, D.C.

Each infographic should respond to one of the research topics and prompts provided in the annual update. Students should make sure their infographic communicates a well-focused thesis.

The challenge has two phases:

PHASE 1

Task 1: Students research a prompt from the list found in the annual update.

Task 2: Students create an infographic to communicate their research.

Task 3: Team advisors review infographics based on the provided rubric (Section 2), then submits those that meet the challenge requirements as directed in Section 3: Challenge Rules.

Optional Task: Team advisors may return infographics that do not meet the challenge requirements to the teams for revision before submitting to BETO.

PHASE 2

Task 4: BETO evaluates entries for objectivity and well-referenced content, then selects finalists for the social media campaign.

Task 5: Students whose infographics have been selected for the social media campaign develop and execute their own social media campaign strategies (See Appendix A).

ELIGIBILITY

The following eligibility requirements must be met in order for infographics to be included in the social media campaign:

- All entrants must be U.S. citizens or legal residents.
- A team advisor must approve each submission.
- A participant may not have reached his or her 19th birthday as of January 1 of the year in which the challenge winners are selected. However, the BioenergizeME Team may grant a special authorization to compete for youth with developmental disabilities who exceed the upper age limit.

3 CHALLENGE RULES

- Each submission must be submitted by the deadline stated on the website.
- Infographics must exclude personal identifiable information (e.g., names, emails).
- Each submission must be in either JPEG or PNG format with a minimum width of 825 pixels.
- All infographics must reference at least one source from the Library of Congress Resource Library.
- Each infographic must respond to one research prompt found in the annual update.

BioenergizeME Toolkit

Overview – Challenge Timeline

Registration Opens September 30th

Social Media Campaign takes place April 11–22, 2016

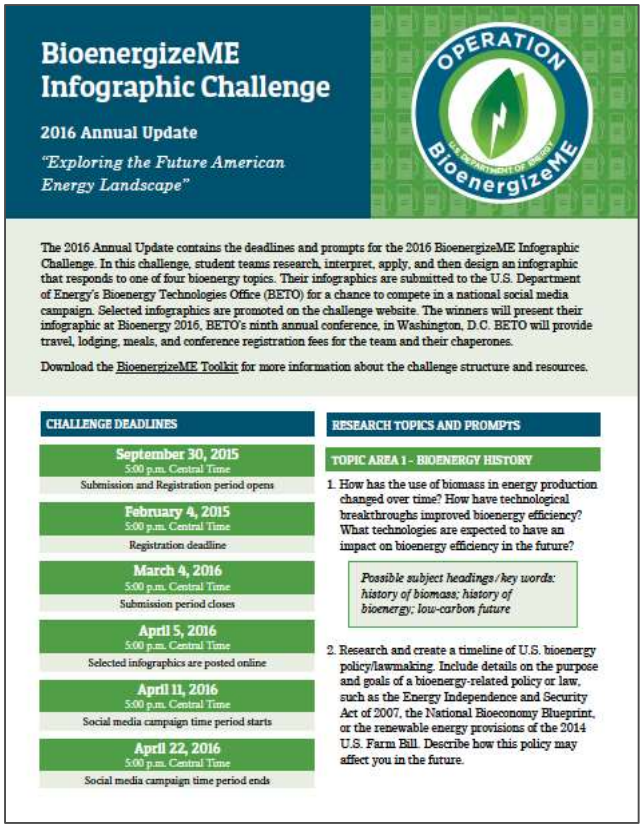
September | February | March | April

Registration Closes February 4, 2016, at 5 p.m. Central Time

Infographic submissions due March 4, 2016, at 5 p.m. Central Time

Research Topic Areas And Prompts

Select a prompt from **one** of the four research topic areas



BioenergizeME Infographic Challenge

2016 Annual Update

"Exploring the Future American Energy Landscape"

The 2016 Annual Update contains the deadlines and prompts for the 2016 BioenergizeME Infographic Challenge. In this challenge, student teams research, interpret, apply, and then design an infographic that responds to one of four bioenergy topics. Their infographics are submitted to the U.S. Department of Energy's Bioenergy Technologies Office (BETO) for a chance to compete in a national social media campaign. Selected infographics are promoted on the challenge website. The winners will present their infographic at Bioenergy 2016, BETO's ninth annual conference, in Washington, D.C. BETO will provide travel, lodging, meals, and conference registration fees for the team and their chaperones.

Download the BioenergizeME Toolkit for more information about the challenge structure and resources.

CHALLENGE DEADLINES

- **September 30, 2015** 5:00 p.m. Central Time — Submission and Registration period opens
- **February 4, 2015** 5:00 p.m. Central Time — Registration deadline
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- **April 5, 2016** 5:00 p.m. Central Time — Selected infographics are posted online
- **April 11, 2016** 5:00 p.m. Central Time — Social media campaign time period starts
- **April 22, 2016** 5:00 p.m. Central Time — Social media campaign time period ends

RESEARCH TOPICS AND PROMPTS

TOPIC AREA 1 - BIOENERGY HISTORY

1. How has the use of biomass in energy production changed over time? How have technological breakthroughs improved bioenergy efficiency? What technologies are expected to have an impact on bioenergy efficiency in the future?

   Possible subject headings/key words: history of biomass; history of bioenergy; low-carbon future

2. Research and create a timeline of U.S. bioenergy policy/lawmaking. Include details on the purpose and goals of a bioenergy-related policy or law, such as the Energy Independence and Security Act of 2007, the National Bioeconomy Blueprint, or the renewable energy provisions of the 2014 U.S. Farm Bill. Describe how this policy may affect you in the future.

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TOPIC AREA 1 - BIOENERGY HISTORY

Possible areas of focus: history of biomass; history of bioenergy; low-carbon future

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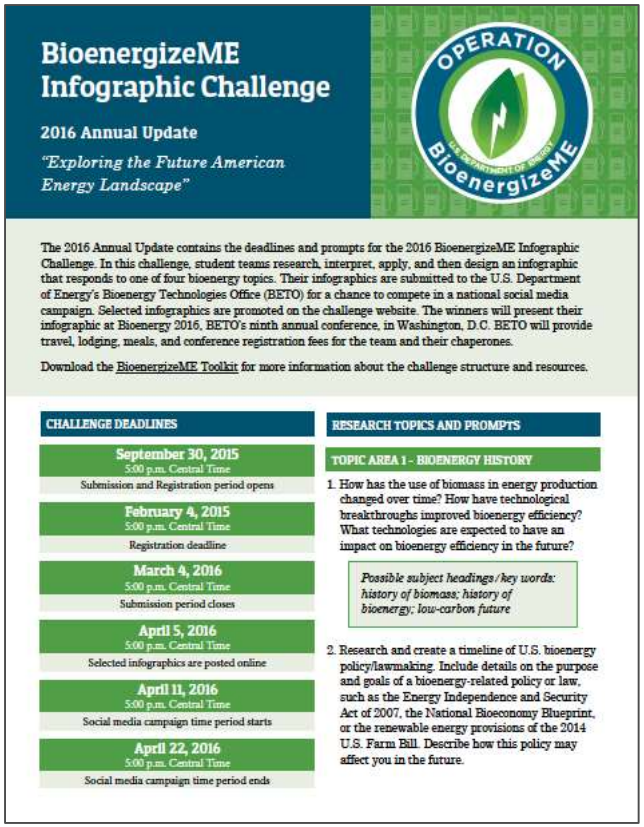

