

# Washington Update: The 2007 Energy Bill, the 2008 Farm Bill, and the Move to Low Carbon Fuels

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# 2007 – A Short But Wild Ride

- Ethanol goes from being the hero of the 2005 EPACT to the villain.
- Organized, calculated campaign to discredit biofuels globally.
- Blistering media coverage and public scrutiny.
- Yet, new RFS increases ethanol demand by 500%!

How Did This Happen?

# Factors That Drove Legislation

- Relentless increase in energy costs
- Ongoing tensions in the Mideast
- Ethanol program -- one of the few success stories
  - Biofuels the centerpiece of any new legislation
- End of year politics -- threat of election year wall

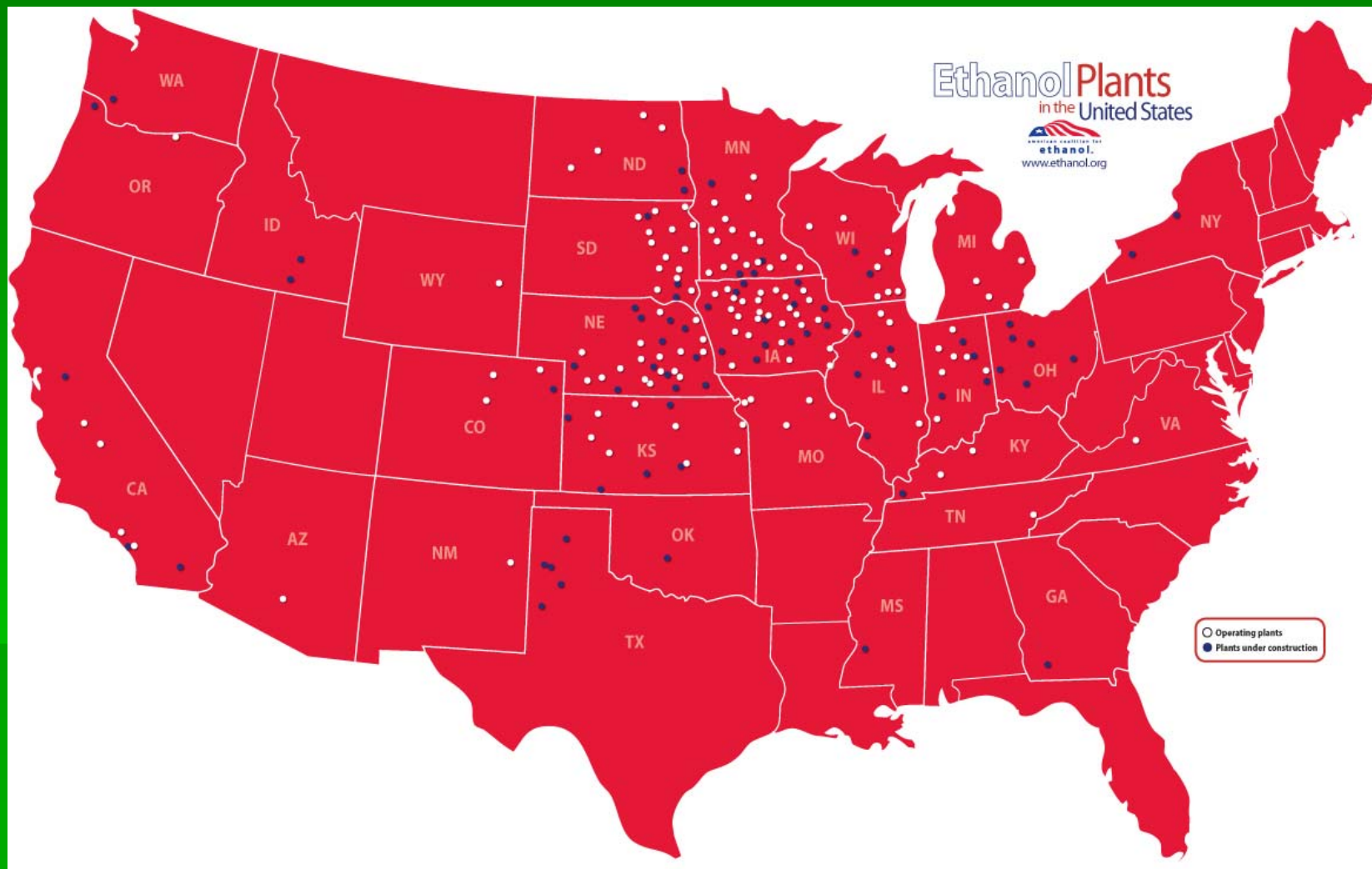
# Background

- Energy Policy Act of 2005 established first RFS
  - Replaced oxygen standard
  - Required 4 BGPY increasing to 7.5 by 2012
  - Took effect as MTBE was going out, creating immediate demand of 6 BGPY

# Background (Continued)

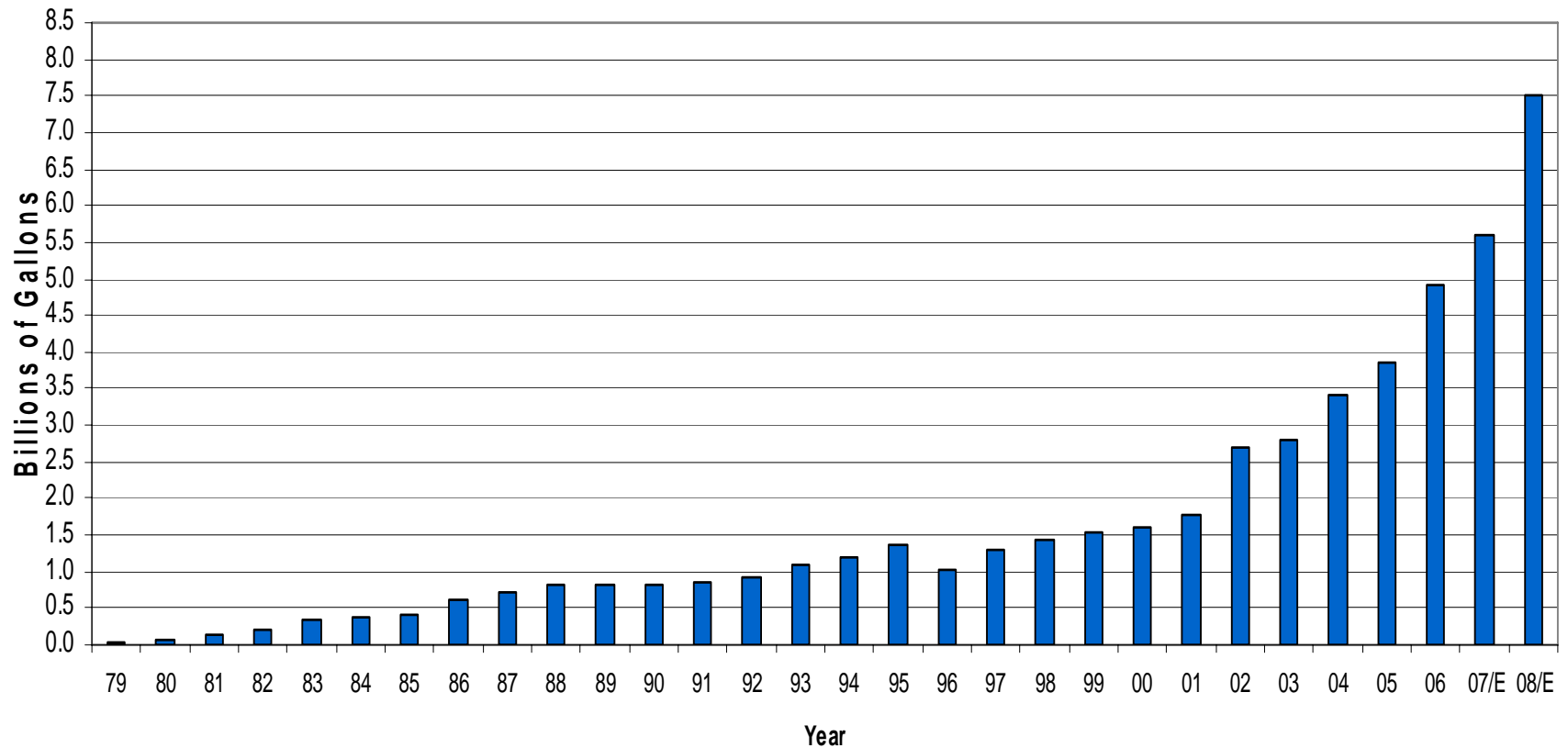
- Modern day Gold Rush
  - Cheap corn + high ethanol
  - Capital Available
  - State and local incentives
- Huge catalyst for economic development
- Incredible political support

