

What's so Advanced about Advanced Biofuels?

Part 2: Private and Government Programs to Promote Development of Advanced Biofuels

A Primer on Advanced Biofuels With Extra Slides for Teachers

For a Truly Sustainable Renewable Future

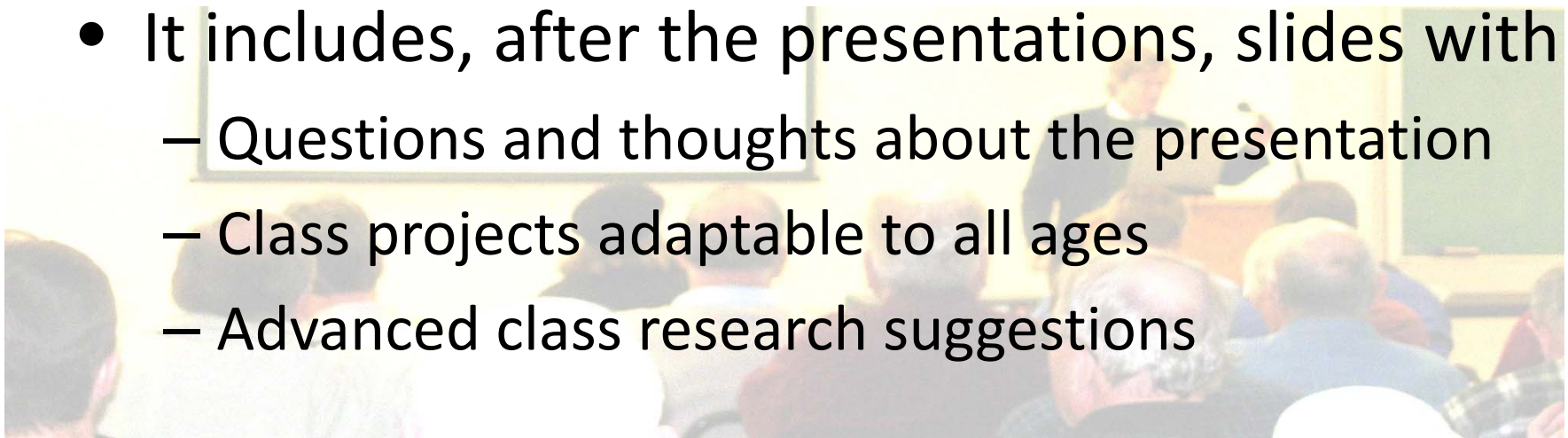
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Extra Slides with “Answers”

- This teaching tool complements “What’s so Advanced about Advanced Biofuels,” a slide presentation about creating sustainable, low-input, high energy output renewable liquid fuels.

- It includes, after the presentations, slides with
 - Questions and thoughts about the presentation
 - Class projects adaptable to all ages
 - Advanced class research suggestions





What Is Being Done to Encourage or Promote Development of Advanced Biofuels?

Congressional Initiatives for Advanced Biofuels

- The US Congress has passed two key pieces of legislation that affect the production of Advanced Biofuels
- **The Energy Independence and Security Act of 2007 “Energy Bill”**
- **The Food, Energy and Conservation Act of 2008 “Farm Bill”**
- Bills have different emphasis, use different definitions