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TOPIC AREA 2 – WORKFORCE & EDUCATION

Possible areas of focus: bioenergy/biofuels careers; STEM education and bioenergy; non-traditional bioenergy careers

Research Topic Areas And Prompts

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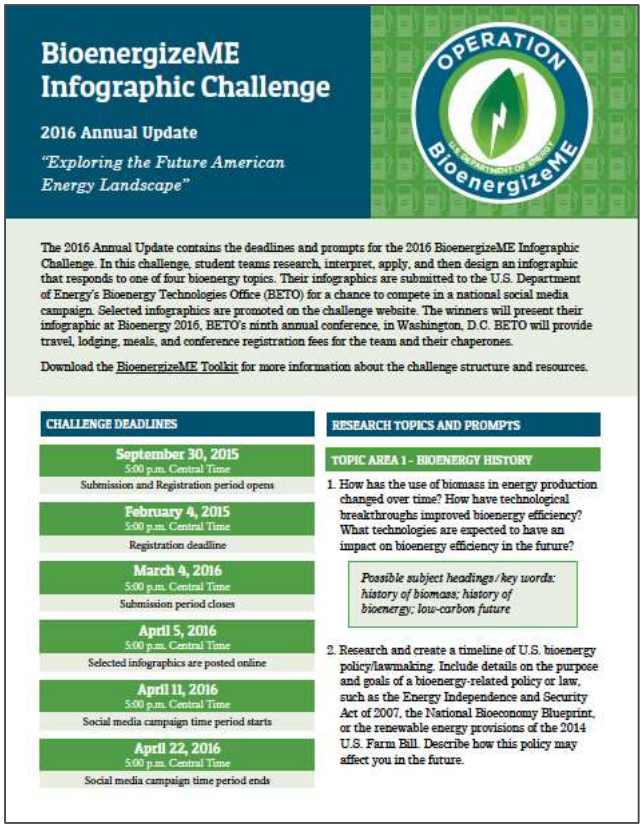

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TOPIC AREA 3 - SCIENCE AND TECHNOLOGY

Possible areas of focus: advanced biofuel conversion; second-generation conversion; bioenergy feedstock

Research Topic Areas And Prompts

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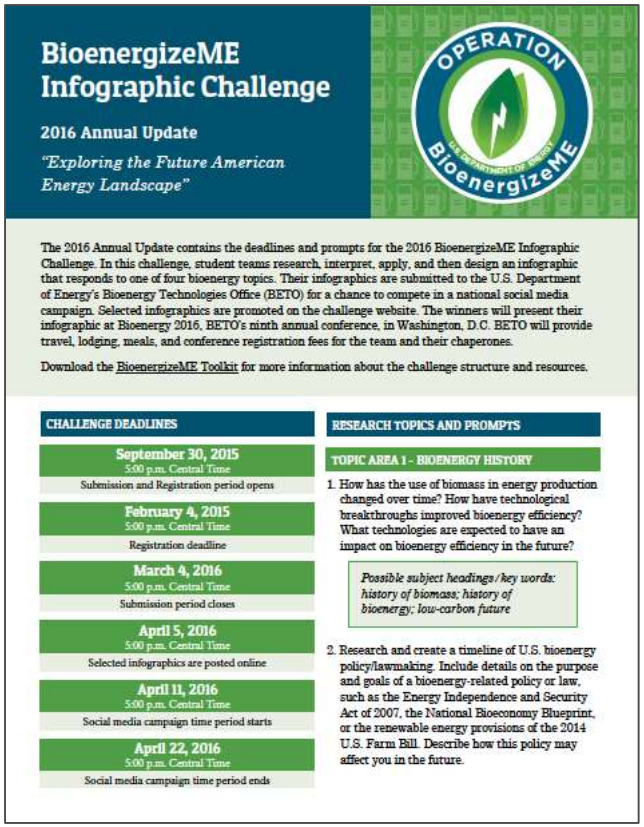

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TOPIC AREA 4 - ENVIRONMENTAL IMPACTS

Possible areas of focus: life-cycle analysis, bioenergy systems cradle-to-grave; environmental benefits bioenergy

Research Resources – Library of Congress

- Library of Congress
- Government
- National Laboratories
- Bioenergy Research Centers

For the BioenergizeME Infographic Challenge, the Library of Congress put together the Research Strategy Guide & Resource Library for students to use as a starting point for their research.

The **Research Strategy Guide** provides students with guidance on developing a successful research strategy.

Research Resources – Library of Congress

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- Government
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- Bioenergy Research Centers

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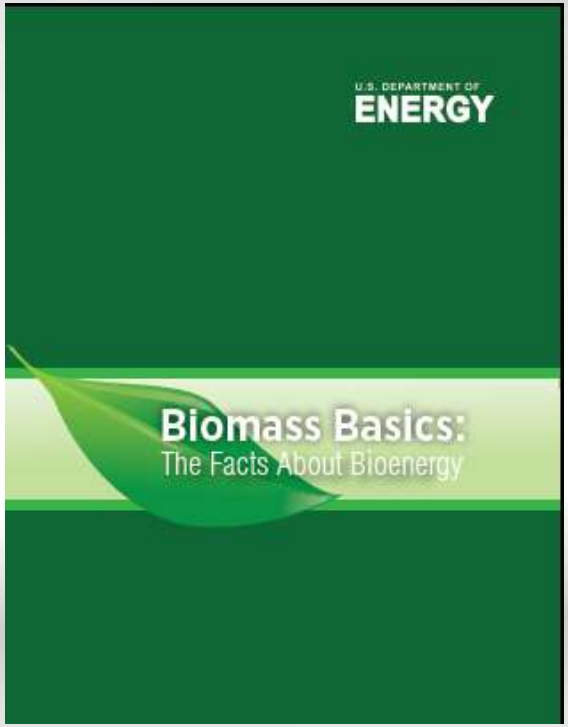
The **Resource Library** provides students with references and links to various sources such as books, fact sheets, and publications.

Research Resources – Government

- Library of Congress
- **Government**
- National Laboratories
- Bioenergy Research Centers

Government agencies such as the U.S. Department of Agriculture, Environmental Protection Agency, & Department of Energy are on the leading edge of science and technology research and produce valuable publications, fact sheets, and reports that are available to the public for free.