# Ethanol Capacity



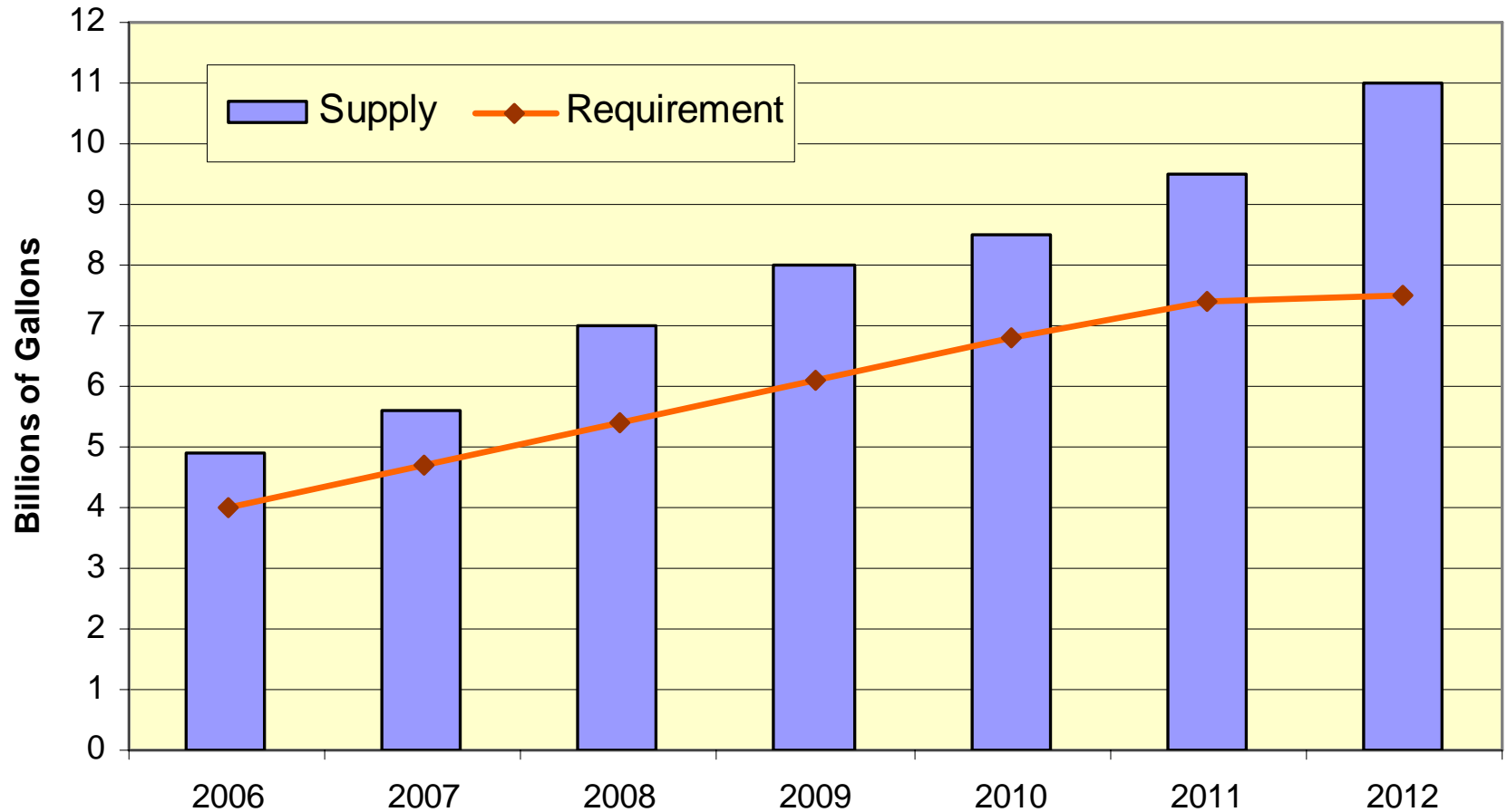
- 131 Current Plants – 7 Billion GPY
- 72 Construction/Expansion – 6 Billion GPY

