Federal Biofuels Policy: The Congressional Perspective

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Senate Agriculture Committee
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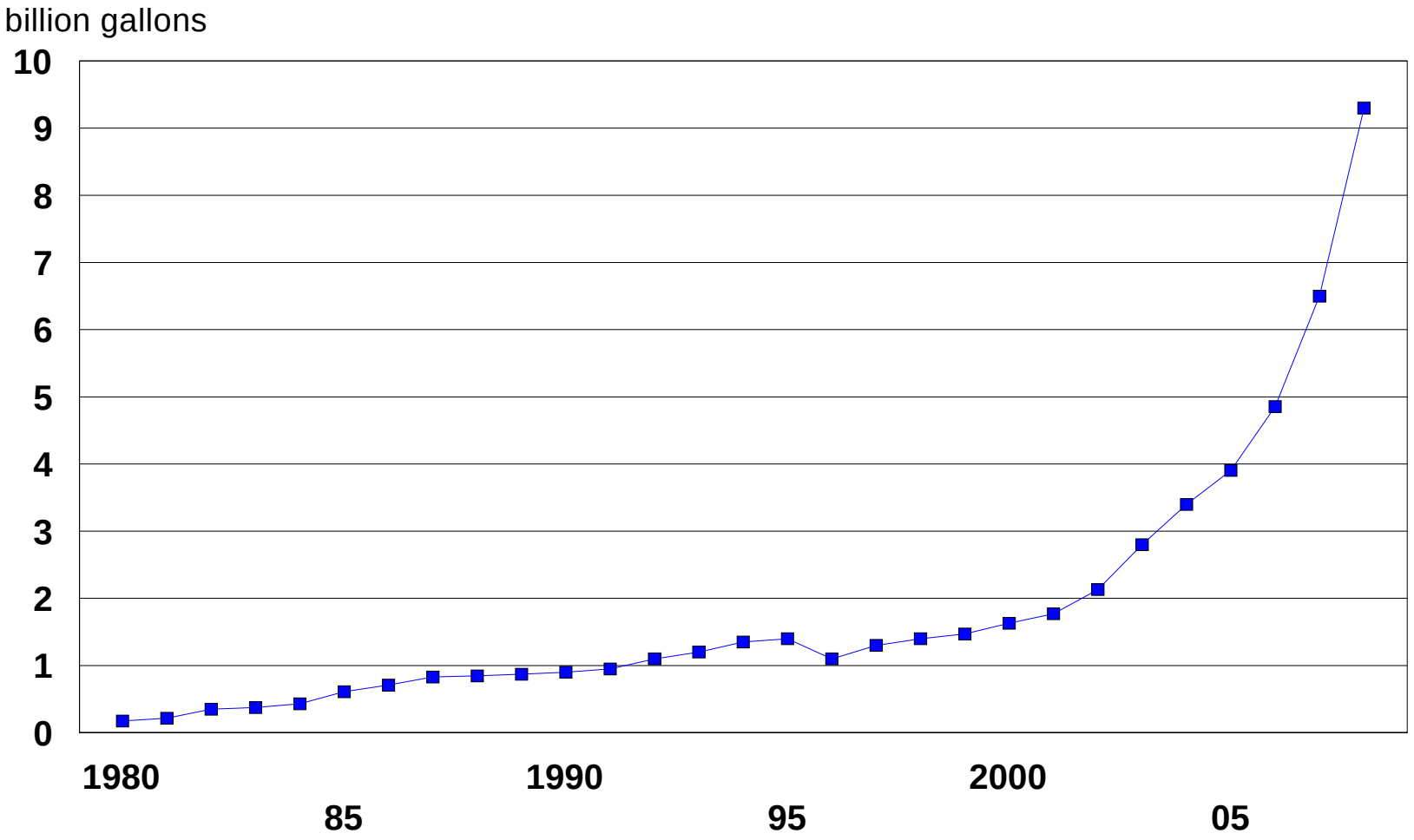
Rationale for Federal Renewable Energy Policy