Research Resources – Government

- Library of Congress
- Government
- **National Laboratories**
- Bioenergy Research Centers

The U.S. Department of Energy provides funding to national laboratories across the United States that provide valuable bioenergy-related research.

Research Resources – Government

- Library of Congress
- Government
- National Laboratories
- **Bioenergy Research Centers**

GREAT LAKES BIOENERGY RESEARCH CENTER

jbei
Joint BioEnergy Institute

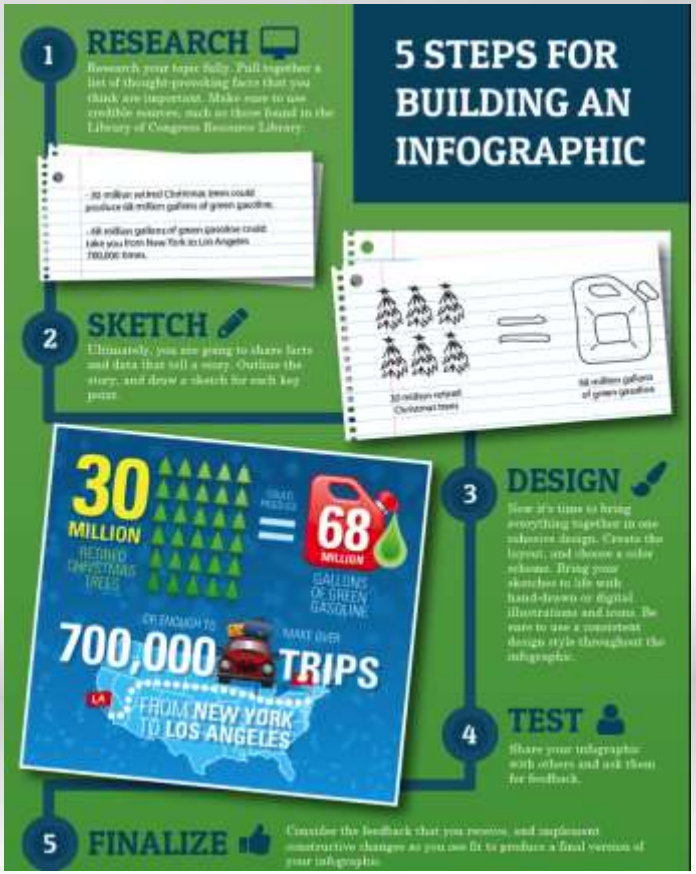
BESC

The U.S. Department of Energy established three bioenergy research centers in 2007 to help to address the challenges of biofuel production.

Infographic Resources – Infographic Guide

- **Infographic Guide**
- Examples
- Image Resources

The **Infographic Guide** provides tips and guidance for creating an infographic.

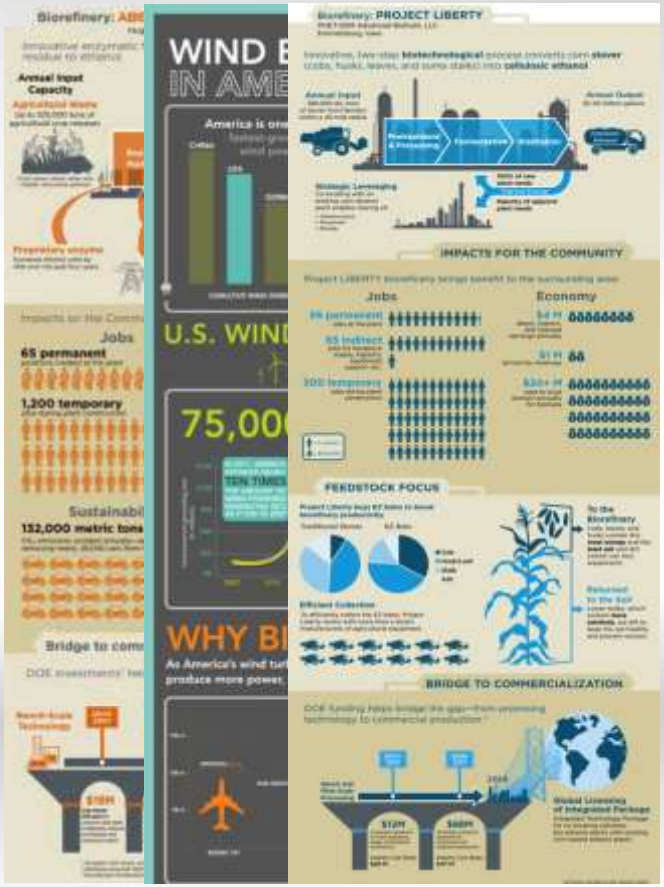


Infographic Resources – Examples

Infographic Guide

Examples

Image Resources



The site features great examples of high-quality infographics that were produced for the U.S. Department of Energy and may provide useful examples for students in designing their own

