



How Far Ethanol?

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Ultimate Session Question: How Much Can Ethanol Help Reduce Dependence on Oil?

Major Issues Need To Be Addressed

- Feedstock Supply and Costs (Corn and Other Cellulosic Feedstocks)
- Competition for the Land for Other Uses
 - Food
 - Biomass for Co-Firing with Coal or Dedicated Biomass Gen
 - Growing Commercial, Residential and other Industrial Facilities
- The State of the Technology and “Learning”
- Infrastructure Investments Necessary and Risks Perceived – How Fast Can Investments Grow and What Returns Will Be Required BY Investors?

Ultimate Session Question: How Much Can Ethanol Help Reduce Dependence on Oil?

- Consumer Acceptance - how can we assure that E85 and Gasohol will be demanded if produced?
- Fuel Availability, vehicle range, getting the fuel to market
- Net energy balance for ethanol production – how much of the energy that we put in do we get out as ethanol? Is it different for other petroleum technologies like CTL, GTL, Oil Shale?
- Will a large increase of ethanol production and consumption result in lower Persian Gulf imports?



Speakers and Topics

- Tony Radich- Brief Summary of EIA's Ethanol Outlook (5 Min)
- Hosien Shapouri – US Grain Ethanol Industry Outlook (20 Min)
- Kevin Lindemer- Future of Oil and Implications on Ethanol (20 Min)
- Bob Dineen – Helping Break America's Oil Addiction (20 Min)
- John Felmy – asks the first question of the speakers (3 min)