- “We make a major step toward reducing our dependence on oil, confronting global climate change, expanding the production of renewable fuels and giving future generations of our country a nation that is stronger, cleaner and more secure.”
  - President George W. Bush, upon signing of Energy Independence and Security Act, December 19, 2007

U.S. ethanol production, 1980-present



Congressional jurisdiction over renewable fuels policy mechanisms

- Senate Finance and House Ways and Means Committees
  - Blenders credit for ethanol and biodiesel
  - Ethanol import tariffs
- Senate Environment and Public Works and House Energy and Commerce Committees
  - Renewable Fuel Standard
- Senate and House Agriculture Committees
  - Renewable fuels R&D, biorefinery loan guarantees, other farm bill programs

Ethanol production—Chronology of Federal policy development through 2006

- 1978-Gasahol defined in Energy Tax Act, creates $0.40/gallon blender's tax credit
- 1980-ethanol import tariff established
- 1984-raised blender credit to $0.60/gallon
- 1990-fuel oxygenate mandate established
- 2000-EPA recommends phase-out of MTBE
- 2002-Energy title in farm bill (first ever)
- 2005-RFS established with goal of 7.5 billion gallons of renewable fuels by 2012 (Energy Policy Act)
- 2006-Gasoline refiners drop use of MTBE after failing to get liability protection in 2005 bill

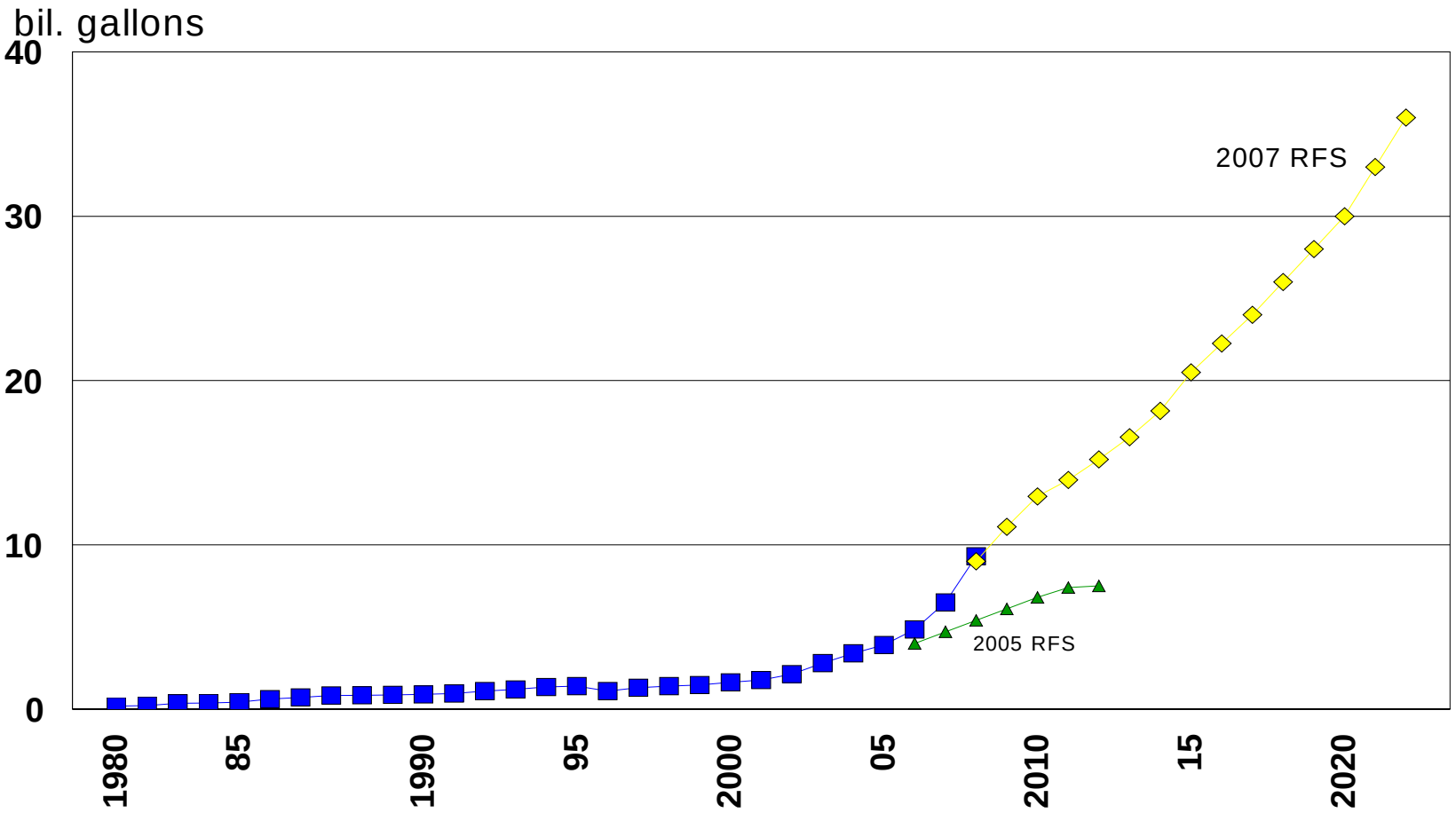
Key provisions of energy title in 2002 farm bill