Infographic Resources – Examples

Infographic Guide

Examples

Image Resources

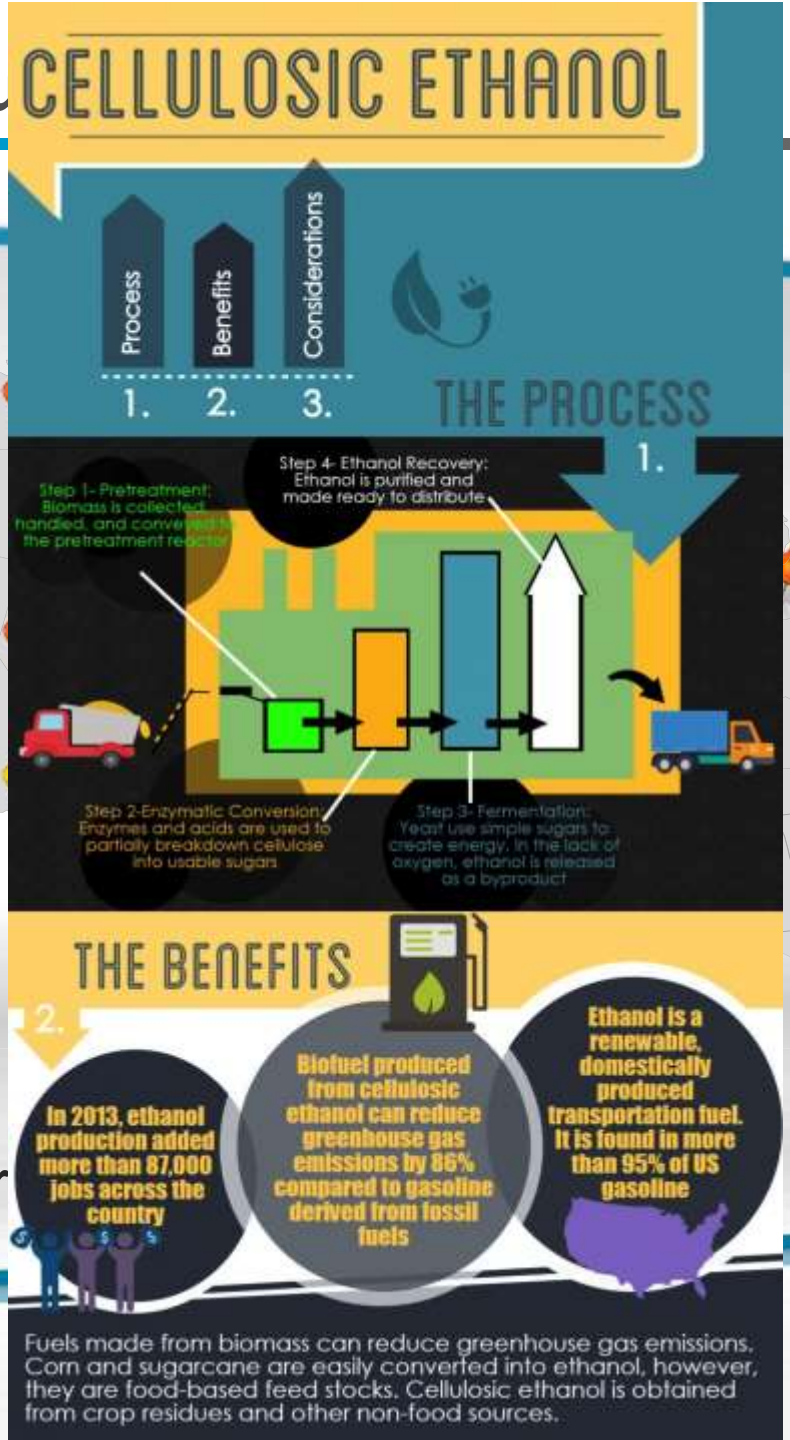
BioenergizeME Infographic Challenge Map

Infographic Resou

Infographic Guide

Examples

Image Resources



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Infographic Resources – Image Resources

