

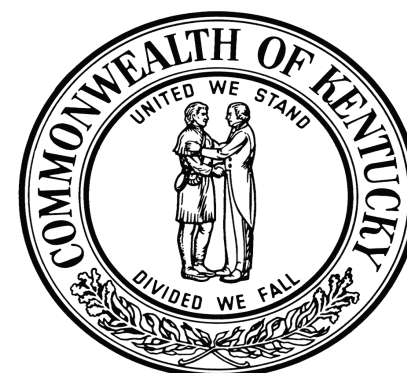
EXECUTIVE TASK FORCE ON BIOMASS & BIOFUELS DEVELOPMENT IN KENTUCKY

Frank Moore

Director of Biofuels

Dept. for Energy Development & Independence

September 2, 2009



GOVERNOR'S OFFICE OF
AGRICULTURAL POLICY



Intelligent Energy Choices for Kentucky's Future

Kentucky's 7-Point Strategy
for Energy Independence

www.energy.ky.gov



Biomass in Kentucky

A Lifetime Opportunity!



Biomass is the most wide-spread renewable energy source in the world

- Fourth largest source of energy worldwide after coal, oil and natural gas



Why biomass in Kentucky?

- **Domestic, renewable energy resource**
 - Production is distributed throughout every county, and is not dependent upon topography or type of soil
- **Reduces atmospheric carbon**
 - Biomass is at worst carbon-neutral, and in many cases serves as a carbon “sink”
- **Sustainable**
 - Productivity, not diversion



Strategy 6

Goal: By 2025, Kentucky will have evaluated and deployed technologies for carbon management, with use in 50 percent of our coal-based energy applications.



What's causing this biomass
(r)evolution?



Federal Renewable Fuels Standard (RFS)

- Renewable Biofuels (corn, milo, wheat, etc.)
 - 15 billion gallons by 2015
 - Production capacity from corn at almost 12 billion gallons today, with cheap expansion capability to 15 billion gallons
 - **THIS OPPORTUNITY HAS BEEN TAPPED OUT!!**
- Advanced Biofuels
 - 21 billion gallons by 2022 (16 billion cellulosic, 5 billion undifferentiated including biodiesel)
 - Less than 1 billion gallons developed or under development
 - **A 20 BILLION GALLON OPPORTUNITY!!**