# U.S. Fuel Ethanol Production 1979-2008



Ethanol production estimates based on year-to-date production from U.S. EIA.

## Existing/Planned Capacity Quickly Surpassed Requirement



# Framework for New Legislation

- Single focus bills like an RFS are almost impossible to pass. Energy legislation has become a balloon flattening exercise that must consider:
  - Impacts on CO<sub>2</sub> emissions, climate change
  - Impacts on the budget/subsidy
  - Impacts on other energy
  - Impacts on food and consumer goods
  - Impacts on trade and foreign policy
- Must also address CAFE
- Alt fuel vehicles and Infrastructure
- Stationary source power/RPS
- Energy balance/lifecycle emissions

# The Enemy of the Good is the Perfect

- The panacea problem
  - How much matters:  
10% = 15 BGPY = \$38 billion
- The Brazil syndrome
- Accuracy in reporting and assessing
  - Bush “20 in 10” plan
  - Wild, inaccurate reports of biofuel requirement

# Intense Criticism

- Oil Industry Unleashed
  - Threatened to stop refinery expansions
  - Ethanol prices grossly under value while collecting tax benefits
  
- Meat Industry, Other Feeders
  - Well orchestrated campaign to discredit ethanol
    - Energy Balance
    - Water
    - Subsidies
    - Food
    - Emissions -- plant and vehicle

# 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

# Almost Didn't Get There: Failure to Communicate

	Senate	House
RFS	Yes	No
RPS	No	Yes
CAFE	Yes	No
Tax Incentives	No	Yes

# New RFS Schedule

Year	Total Volume of Renewable Fuels	Advanced Biofuel Requirement	Cellulosic Requirement	(Resulting Cap on Corn ethanol)
2008	9.000			
2009	11.100	.600		10.5
2010	12.950	.950	.100	12.0
2011	13.950	1.350	.250	12.6
2012	15.200	2.000	.500	13.2
2013	16.550	2.750	1.000	13.8
2014	18.150	3.750	1.750	14.4
2015	20.500	5.500	3.000	15.0
2016	22.250	7.250	4.250	15.0
2017	24.000	9.000	5.500	15.0
2018	26.000	11.000	7.000	15.0
2019	28.000	13.000	8.500	15.0
2020	30.000	15.000	10.500	15.0
2021	33.000	18.000	13.500	15.0
2022	36.000	21.000	16.000	15.0

# Advanced Biofuel

- All non-corn starch based grains
  - Wheat sorgum, barley, rye, oats
- Sugarcane crops and bagasse
- Cellulose-hemi cellulose
  - Switchgrass, corn stover, grain fiber/hulls, straw, wood
- Waste
  - Crop residue, animal waste, food waste, yard waste
- Higher alcohols (e.g., butanol) from biomass
- Biomass based diesel

ALL MUST MEET 50 PERCENT GHG REDUCTION

# Cellulosic Biofuel

- Any fuel derived from
  - Cellulose,
  - Hemi cellulose, or
  - Lignin

Must meet 60 percent GHG reduction.