- Funded at $795 million over ten years—
  - A little more than 1 percent of available funds
- Federal procurement of bio-based products
- Renewable Energy Systems and Energy Efficiency Improvements (Sect. 9006)
- Biomass R&D
- Bio-energy program

Rationale for the Renewable Fuels Standard (RFS)

- Legislative effort to pursue goal of reducing U.S. dependence on imported oil
- Seen as more straightforward approach than Clean Air mandate of oxygenate in fuels in regions with impaired air quality
- RFS first passed in 2005 with repeal of oxygenate mandate-did not set ambitious targets
- New RFS promulgated in 2007—aimed to produce enough renewable fuel by 2022 to replace 20 percent of U.S. transportation fuel supply

U.S. ethanol production and RFS requirements

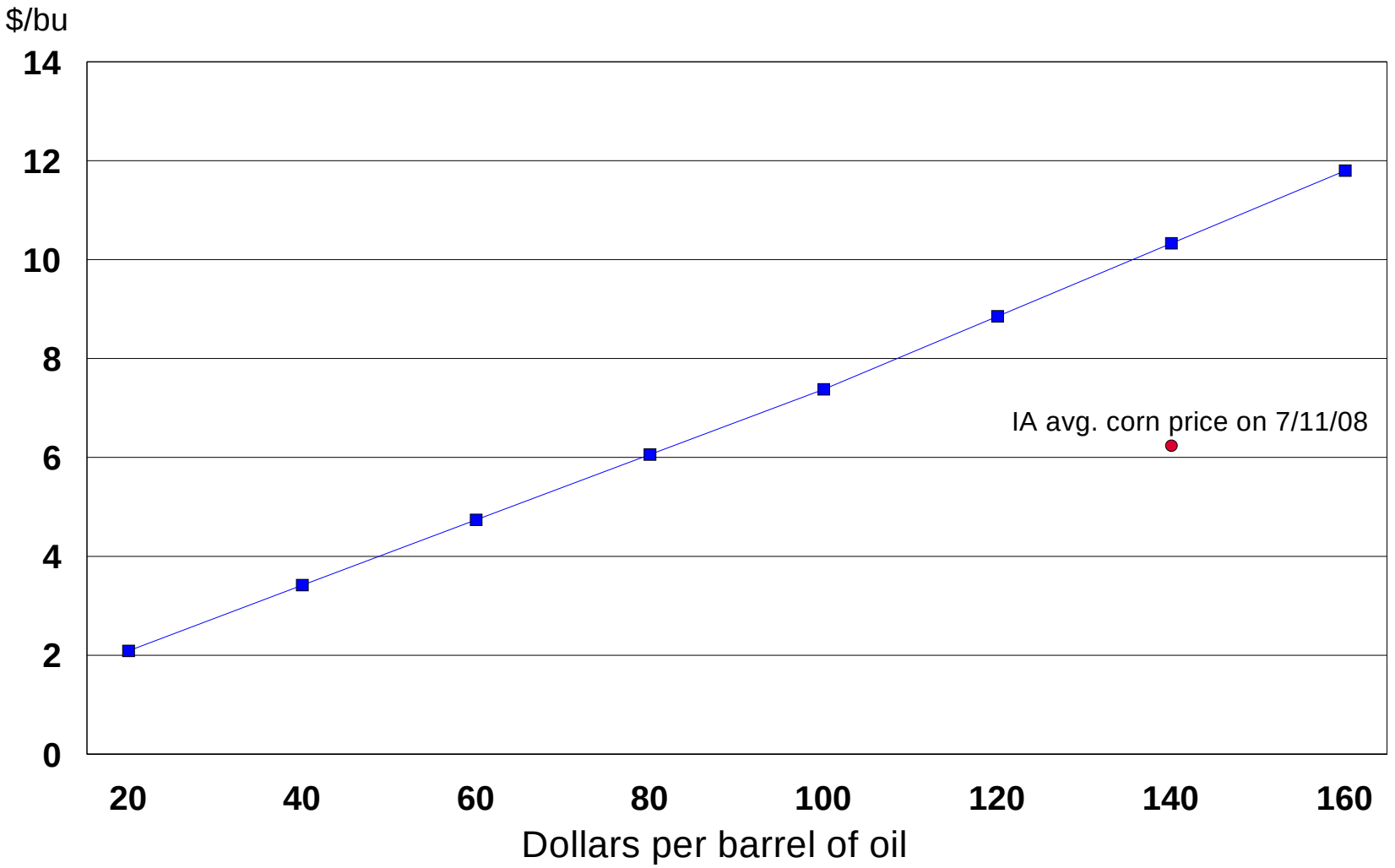


Source: Renewable Fuel Association

What is driving the boom in ethanol production?

- During its brief lifetime, the RFS annual requirement has never been a binding constraint on U.S. ethanol production
- In fact, the current ethanol boom is `fueled' in large part by the rapid rise in oil and gasoline prices
- Ethanol plants will produce as long as they continue to show a profit, and that is determined largely by the oil/gasoline price complex
- Will put pressure on price of corn, and encourage farmers to increase corn planted acres at expense of other crops
- With high prices for most major U.S. row crops, expect to see new land begin to come into cultivation in next few years