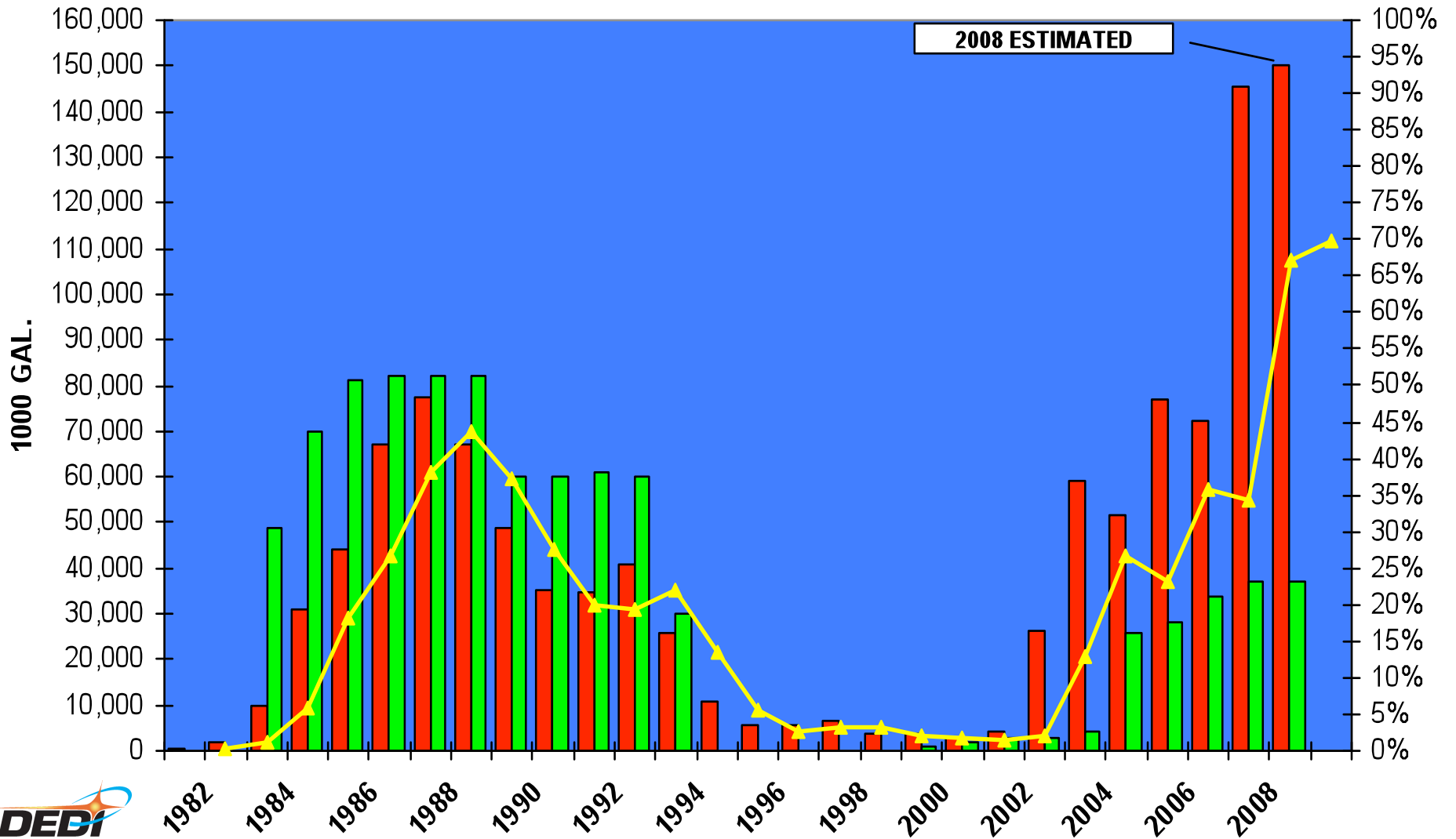
Strategy 3

Goal: By 2025, Kentucky will derive from biofuels 12 percent of its motor fuels demand (775 million gallons/year, which represents approximately 20 percent of Kentucky's current transportation fuels demand), while continuing to produce safe, abundant, and affordable food, feed and fiber.



ETHANOL HISTORY IN KENTUCKY

■ ETHANOL CONSUMPTION
 ■ ETHANOL PRODUCTION
 ▲ E-10 MARKET SHARE



Federal & State Renewable Portfolio Standards (RPS)

- 30 states mandate some type of RPS
 - Ranges from 105 MW to 25%
- 5 states have voluntary goals including Kentucky at 1000 MW
- Federal legislation introduced and under debate could establish an RPS of 25% by 2025



Strategy 2

Goal: By 2025, Kentucky's renewable energy generation will triple to provide the equivalent of 1,000 megawatts of clean energy while continuing to produce safe, abundant, and affordable food, feed and fiber.



Kentucky's Biomass Future

RPS	
15%	13.0 million tons
20%	18.2
25%	22.0
RFS	10.0
Total Biomass	23-32 million tons
Value	\$1.3-\$2.0 Billion



Biomass Task Force: Laying the Foundation

- Establish “official” supply-demand potential
- Estimate the economic impact and capitalization requirements of a biomass industry
- Develop a vision on how such large volumes will be handled
- Assess Kentucky’s ability to support the biotechnology
- Ensure that Kentucky can make the right business structures available
- Recommend a realistic incentive package that will encourage farmers to plant, foresters to harvest, and developers to build.



So what does this mean for Kentucky?

We'll either import our renewable
energy, or we'll take advantage of
the opportunity!