2007 Energy Bill Established a Renewable Fuel Standard (RFS)

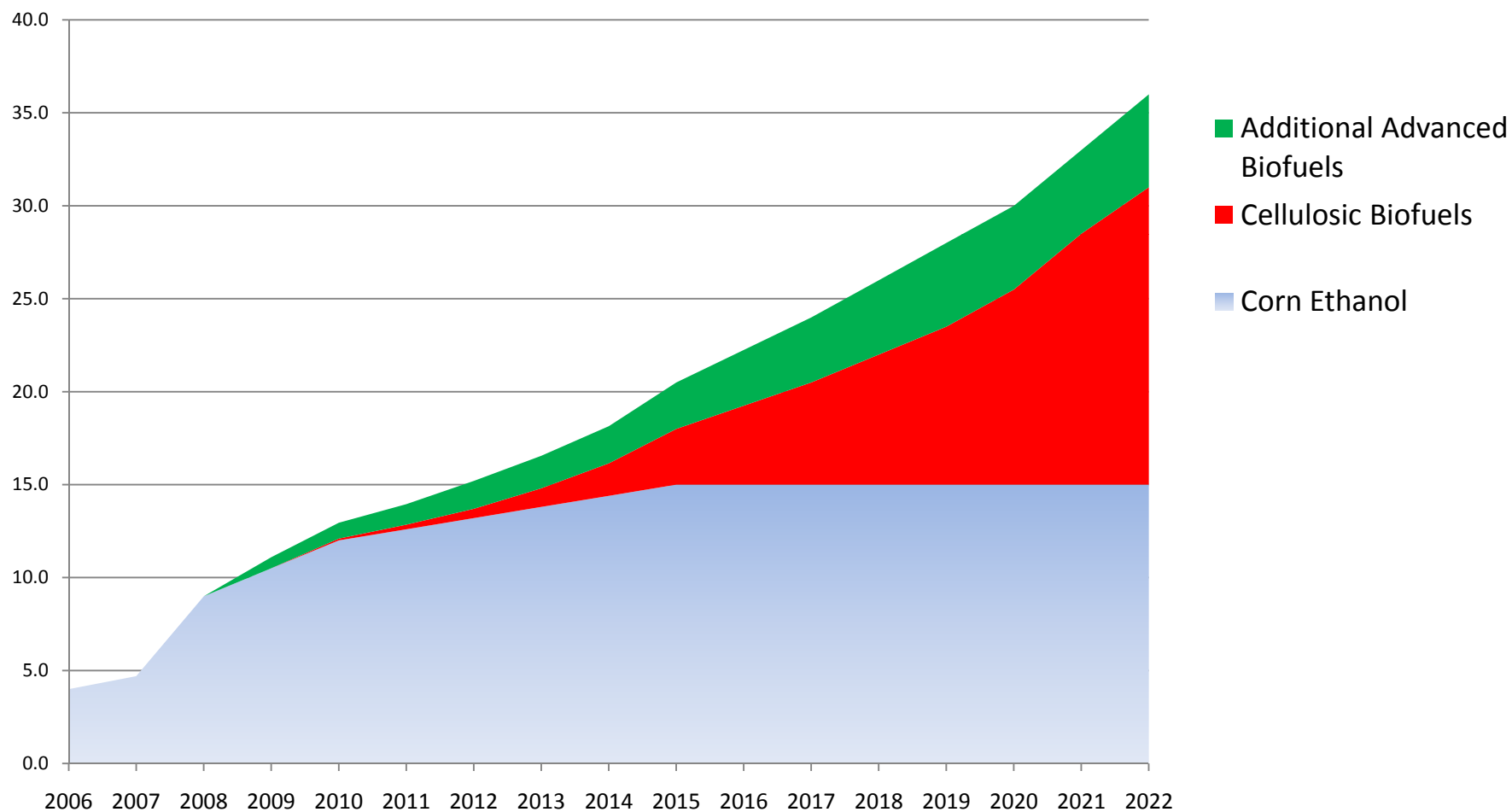
(“Energy Bill” Section 202)



- 36 Billion Gallons/Year of **Renewable Fuel** produced by 2022. (19% of current fuel use)
- Standard will be **phased in**.
- Three categories of renewable fuel included:
 - Corn Ethanol: (15 BGY by 2022)
 - **Cellulosic Biofuels: (16 BGY by 2022)**
 - **Additional Advanced Biofuels (5 BGY by 2022)**
- If Biofuels meet RFS Greenhouse Gas (GHG) reductions they are eligible for tax credits and subsidies

2007 Renewable Fuels Standard

Sec. 202 Energy Independence and Security Act of 2007
(Billion Gallons/Year)



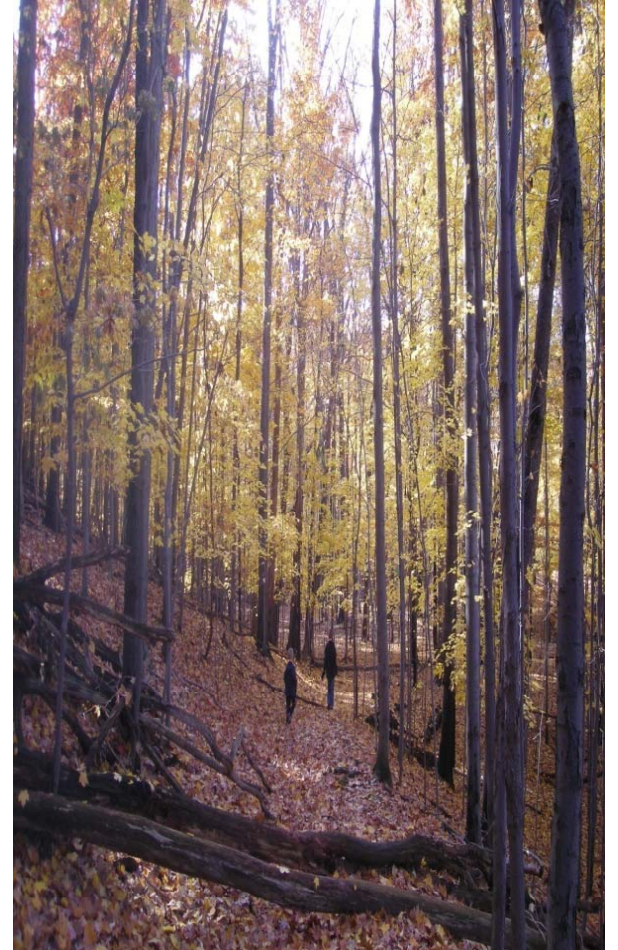
Why Was a Renewable Fuels Standard Enacted?

- The intent was to provide lenders, investors, farmers, and all types of renewable fuels producers with **assurances that a substantial, sustainable market exists for a variety of renewable fuels.**
- The RFS goals are “floors,” not “ceilings.”
- Research and investment produced by the RFS are intended to **produce additional quantities of renewable biofuels.**
- Amounts beyond the goals of any type of renewable fuel will also benefit our society, environment and economy.



