Biofuel Subsidies: An Overview

Biofuels Policy Forum

Capitol Visitors Center

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What are We Trying to Buy?

- **Energy security**
  - Reduce imported oil/vehicle mile traveled.
- **Greener fuels**
  - Reduce emissions of CO2e/vehicle mile traveled.
- **All kinds of other good things**:
  - Jobs, new industries, transition from corn to cellulosic, protection for family farms, opportunities for developing world subsistence farmers…
- Are biofuels the best way? The fastest and most reliable way? An efficient way?

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Earmarking Biofuels: Politics, Not Economics or Environmental Protection

- Industry has been built on subsidies.
  - As of 2006, >220 subsidies nationwide.
  - Subsidized in virtually every state, often in multiple ways.
  - Ethanol projects often accessed conventional economic development programs.
- RFS continues to protect investors against downside risks at growing taxpayer cost.
- Industry efforts continue to protect, expand subsidies.
  - Retain VEETC, import tariff.
  - Boost subsidies to blending infrastructure.
  - Federal guarantee on multi-billion dollar ethanol pipeline.
  - Minimize or ignore negative environmental impacts of production in eligibility for subsidies.

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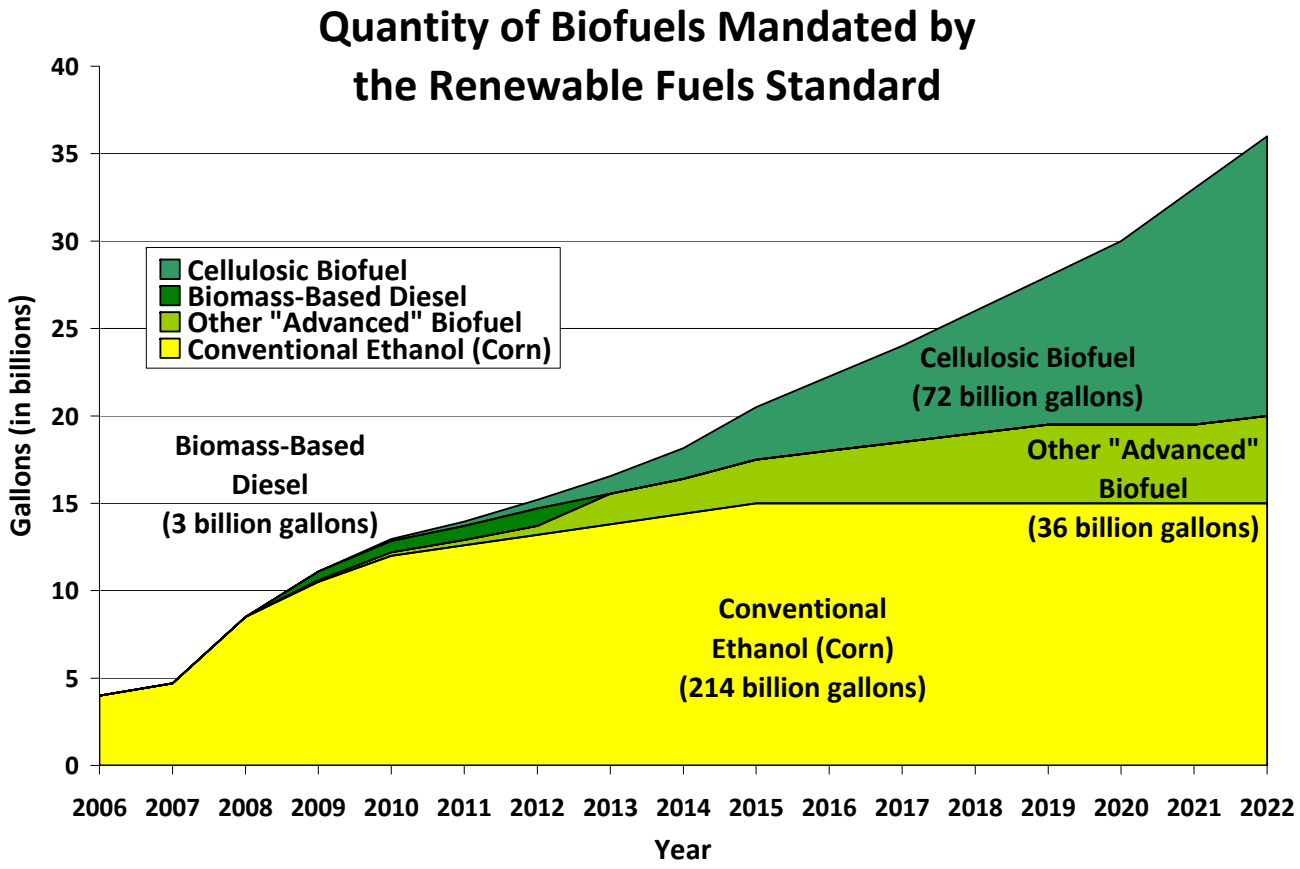
US Biofuels Policy: Still Dominated by Corn



