

Economic and Environmental Impacts of Ethanol

Alternative Fuels Workshop: Regional Ethanol Impacts

May 27, 2008
Washington, DC

Douglas A. Durante
Executive Director
Clean Fuels Development Coalition
www.cleanfuelsdc.org

How Do You

- Increase domestic energy supplies
- Improve auto emissions
- Reduce CO₂ and GHGs
- Create jobs
- Increase value of Ag products and ensure continued farming
- Provide rural and economic development
- Incentivize new technologies and feedstocks

And do it *Perfectly?*

Pass and Implement the New RFS: New Bill Reflects Carbon and Food Concerns

- Creates 36 BGPY RFS
- Limits corn use
- Requires new sources of ethanol
- Requires reductions in GHG emissions
- Creates E85 initiatives

Communicate the Benefits of Biofuels

- Re-establish baseline -- \$100/Bbl oil
 - Devastating impact on American public
 - Draining billions in GNP
 - Creating trade imbalance-loss of jobs and personal income
 - Contributing to pollution and GHG
 - Failing to provide any value to economy, agriculture, or technology – the "anti biofuel."

With that re-established, the big picture comes back into focus

Economic Impacts and Benefits of Ethanol

- Capital investment
- Job creation
- Tax generation → local → state → federal
- Raises price of ag products
- Lowers federal farm outlays
- Balance of trade
- Keeping \$\$ at home

Economic Impacts (Continued)

- 40 MGPY ethanol plant
 - Approximately \$100 mm boost to local economy
 - Expand economic base by \$70-\$100 mm through direct spending
 - 35+ full-time jobs and 120 locally
 - Increase household income x \$10 mm
 - Provide local returns to investors, local benefits
 - Increasingly seeing the ethanol used locally
 - Lowers the cost of gasoline (API, Merrill Lynch, Nebraska Survey, etc.)
 - Reduces imports (EIA)

Corn in the Crosshairs

- Sufficient supply
- Increase in yield per acre, GPBu
- Value added not “unintended”
- Impact on food price minor compared to:
 - Energy costs up 50-60%
 - World demand (to affluent -- not undernourished)
- Within historical 2-4%

Impacts on Food

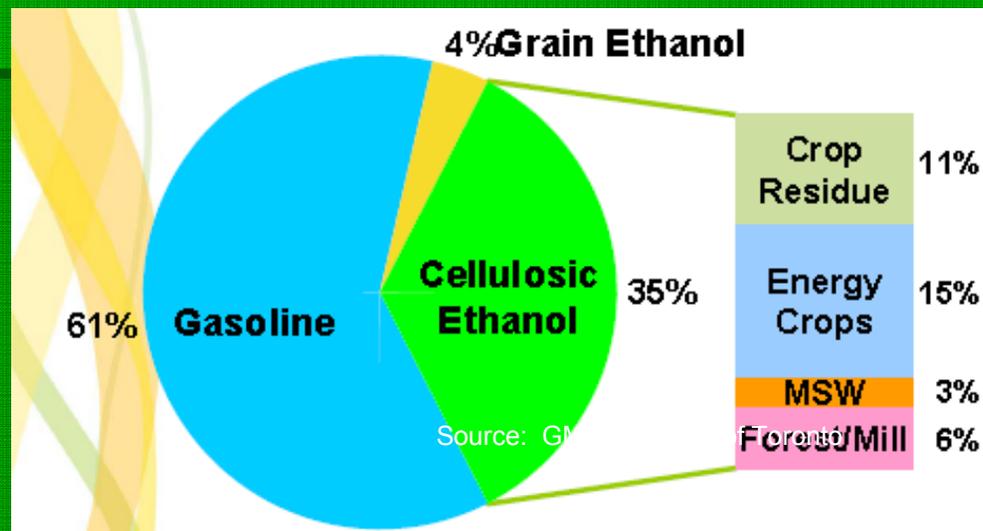
- Over the past year
 - All commodities up 47%
 - Oil 60%
 - Food 40%
 - Retail food projected 4.5 to 4.5% (Avg. CPI/Food = 2.5) for 2008
 - Labor, packaging, transportation, etc. = 75% of food dollar
 - Exports, reserves both up
 - Wheat, soy, etc. all up

Summary of Ethanol Production on Food Prices

- Biofuel production accounts for a small percentage of the overall increase in food prices.
- While biofuels such as ethanol contribute to higher corn prices, higher corn prices pass through to retail prices at a small rate.
- The food dollar is impacted more by processing and marketing than the cost of commodities.
- The Council of Economic Advisers estimates the total global increase in corn-based ethanol production accounts for only about 3 percent of the recent increase in global food prices.

Corn Ethanol Pathway to the Future

- Ethanol from corn
- Ethanol from cellulose
- Higher alcohols (butanol), green gasoline/diesel
- True biorefineries
 - Biobased products
 - Chemicals
 - Petroleum substitutes



Ethanol's Environmental Benefits

- Reduces emissions of CO, exhaust VOCs and NOx, particulates, hydrocarbons
- Displaces toxics – lead, benzene, toluene
- Displaces fossil energy use
- Reduces CO and ozone through oxyfuel and RFG programs
- Being used voluntarily by oil companies in most major urban areas
- Renewable -- reduces greenhouse gas emissions

New Lifecycle GHG Criteria

- Renewable fuels must now meet a 20% lifecycle GHG threshold relative to the gasoline or diesel fuel they displace
 - EPA must determine lifecycle performance the various fuels
 - Including emissions resulting from international land-use changes
- Plants that commenced construction prior to EISA are grandfathered
- Advanced Renewable Fuels must meet 50% GHG reduction
- Cellulosic renewable fuels must meet 60% GHG reduction

Provisions for EPA to adjust the lifecycle GHG thresholds by as much as 10%.

Energy Balance

- Since 1989 – 16 energy balance studies have been conducted
- 10 out of 16 show a net energy gain
- Since 1992, the three negative studies were all by the same individual
- Latest study by USDA concludes that for every 100 BTUs used 167 BTUs are recovered
- Natural Resource Defense Council – 1990-2006 – Energy Well Spent
- Gasoline - 0.76 BTU output per 1 BTU input

Where Will the Ethanol Go?

- E10 – all U.S. gasoline = 15 billion gallons
 - Blending/transportation needs to keep up
- E85
 - 8 million FFVs by 2009
 - 6 BGPY
 - If only half use E85 – 3 BGPY
 - If only half, half the time – 1.5 BGPY
 - 16 million FFVs by 2012
 - 12 BGPY
 - If only half use E85 - – 6 BGPY
 - If only half, half the time – 3 BGPY

Where Do We Go From Here?

- Turn around the blistering, relentless campaign to discredit biofuels:
 - Erodes public and political support
 - Petroleum industry successfully turned the issues around -- war, oil spills, pollution, balance of trade, job loss, high prices
 - Level of scrutiny out of proportion -- even the definition of “advanced biofuels”
- Climate change/global warming remains a key issue
- Senate: Lieberman – Warner
 - Cap and trade -- Low Carbon Fuel Standard
- House: Dingell and Energy Committee
 - California Preemption issue -- At odds with Pelosi/Boxer
- Opportunities for Ethanol
 - E85 – major CO₂ reduction
 - E10 – Additional value over RFS, octane
 - Credits to be generated from repowering

Thank you!

For more information log on to

www.cleanfuelsdc.org

www.ethanolacrossamerica.net