Cellulose meets advanced requirement, but advanced does not meet cellulose requirement.

# New RFS Schedule

Year	Total Volume of Renewable Fuels	Advanced Biofuel Requirement		Cellulosic Requirement	(Resulting Cap on Corn ethanol)
2008	9.000				
2009	11.100	.600			10.5
2010	12.950	.950	(.850)	.100	12.0
2011	13.950	1.350	(1.1)	.250	12.6
2012	15.200	2.000	(1.5)	.500	13.2
2013	16.550	2.750	(1.750)	1.000	13.8
2014	18.150	3.750	(2.0)	1.750	14.4
2015	20.500	5.500	(2.5)	3.000	15.0
2016	22.250	7.250	(3.0)	4.250	15.0
2017	24.000	9.000	(3.5)	5.500	15.0
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# New Renewable Diesel Requirements

<b>Calendar Year</b>	<b>Applicable Volume of Biomass-Based Diesel (in millions of gallons)</b>
2009	500
2010	650
2011	800
2012	1.0

# Farm Bill Playing a Key role on Biofuels

## Title VII Research, Title IX – Energy

- Reauthorizes the Biomass R, D & D Programs
- Cooperative programs with DOE for Biofuels, Biorefinery Development
  - Loans, Loan guarantees, grants –
  - Bio Refinery and Repowering Assistance
  - *\$422MM*
- Biomass Crop Transition Assistance
  - *\$227 MM*
- Biomass Feedstock Purchase Assistance for Advanced Biofuel
  - *\$345 MM*
- Other Assorted Programs

# Tax Title Critical to Cellulosic Ethanol

- New total for cellulosic ethanol of \$1.25
  - Base VEETC plus difference (.51 + .64)
- No Small Producer cap = additional 10 cents
  - (No 15 MGPY limit, no 60 MGPY plant cap)
- Includes all “Biofuels” for credit
- Accelerated depreciation of property

# Challenges to Implementing the RFS

- EPA Regs – Baseline for meeting GHG reductions
  - Calculations of energy inputs, full lifecycle analysis
  - Global/international standards for biofuels may not apply
  - Need to remember target is gasoline
  - Danger of mismatched state programs – California + 18
- Feedstock Winners and Losers
  - Forest and waste issues muddled
  - MSW likely not eligible
  - Corn should be adjustable
- Capital constraints
  - Equity; Investment
  - Tax Credits: Fundamentally flawed; Do not accrue to producers
- Revisit role of government regarding loans, loan G's, etc.

# Challenges to Implementing the RFS (Continued)

## Communication/Public Perception

- 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”
  
- Must maintain course:
  - Bush Administration -- mixed messages
  - EIA -- “We won’t get there”

# 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 Will the Ethanol Go?

- Mid-Level Blends -- E-20 - E-40
  - Plus
    - Potentially increases blend market within existing infrastructure
    - Builds on current customer base
  
  - Minus
    - Not approved above 10%
    - Unknowns:
      - Emissions
      - Parts compatibility
      - Refueling compatibility
      - Small engines

# Where Do We Go From Here?

- 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 CO<sub>2</sub> reduction
  - E10 – Additional value over RFS, octane
  - Credits to be generated from repowering
- Democrat: increased chances – McCain: Ratings problem

Consensus to act, disconnect on how.  
Wait until next (non) election year!

# Thank you!

For more information log on to

[www.cleanfuelsdc.org](http://www.cleanfuelsdc.org)

[www.ethanolacrossamerica.net](http://www.ethanolacrossamerica.net)