Outlook for U.S. Biofuels

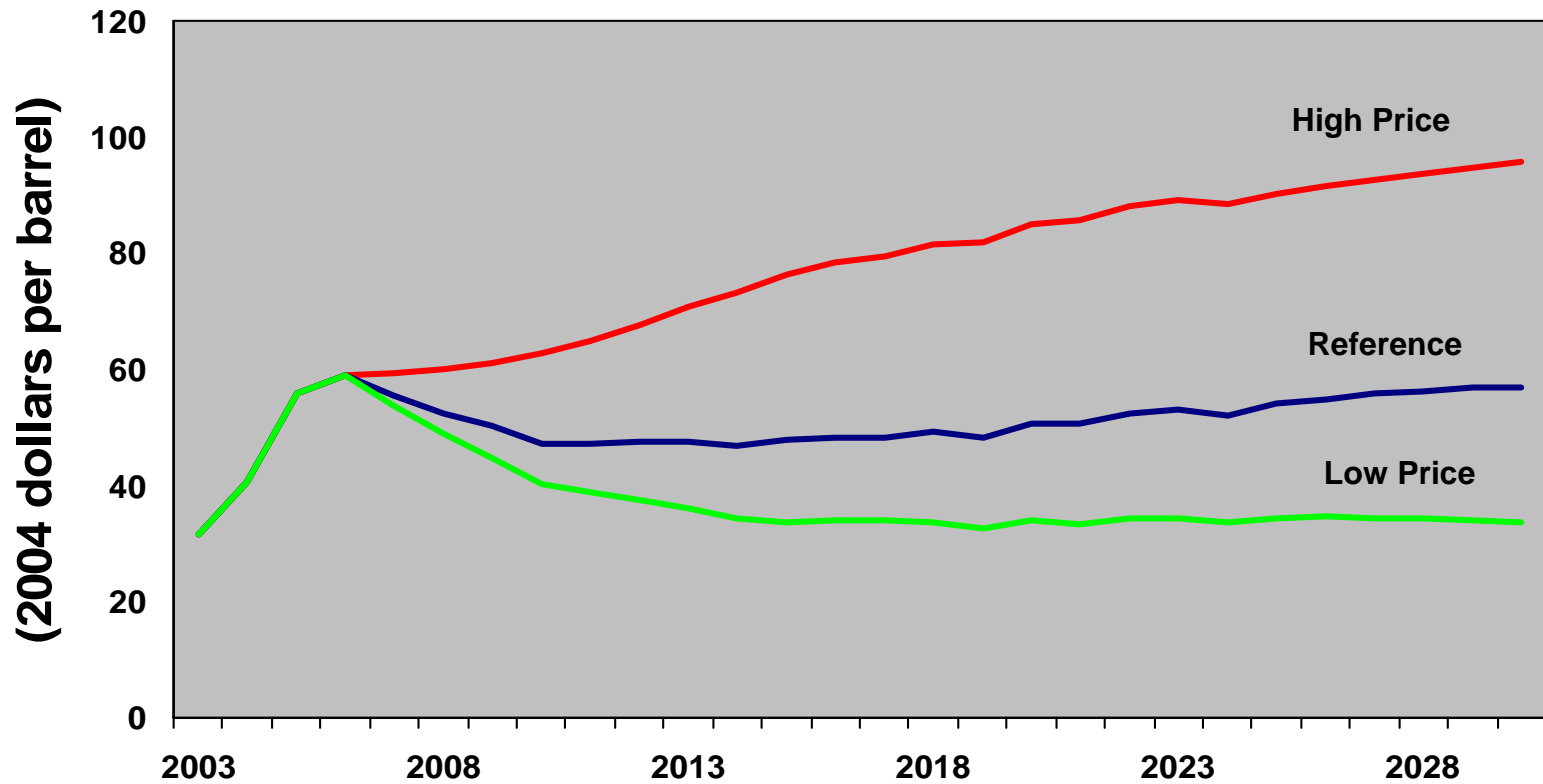
Tony Radich

Energy Information Administration
Office of Integrated Analysis and Forecasting

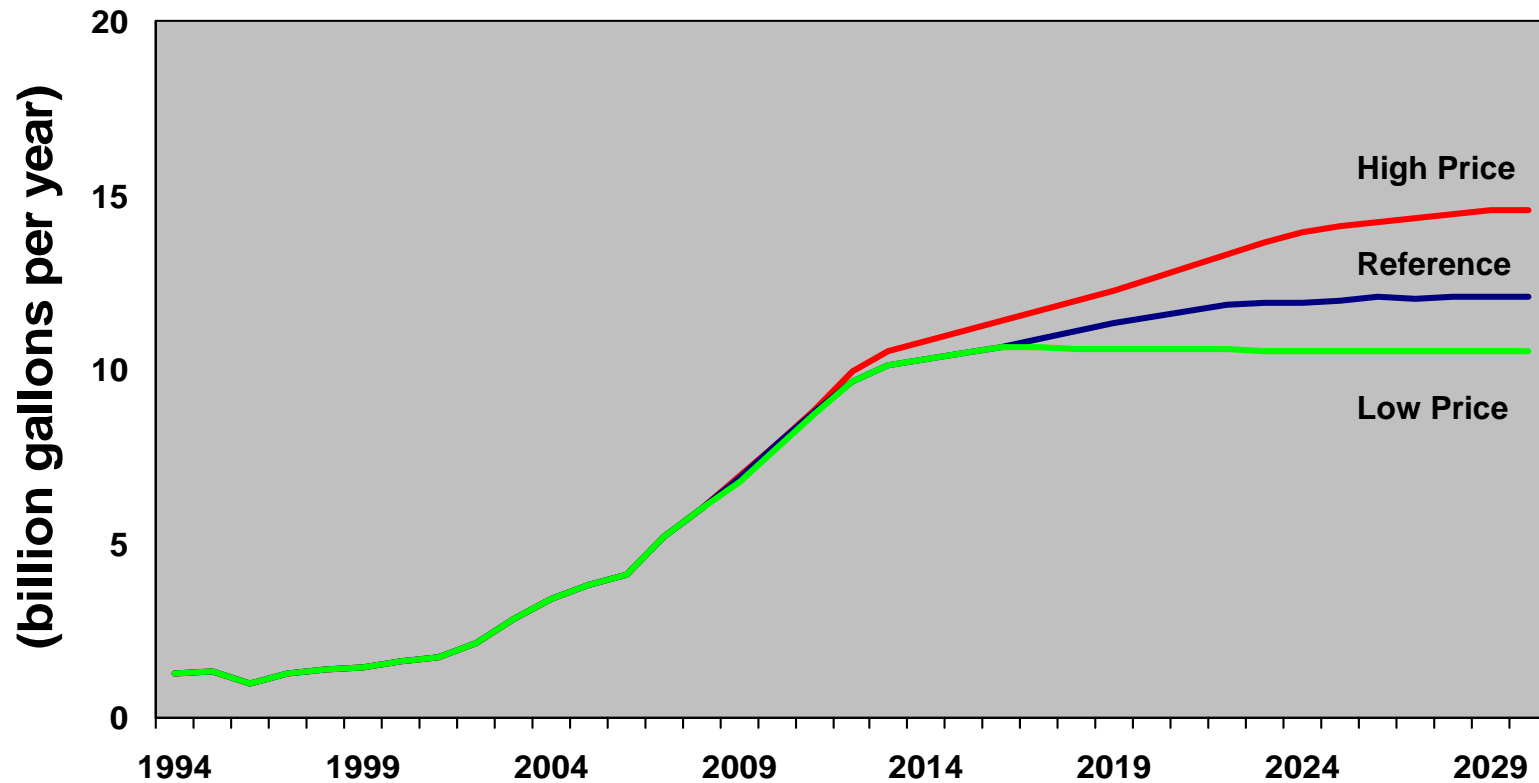
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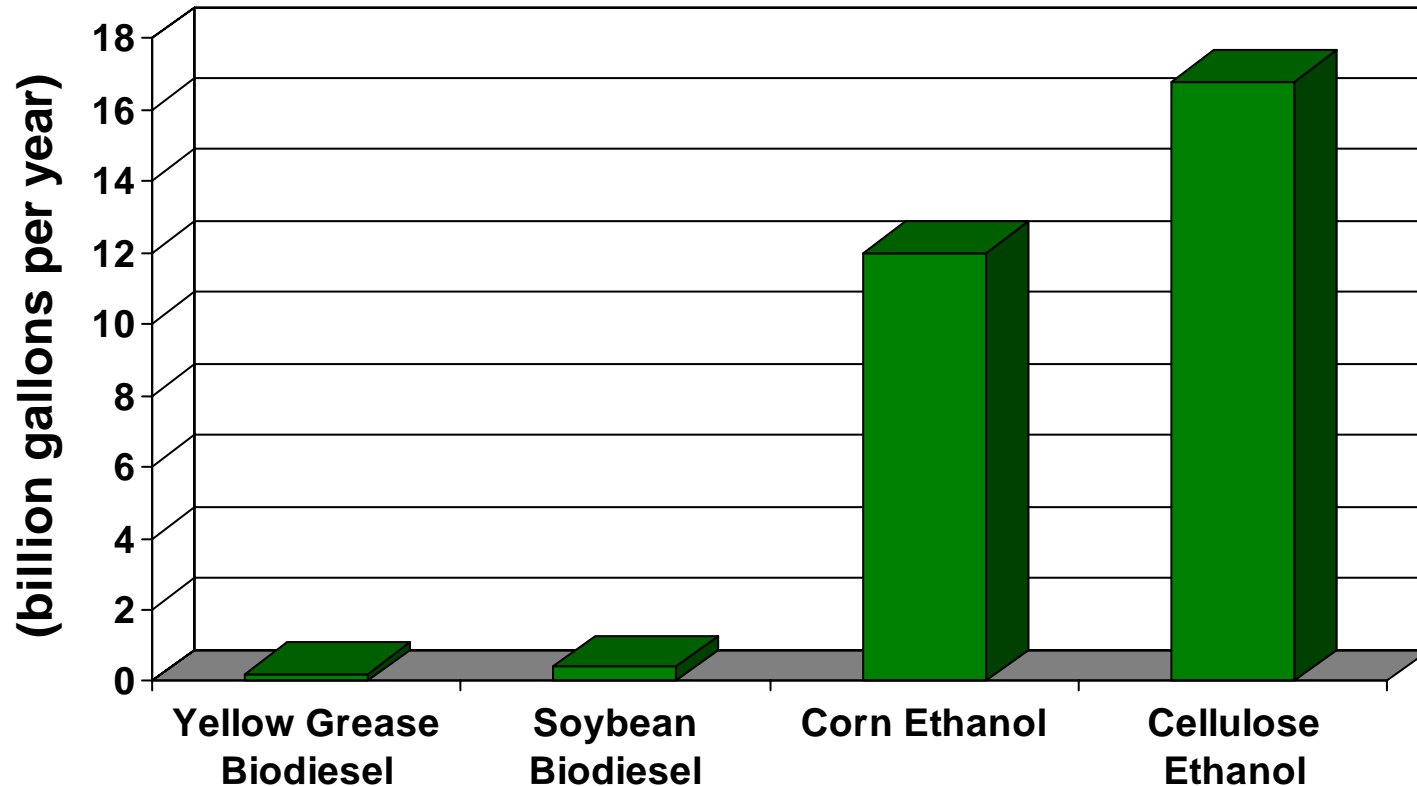
Foreign Low-Sulfur Light Crude Price Cases



U.S. Ethanol Use By Crude Oil Price Case (billion gallons per year)



Economic Potentials for Biofuels Production in AEO2006



Ethanol Cost by Technology, 2012 (2004 dollars)

	Corn Dry Mill	Cellulose
Raw Material	Corn	Crop Residue, Switchgrass
Co-product	Distillers' Dried Grains with Solubles	Electricity to Grid
Plant Size	50 million gallons per year	50 million gallons per year
Capital Cost	\$65 million	\$369 million
Raw Material Cost	\$0.90 per gallon	\$0.49 per gallon
Non-energy Operating Cost	\$0.25 per gallon	\$0.63 per gallon
Cost of Delivered Energy	\$0.21 per gallon	\$0
Co-product Value	-\$0.16 per gallon	-\$0.12 per gallon
Variable Cost	\$1.20 per gallon	\$1.00 per gallon

Comparison: West North Central Division Ethanol Costs Including Tax Credit Versus Gasoline

