



CoBANK[®]

Emerging Trends in Project Finance

(My how times have changed)

Tom Houser

CoBANK[®]

CoBank

- Presently involved in financing approximately 50 ethanol plants (and several bio-diesel projects), representing approximately 20% of current and forecast industry capacity
- Gross loan commitments over \$1.3 billion
- Net commitments held by CoBank approximately \$850 million

Industry Stats (per RFA February 2008):

- 143 plants in presently in production with total capacity of 8.1+ billion gallons
- 57 under construction
- 7 undergoing expansion
- Total capacity to increase by 5.2+ billion gallons to 13+ billion gallons
- Additional projects (how many ?) in planning stage

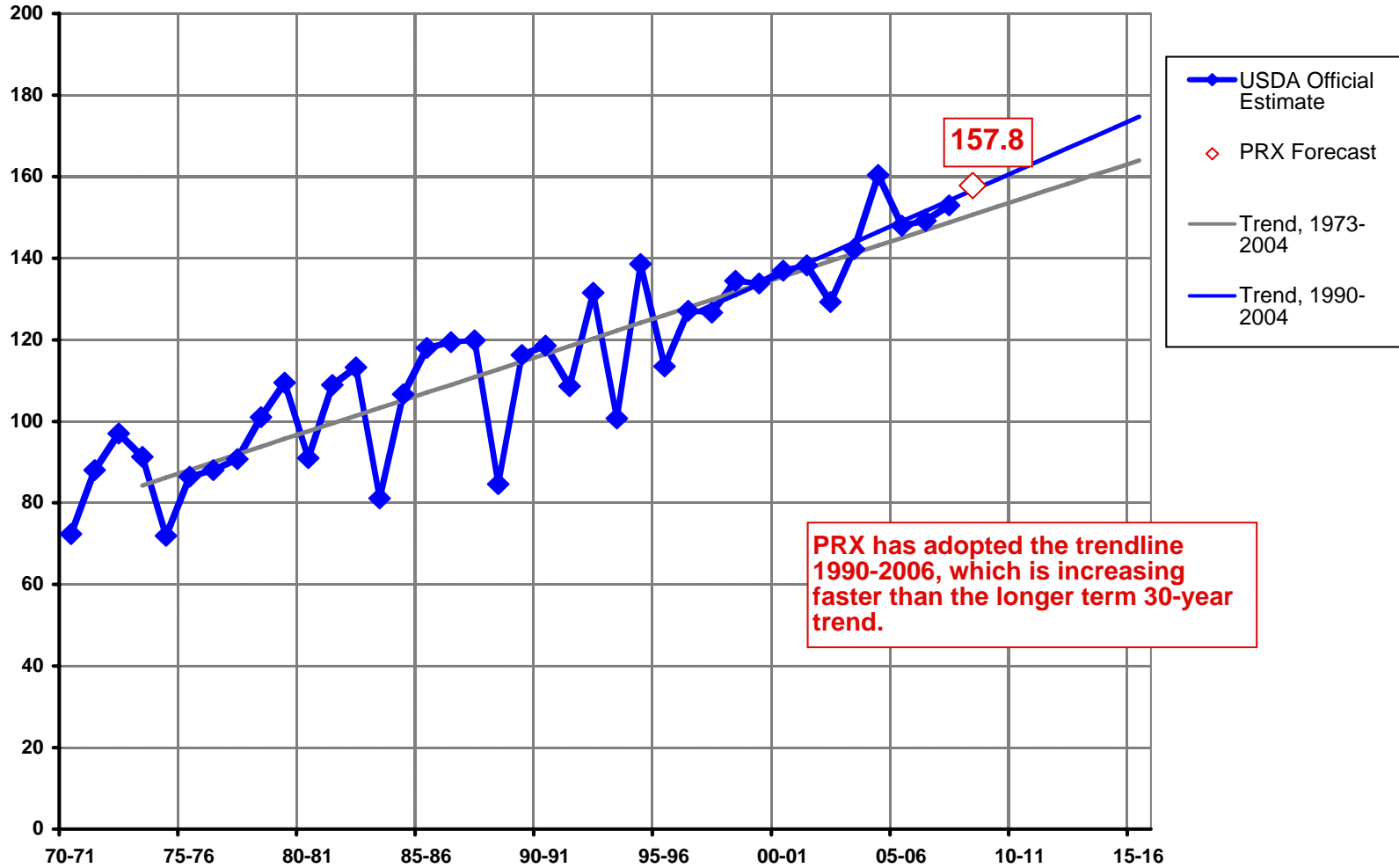
Issues / Concerns:

- “SCARED OF CORN”
- Rapid increase in corn price, with “top” uncertain
 - * “there is a lack of conviction about the future price of corn”
- CBOT over \$5.00 across the board
 - (March 13 close @ 3/08 = \$5.60; 7/09 = \$5.97; 12/10 = \$5.52)
 - (CBOT Ethanol vs. Corn Futures correlation = .0413)
- Pending March planting intentions report
- Weather (what if it doesn't rain for a week this summer in Chicago ??)
- Export sales (a/k/a “food vs. fuel”)

UNITED STATES CORN YIELD and TREND

PRX_B_Maps_BA_NewCrop, GTB-07-11, Nov-16-07

Bushels per acre



PRX has adopted the trendline 1990-2006, which is increasing faster than the longer term 30-year trend.