Infographic Guide

Examples

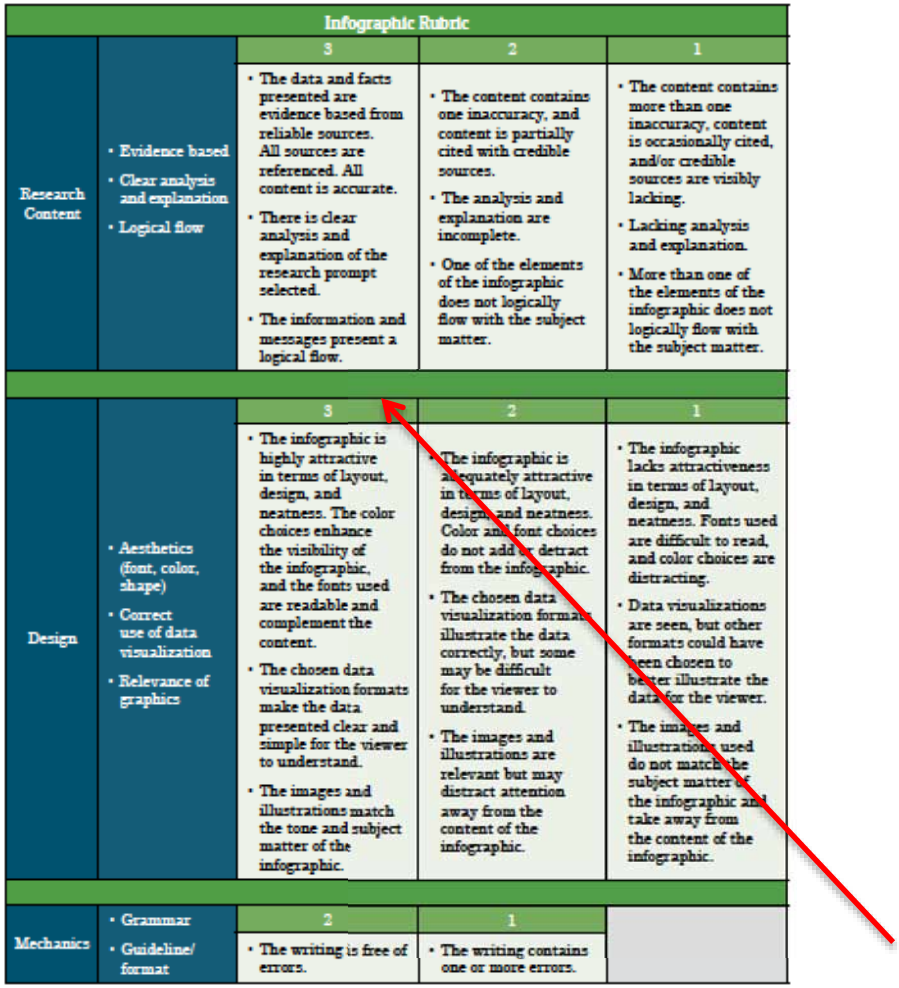
Image Resources

Pacific Northwest NATIONAL LABORATORY

NREL National Renewable Energy Laboratory

USDA

Rubric



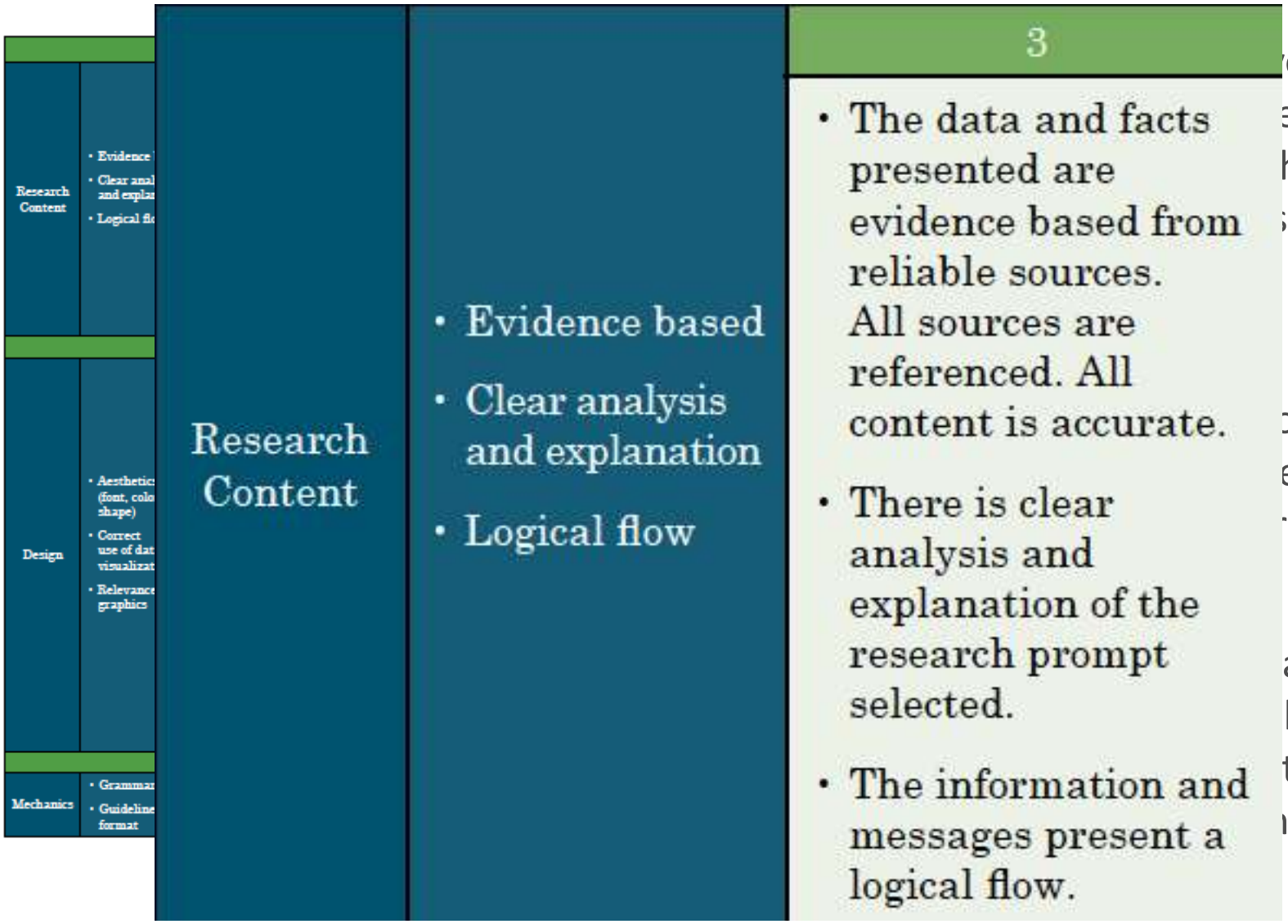
Infographic Rubric				
		3	2	1
Research Content	• Evidence based • Clear analysis and explanation • Logical flow	• The data and facts presented are evidence based from reliable sources. All sources are referenced. All content is accurate. • There is clear analysis and explanation of the research prompt selected. • The information and messages present a logical flow.	• The content contains one inaccuracy, and content is partially cited with credible sources. • The analysis and explanation are incomplete. • One of the elements of the infographic does not logically flow with the subject matter.	• The content contains more than one inaccuracy, content is occasionally cited, and/or credible sources are visibly lacking. • Lacking analysis and explanation. • More than one of the elements of the infographic does not logically flow with the subject matter.
		3	2	1
Design	• Aesthetics (font, color, shape) • Correct use of data visualization • Relevance of graphics	• The infographic is highly attractive in terms of layout, design, and neatness. The color choices enhance the visibility of the infographic, and the fonts used are readable and complement the content. • The chosen data visualization formats make the data presented clear and simple for the viewer to understand. • The images and illustrations match the tone and subject matter of the infographic.	• The infographic is adequately attractive in terms of layout, design, and neatness. Color and font choices do not add or detract from the infographic. • The chosen data visualization formats illustrate the data correctly, but some may be difficult for the viewer to understand. • The images and illustrations are relevant but may distract attention away from the content of the infographic.	• The infographic lacks attractiveness in terms of layout, design, and neatness. Fonts used are difficult to read, and color choices are distracting. • Data visualizations are seen, but other formats could have been chosen to better illustrate the data for the viewer. • The images and illustrations used do not match the subject matter of the infographic and take away from the content of the infographic.
		2	1	
Mechanics	• Grammar • Guideline/ format	• The writing is free of errors.	• The writing contains one or more errors.	

In order to help students develop infographics that meet challenge requirements and allow teachers to provide feedback to students, a scoring rubric is available.

Prior to submission, each infographic should be reviewed and scored by the team's advisor using the rubric.

To ensure accuracy of information, team advisors should only submit infographics receiving at least three points in the research content category.

Rubric



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Social Media Campaign

The **Social Media Guide** was developed to provide tips and guidance to students for planning and executing their social media campaigns.

OPERATION BioenergizeME

U.S. DEPARTMENT OF ENERGY

SOCIAL MEDIA GUIDE

GOAL: Share what you have learned about bioenergy through an 11-day social media campaign!

HOW TO DO IT:

Assign team roles

Determine what role each person will play in the campaign.

1. Team Director

Lead and organize your team, keep your team on schedule, and monitor progress (views, likes, and shares) during your social media campaign.

2. Content Manager

Determine key messages you want to convey to your audiences about your infographic, and write text to engage viewers.

3. Engagement Manager

Identify the various social media networks (Twitter, Instagram, Facebook, etc.) for your campaign. Respond to questions and comments from followers.

Plan a strategy & timeline

Plan ahead by preparing a strategy and timeline. This is necessary to design a successful campaign.

Tasks

- Choose the social media networks you will use.
- Write content (catchy text—just a sentence or two) that promotes your infographic.
- Schedule the days and times your team will send out your posts in the various social media networks, and make plans about how you will respond to comments.
- Be sure your schedule does not interrupt your classes!

Deadlines

You will have one week to prepare your social media strategy and 11 days to carry it out.

Start your campaign & monitor progress

Social media campaigns start April 11, 2016, 5:00 p.m. central time.

Posting Social Media

Be creative to bring attention to your infographic and encourage audiences to share your infographic across their social media networks.

Responding to Comments

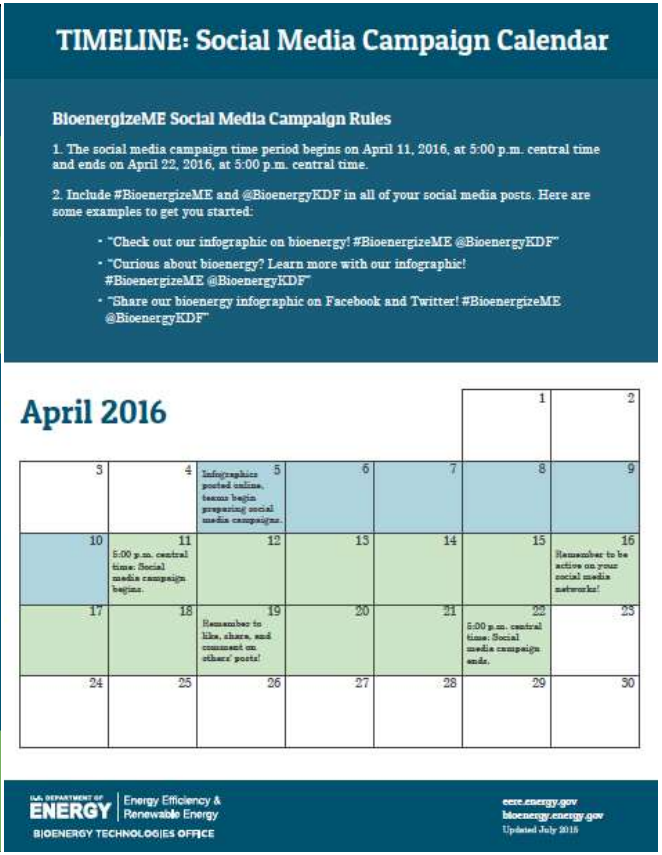
Reply quickly and courteously to comments about your infographic. See how your viewers react and what they are learning about bioenergy.