Source: Koplow, D., *A Boon to Bad Biofuels*, (Washington , DC: Friends of the Earth), May 2009.

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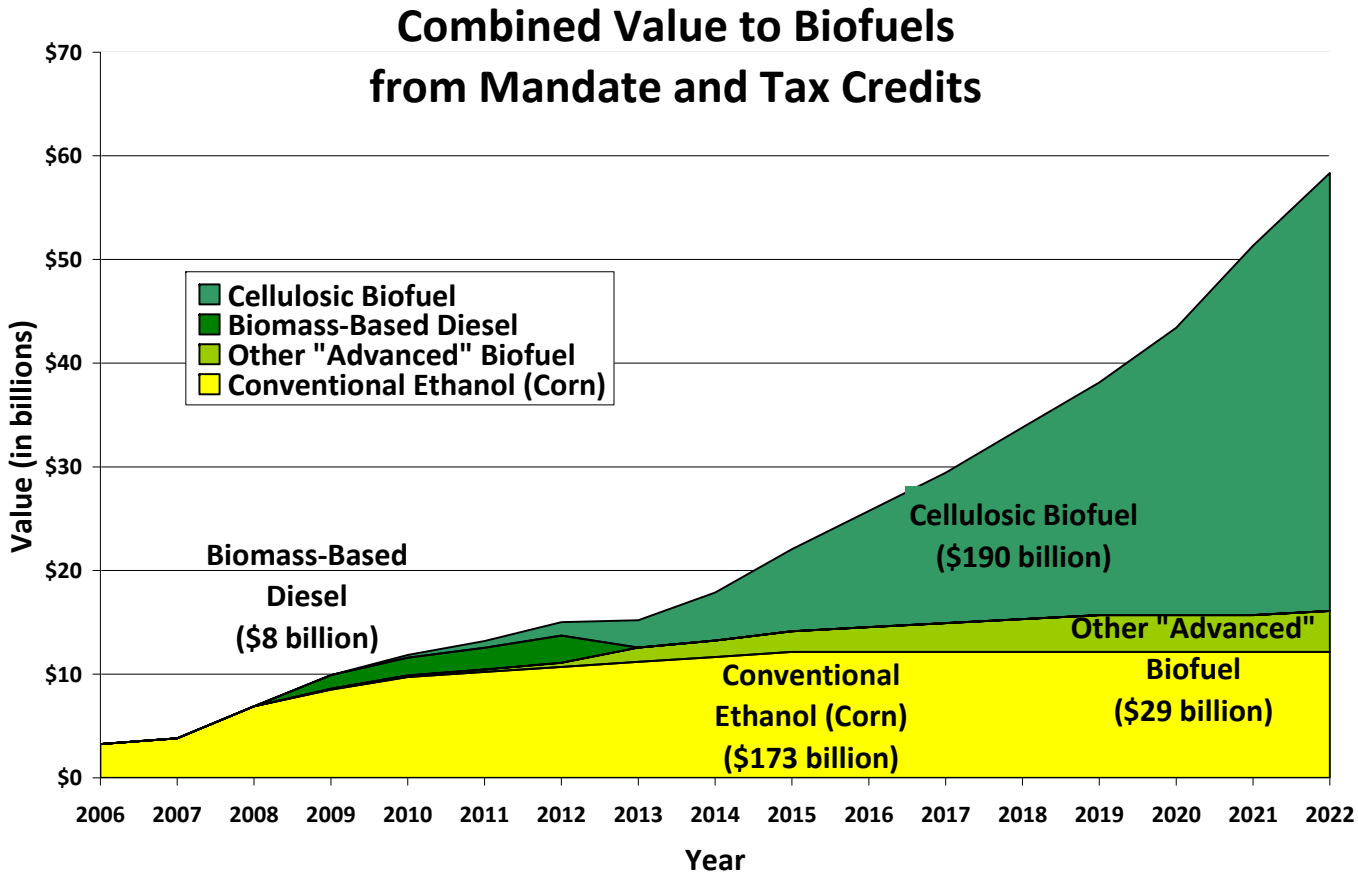
US Biofuels Policy: Earmarking Winners is Expensive