Food, Energy and Conservation Act of 2008 (Farm Bill)

- Title IX of the Farm Bill includes:
- Loan guarantees for Biorefinery construction
- Payment programs for biofuel biomass growers
- Program to develop forest biomass for biofuel use
- Program to expand biofuel research
- More expanded definitions of eligible biomass and biofuel than Energy Bill



Administration of Energy and Farm Bill Biofuel Programs

- US Dept. of Energy (DOE) and US Dept. of Agriculture (USDA) have established a joint program to issue grants, loans, and evaluate progress.

- It is called the

Biomass Research and Development Initiative

<http://www.brdisolutions.com>



Additional Federal Agencies With Biofuel Responsibilities and Programs

- US **Environmental Protection Agency (EPA)** is responsible for calculating Green House Gas (GHG) impacts of biofuels applying for Renewable Fuel Standard Credit
- US **Dept. of Defense (DOD)** is funding the development of a biofuel replacement for a military jetfuel called JP-8
- **National Science Foundation (NSF)** has program to fund “Grassoline” chemical catalysts
- **Bureau of Land Management (BLM)** has responsibility for much marginal land that could be used for energy grasses.



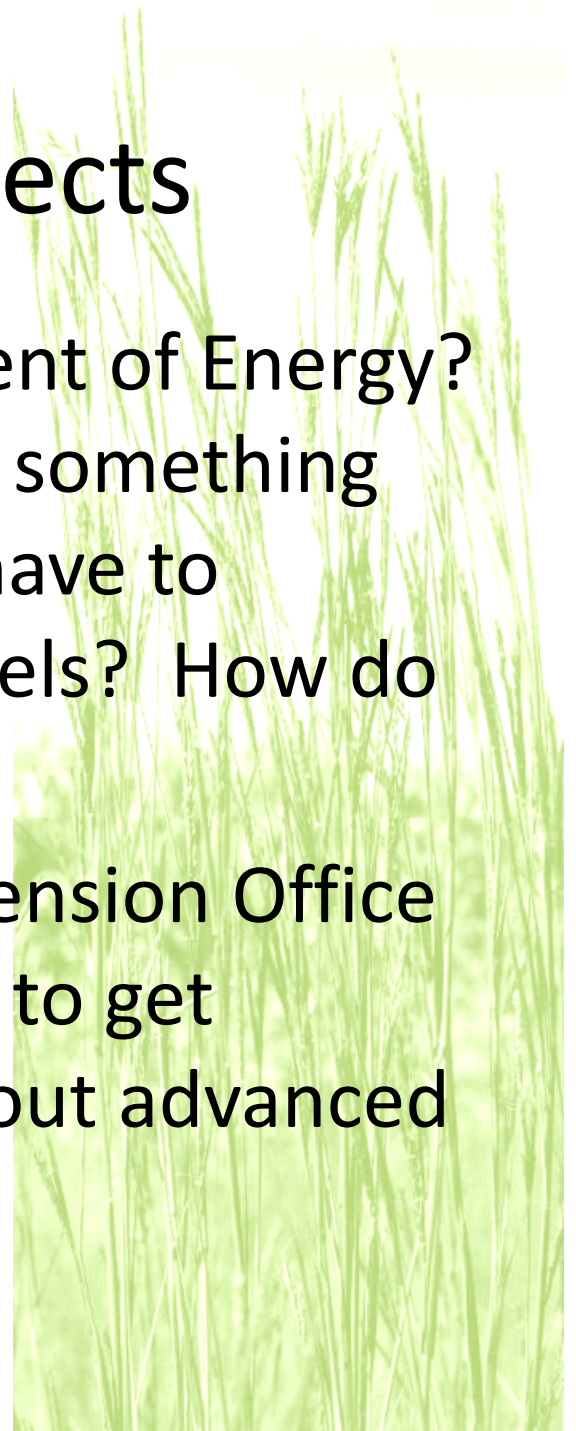
Questions and Thoughts

- Why are the US Department of Energy AND the US Department of Agriculture and the US Environmental Protection Agency involved with advanced biofuels?
- If you were going to get into the advanced biofuels business, what part of this infant industry would you want to work in? What jobs would you like to do? What government programs might be important to you?



Class or Student Projects

- Does your state have a Department of Energy? A Department of Agriculture? Or something similar? What projects do they have to encourage development of biofuels? How do those programs work?
- Contact a local Farm Bureau, Extension Office or Economic Development office to get someone to talk to your class about advanced biofuels in your area or state.



Advanced Research Suggestions

- Locate the different definitions of “biomass” and “biofuels” in various pieces of legislation including the “Farm Bill” and “Energy Bill.” Discuss how the variations among different legal definitions might complicate administration of these laws.
- Learn about the concept of “indirect land use change.” Discuss how it is being included or applied in laws and regulations.



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Find out more: www.AdvancedBiofuelsUSA.org

For a Truly Sustainable, Renewable Future