Monitor Progress

Measure your success by tallying likes, shares, and comments, and consider adjusting your outreach strategy based on your progress.

Tips:

- Stay positive and be thoughtful towards your audience. They may not be familiar with your topic. "Thank you for checking out my infographic" is a good backup response.
- If you receive aggressive or hostile comments, you may ignore or delete them. If this continues tell your team advisor.
- Be active. Like, share, and comment on others' posts, and they may do the same for you.



TIMELINE: Social Media Campaign Calendar

BioenergizeME Social Media Campaign Rules

1. The social media campaign time period begins on April 11, 2016, at 5:00 p.m. central time and ends on April 22, 2016, at 5:00 p.m. central time.

2. Include #BioenergizeME and @BioenergyKDF in all of your social media posts. Here are some examples to get you started:

- "Check out our infographic on bioenergy! #BioenergizeME @BioenergyKDF"
- "Curious about bioenergy? Learn more with our infographic! #BioenergizeME @BioenergyKDF"
- "Share our bioenergy infographic on Facebook and Twitter! #BioenergizeME @BioenergyKDF"

April 2016

					1	2
3	4	5 Infographics posted online, teams begin preparing social media campaigns.	6	7	8	9
10	11 5:00 p.m. central time: Social media campaign begins.	12	13	14	15	16 Remember to be active on your social media networks!
17	18	19 Remember to like, share, and comment on others' posts!	20	21	22 5:00 p.m. central time: Social media campaign ends.	23
24	25	26	27	28	29	30

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BIOENERGY TECHNOLOGIES OFFICE

eere.energy.gov

bioenergy.energy.gov

Updated July 2016

Awards

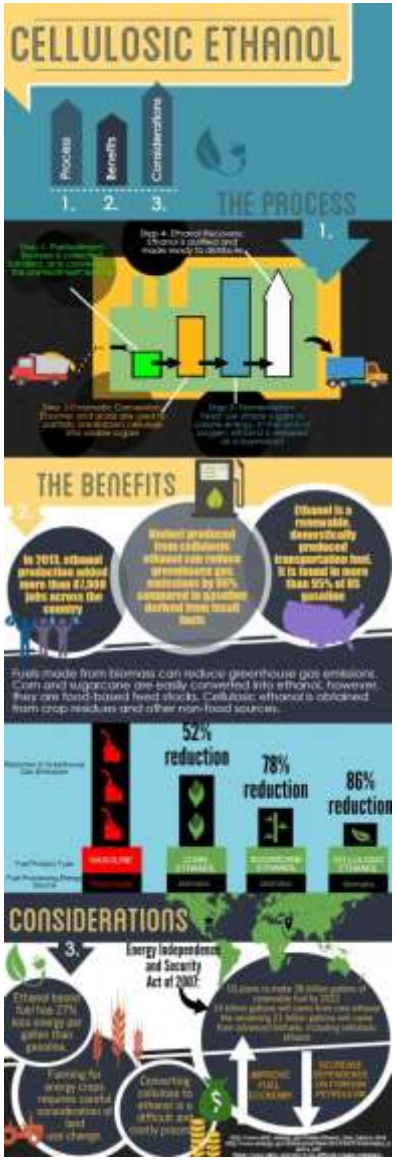
- National promotion of selected infographics on BETO's BioenergizeME website.

- Recognition of the top finalists with official letters of recognition and certificates.

- Recognition of the first-place team at BETO's annual conference held in Washington, D.C.

Spring 2015 Finalists

1



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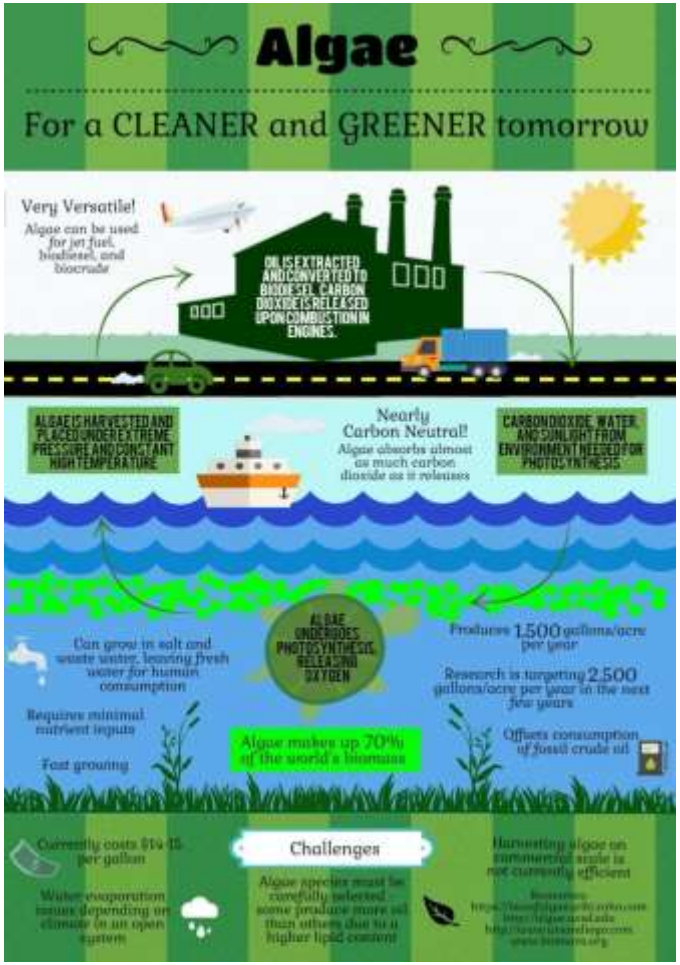