Source: Koplow, D., *A Boon to Bad Biofuels*, (Washington , DC: Friends of the Earth), May 2009.

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Ethanol Subsidies Today: Part of a Long Tradition

Year	$Millions	Subsidy/ Gallon of E100	Subsidy/ MMBtu
1979	$ 131	$ 6.57	$ 65.70
1980	$ 413	$ 10.33	$ 137.72
1981	$ 554	$ 7.39	$ 92.36
1982	$ 772	$ 3.68	$ 42.90
1983	$ 1,389	$ 3.70	$ 43.39
1984	$ 1,240	$ 2.88	$ 34.44
1985	$ 1,573	$ 2.52	$ 29.68
1986	$ 2,193	$ 2.92	$ 34.82
1989	$ 1,290	na	$ 17.56
2006	$ 7,020	$ 1.30	$ 15.15
2007	$ 8,390	$ 1.30	$ 15.05
2008	$ 11,070	$ 1.30	$ 15.30

Sources: Koplow for GSI (2006, 2007)

*2008 values in this chart include a much larger set of subsidies than the handful included in *A Boon to Bad Biofuels*, and as a result are higher than what the report figures for federal tax credits and mandates alone.

- Extraordinarily high subsidies in early years; declining with higher production base.
- Likely the highest subsidy intensity of all energy resources.
- Rapid growth: >30 yrs for subsidies to pass $10b/year (2008); expected to double by 2014, and again to $40b/year in 2019.

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Even With Best Case Displacement, Biofuels Do Not Offer an Attractive Climate Return

Fuel	Biofuel GHG Reduction	Subsidy/ Gallon	Subsidy/ MT reduced	Opportunity Cost of Biofuel Subsidies		
				US (RGGI '11)	***Europe (ECX '12)***	***Europe (ECX '20)***
Other Renewable Fuel (corn)	54%	$0.79	$180	95x	7x	5x
Cellulosic Ethanol	114%	$2.63	$280	148x	11x	7x
"Advanced" Ethanol (sugar)	78%	$1.02	$160	85x	6x	4x
Biomass-based Diesel	68%	$2.72	$400	212x	16x	10x

Carbon prices based on 2011 RGGI contracts; and EU allowance auctions for Dec'12 and Dec'20.