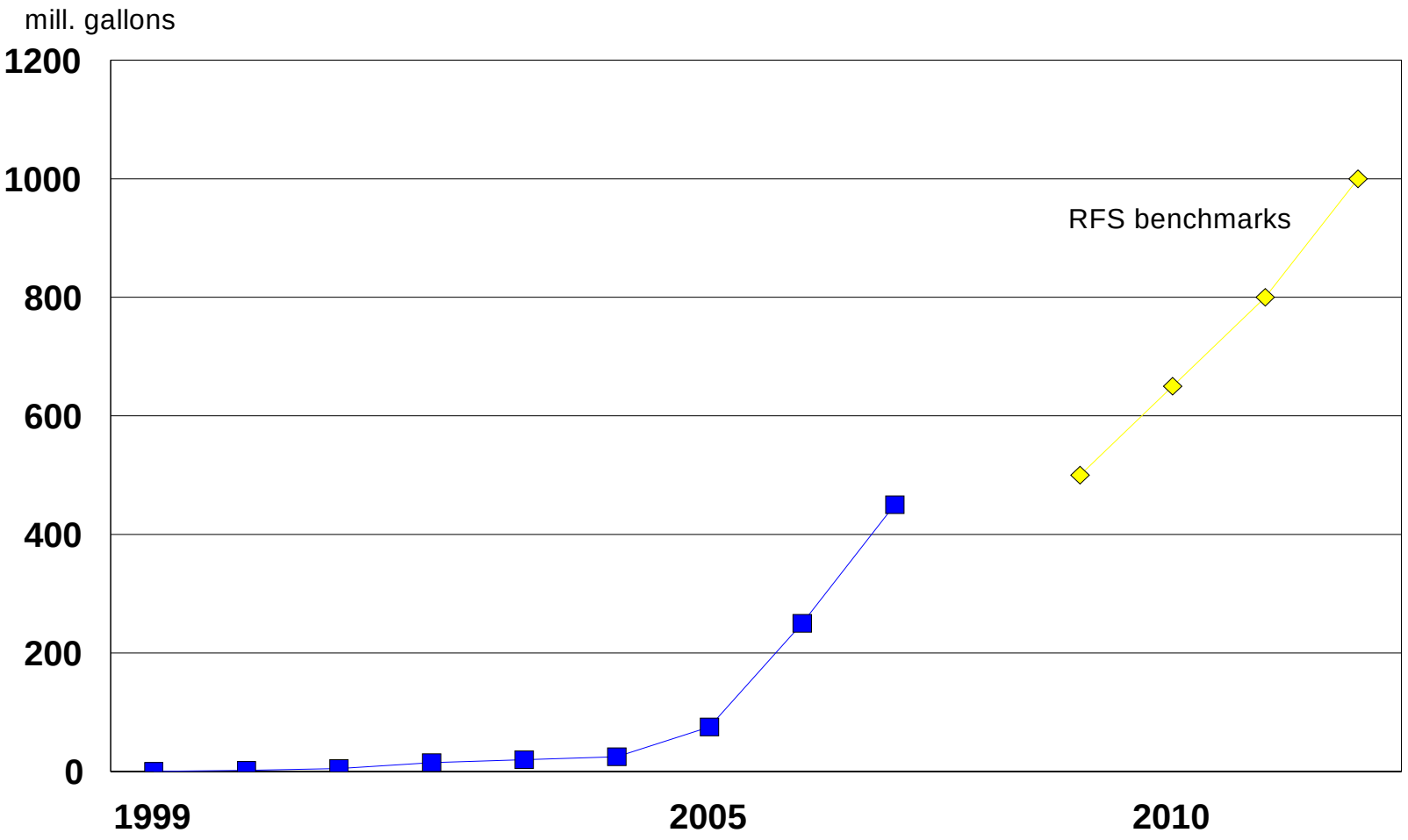
Break-even corn price at various oil price levels



Biodiesel role in U.S. bio-economy

- Late-comer to the game-industry founded in 1994 with establishment of National SoyDiesel Development Board (now National Biodiesel Board)
- Production limited until gained blenders tax credit in 2005 energy bill ($1/gallon)
- Incorporated into Renewable Fuels Standard in 2007 legislation (1 billion gallons by 2012)
- Further growth constrained by cost of main feedstock (vegetable oil) driven by EU biofuels mandate
- Search for alternative feedstocks crucial for biodiesel as well as for ethanol

U.S. biodiesel production



Source: National Biodiesel Board

RFS—transition from corn-based ethanol to cellulosic ethanol

- Recognition that corn-based ethanol would not be enough to meet overall goal was built into RFS in 2007 legislation
- Corn share of RFS peaks at not more than 15 billion gallons annually in 2015
- Significant investment already made in corn-based ethanol production
  - Capacity (in place and under construction) to produce 13 billion gallons annually
- Desire to maintain that capacity, while expanding capacity to produce ethanol from other feedstocks
- Focus of effort (and resources) on developing non-grain-based biofuels accelerated in energy title of 2008 farm bill