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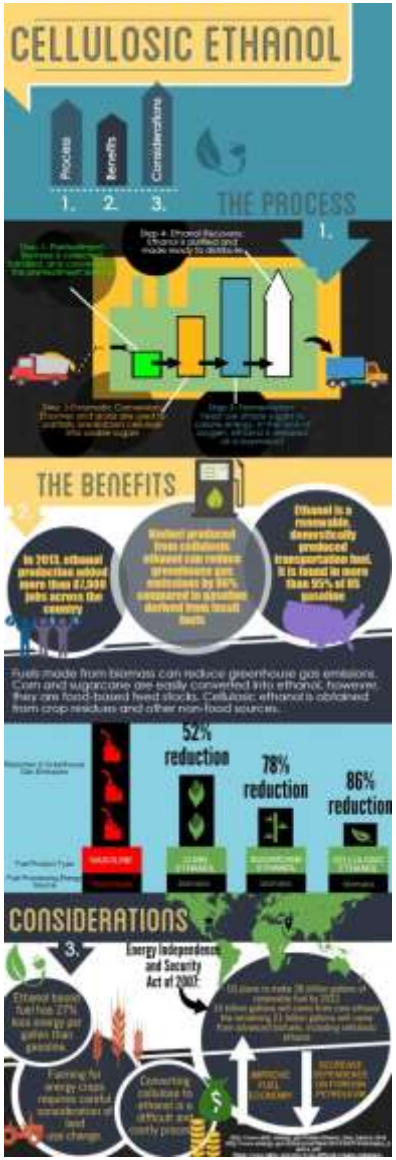
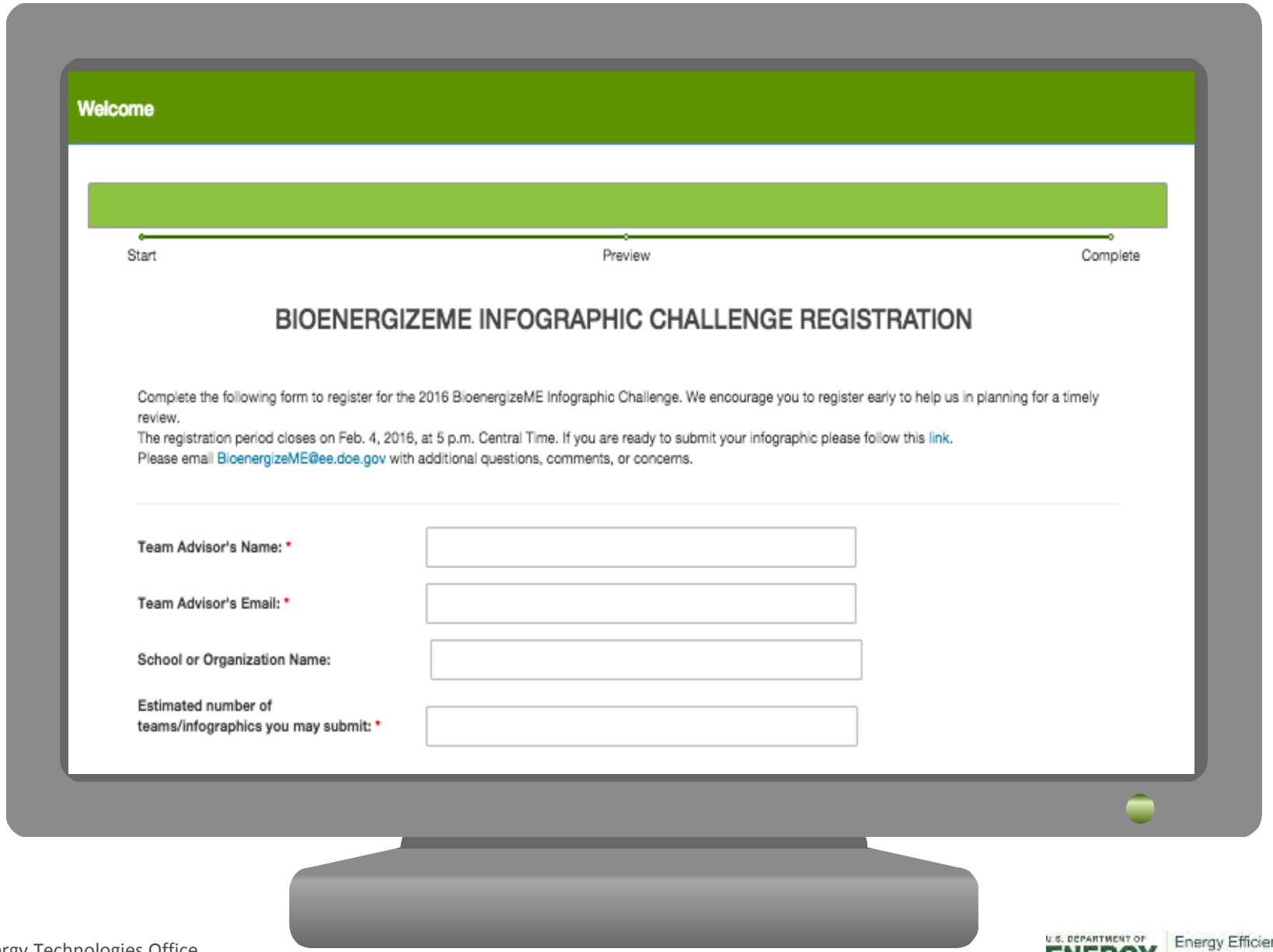
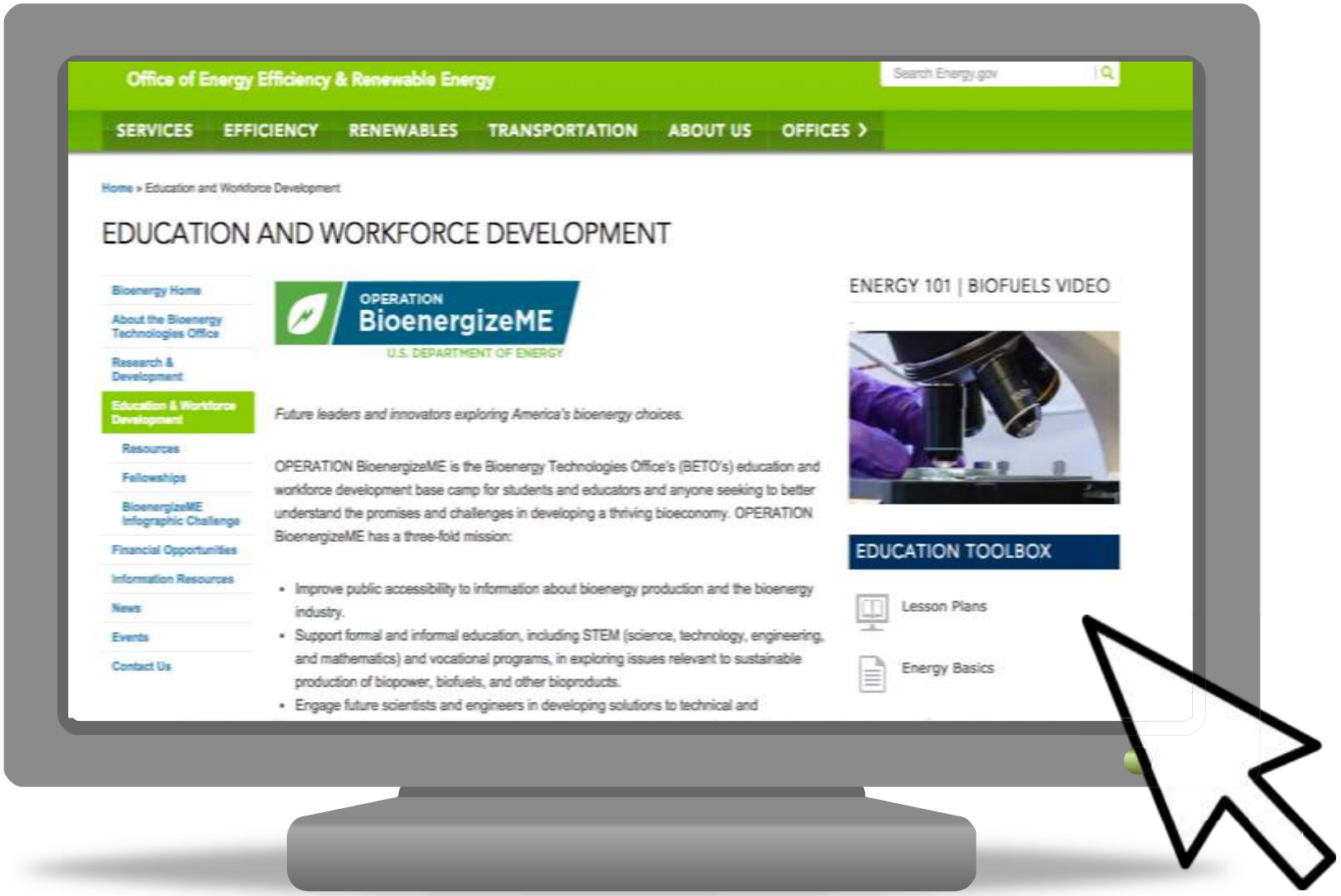