Source: Earth Track calculations

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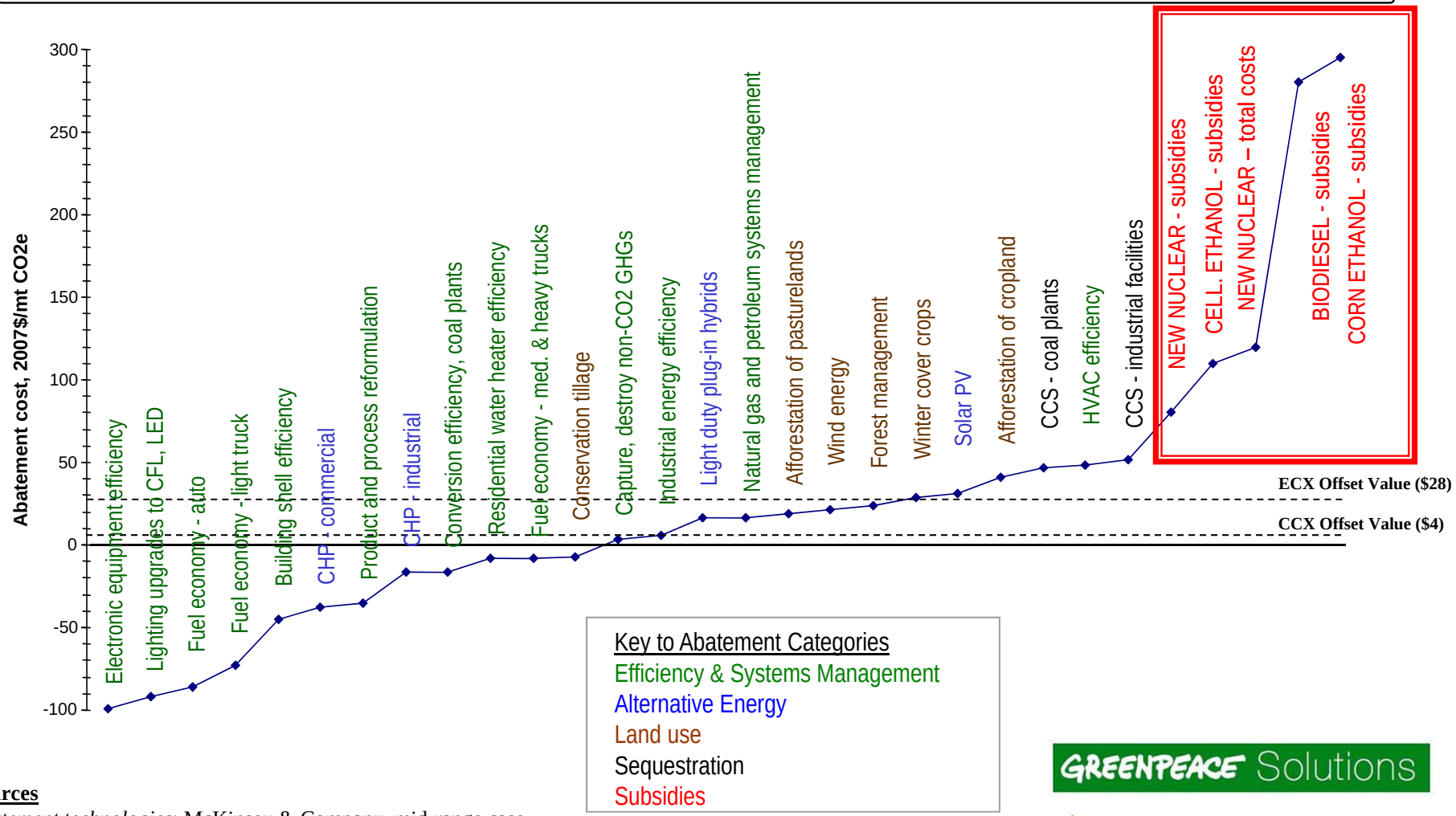
Government-Led Solutions: Politics Often Directs Money in Highly Inefficient Directions



Sources

Abatement technologies: McKinsey & Company, mid-range case.
Offset prices: Average of contract values from CCX (2008-10) and ECX (2008-12).
Subsidy data: Earth Track, Inc.

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Ethanol Is Not the Only Path to Increased Energy Security

- Balkanized policy picking winners, protecting incumbents.
- Biofuels can provide some energy security benefits:
  - Lower imported petrol/transport mile than conventional fuels.
  - Downside: ancillary impacts on global food markets; supply volatility from weather, other factors.
- “Flex-fuel” is not just E85.
- PHEVs: more fuel diversity, more options, public health benefits.
- Demand side, fleet maintenance very important for long-lived transport capital.
- “Infrastructure-friendly” replacements (e.g., biobutanol - higher blend rates, use existing pipelines).

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Ending VEETC: A Good First Step

- Ending VEETC will not end industry subsidies.
  - Rising RIN values will offset most or all of the loss for conventional ethanol.
  - Cellulosic PTC will offset VEETC loss in that segment.
  - “Trading” VEETC for pipeline subsidies, higher support on blending equipment would be a bad deal.
- Focusing on “ethanol” rather than “transport services” results in expensive, inefficient policy approaches.

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