



# OBP Overview, the President's Advanced Energy Initiative and Programmatic Strategy

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## Why Biomass & Biofuels

- **Ethanol production and markets exist now and are growing**
- **Biomass is the only renewable energy source available that can displace liquid transportation fuels NOW!**
- **The use of biomass to produce hydrogen or hydrogen carriers provides long-term value to a diverse future energy supply**
- **Biofuels could meet up to 30 percent of our present fuel needs by 2030**
- **Biofuels produced from domestic resources will reduce our dependence on foreign sources of energy**
- **Energy supply diversity makes us less vulnerable to geopolitical uncertainties, price volatilities, and supply disruptions from natural disasters**





- The President's Goals of replacing 75% of Middle East Oil imports by 2025 and for research to make cellulosic ethanol production practical and competitive by 2012.
- The Energy Policy Act of 2005 provides direction on program content as well as loan guarantee authorization for commercial scale demonstrations.
- The President's National Energy Policy includes multiple recommendations that support bioenergy.
- The Biomass R&D Act of 2000 directs DOE and USDA to enhance and coordinate biomass R&D efforts.
- The Energy Title (Title IX) of the Farm Bill provides support for increased use of biomass energy and products and for R&D.



*Keeping America competitive requires **affordable energy**. And here we have a serious problem: America is **addicted to oil**, which is often imported from unstable parts of the world.*

*The best way to break this addiction is through **technology....** and we are **on the threshold of incredible advances...***



*So tonight I announce...push for breakthroughs in two vital areas...**change how we power our homes and offices,...change how we power our automobiles.***



## **What the Initiative Provides for Biofuels**

- Investigate the conversion of a much broader number of possible feedstocks
- Develop regional feedstocks partnerships to identify local opportunities for feedstock production and ethanol production
- Reestablish the thermo-chemical conversion technology as a second possible pathway to success
- Fermentation organism development solicitation
- Accelerated research on all major hurdles to \$1.07 gallon production cost
- Enable the 1<sup>st</sup> U.S. commercial scale cellulosic ethanol production facility (EPAct, Section 932)
- Enable larger scale demo's of a variety of feedstocks and conversion technologies.



## **Hurdles to Overcome**

### **Overall Needs**

- Production of ethanol from a variety of feedstocks available across the U.S.
- Lower the production costs of cellulosic ethanol
- Conversion technology options

### **Research Focus**

- Faster fermentation times
- Improved yield of ethanol per ton of feedstock
- Continue to reduce enzyme cost
- Improve sugar recovery and conversion
- More than one conversion technology option



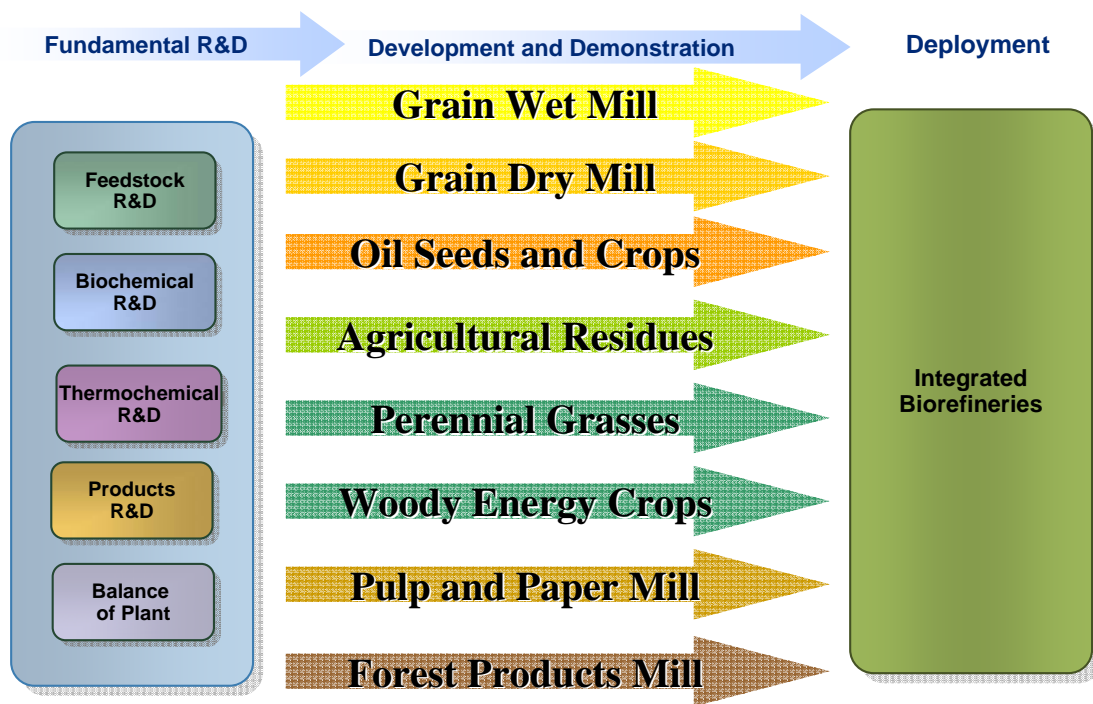
## 2012 Goal

Fund additional research in cutting-edge methods of producing ethanol, not just from corn, but from wood chips and stalks, or switch grass. Our goal is to make this new kind of ethanol practical and competitive within six years.



## 2030 Goal

Replace 30% of our current gasoline consumption with ethanol.





U.S. Department of Energy

**Energy Efficiency and Renewable Energy**

Bringing you a prosperous future where energy is clean, abundant, reliable, and affordable

## Day 1 Agenda

- **DOE/OBP Collaborative Efforts**
  - **Regional Feedstock Partnerships - John Ferrell, OBP**
  - **Federal Biomass R&D Board – Neil Rossmeissl, OBP**
  - **Office of Science “Biomass to Biofuels, Sharlene Weatherwax, OS**
  - **Federal Posture Plan, Valerie Sarisky-Reed, OBP**
- **State Biofuels Efforts: California Energy Commission, Joe Desmond, Under Secretary**
- **USDA/DOE Billion Ton Study and Pathway Fit – Bob Perlack (ORNL), Marilyn Buford (USDA), Cindy Riley (NREL)**
- **Workshop Purpose, Scope, Goals – John Ferrell, OBP**

***After Plenary Session:***

- **Breakout Sessions by Pathway – Focus on Day 1 Goals**
  - **Breakout Sessions Assigned on Name Tags**
  - **See Agenda for Breakout Room location**

***Later this afternoon:***

- **“Report Outs” in Plenary Session at End of Day 1**