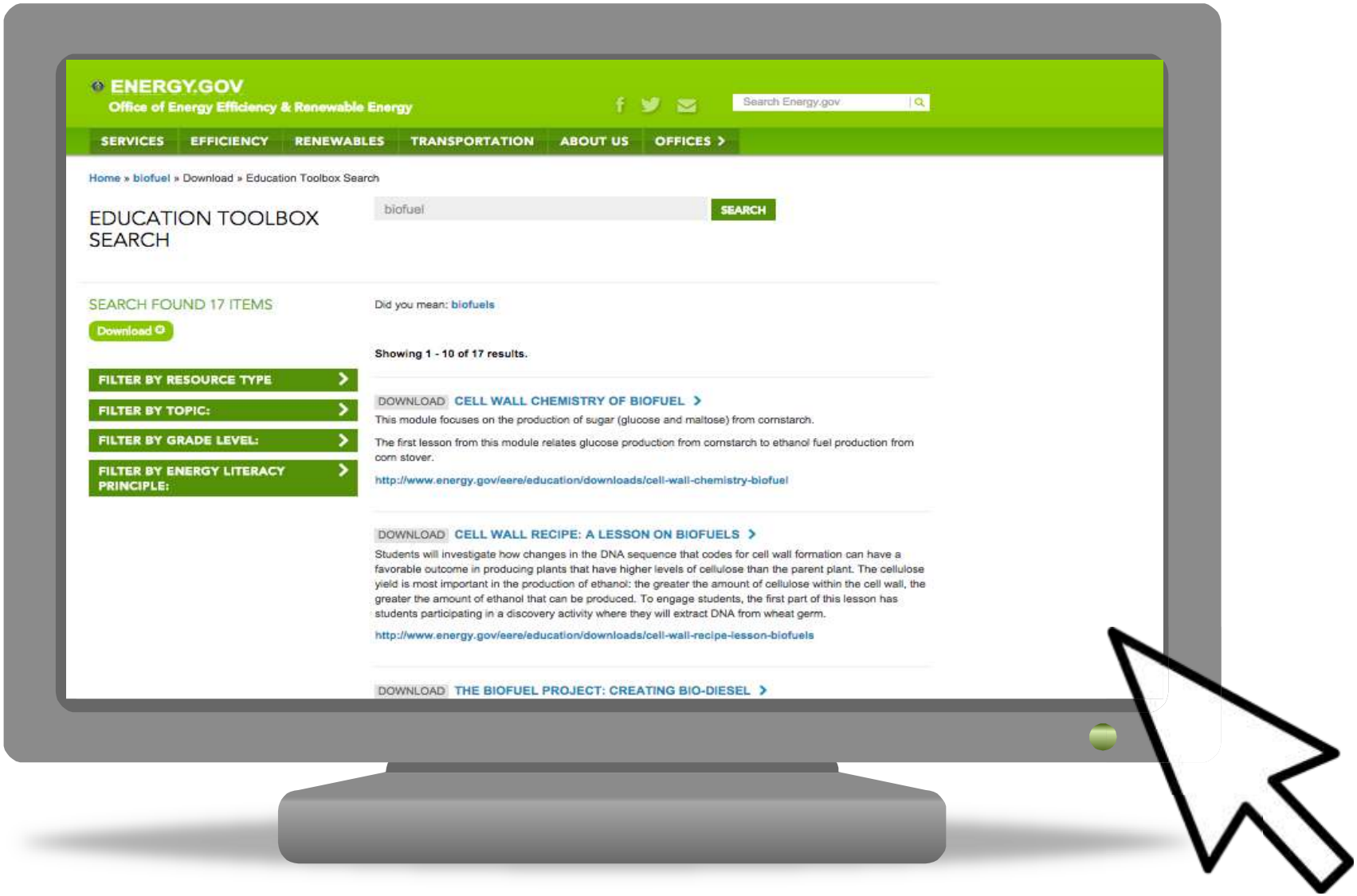
Registration



Resources for Educators



Resources for Educators



Resources

This lesson plan may contain links to other resources, including suggestions as to where to purchase materials. These links, product descriptions, and prices may change over time.

The Bio-Fuel Project

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GRADE LEVEL/SUBJECT:
10th, 11th, 12th Chemistry & Technology Education

Relevant Curriculum Standards:
From The National Science Education Content Standards

Science as Inquiry Standard A:

- Use appropriate tools and techniques to gather, analyze, and interpret data.
- Develop descriptions, explanations, predictions, and models using evidence
- Think critically and logically to make the relationships between evidence and explanations.

Physical Science Standard B:

- Structure and Properties of Matter - The physical properties of compounds reflect the nature of the interactions among its molecules. Carbon atoms can bond to one another…to form a variety of structures, including synthetic polymers, oils, and the large molecules essential to life.

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Visit the BioenergizeME Infographic Challenge Website

http://energy.gov/eere/bioenergy/infographic-challenge

Thank you for your attention!

Questions? Email us:

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bioenergy.energy.gov