Issues / Concerns:

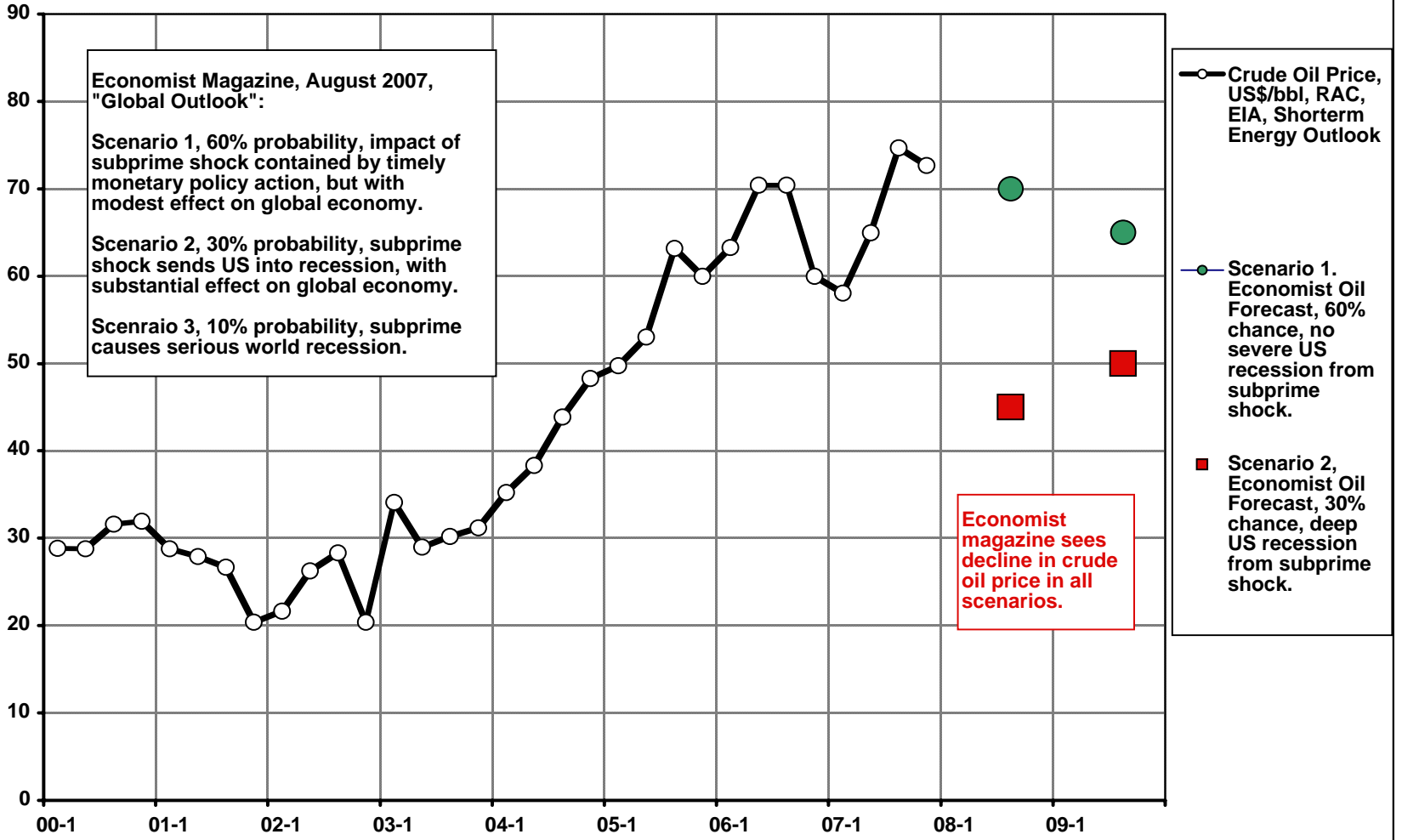
- “SCARED OF ETHANOL”
 - Crude at \$110.33/barrel, but ethanol price less than gas
 - * (CBOT correlation Ethanol vs. RBOB Futures = 0.2395)
 - Demand increasing, but “wave” of supply is a worry
 - * (CBOT March 13 close @ 4/08 = \$2.49; 12/08 = \$2.30; virtually no open interest beyond Feb 2009)
 - How much supply will there really be during the next approx. 18 months; 11ish or 13+ish ??
 - * (many projects have been delayed, suspended, or cancelled)
 - Logistics issues being resolved sooner than later, BUT what about the “Blend Wall” ??
 - What if crude drops ?? (record inventories, declining demand)
-

CRUDE OIL PRICE, QUARTERLY, Forecast by EIA and by Economist

Source: USDOE, Energy Information Administration (EIA), latest public release, and Economist Aug-07.

PRX_IEAnal, GTB-08-02, Feb-13-08

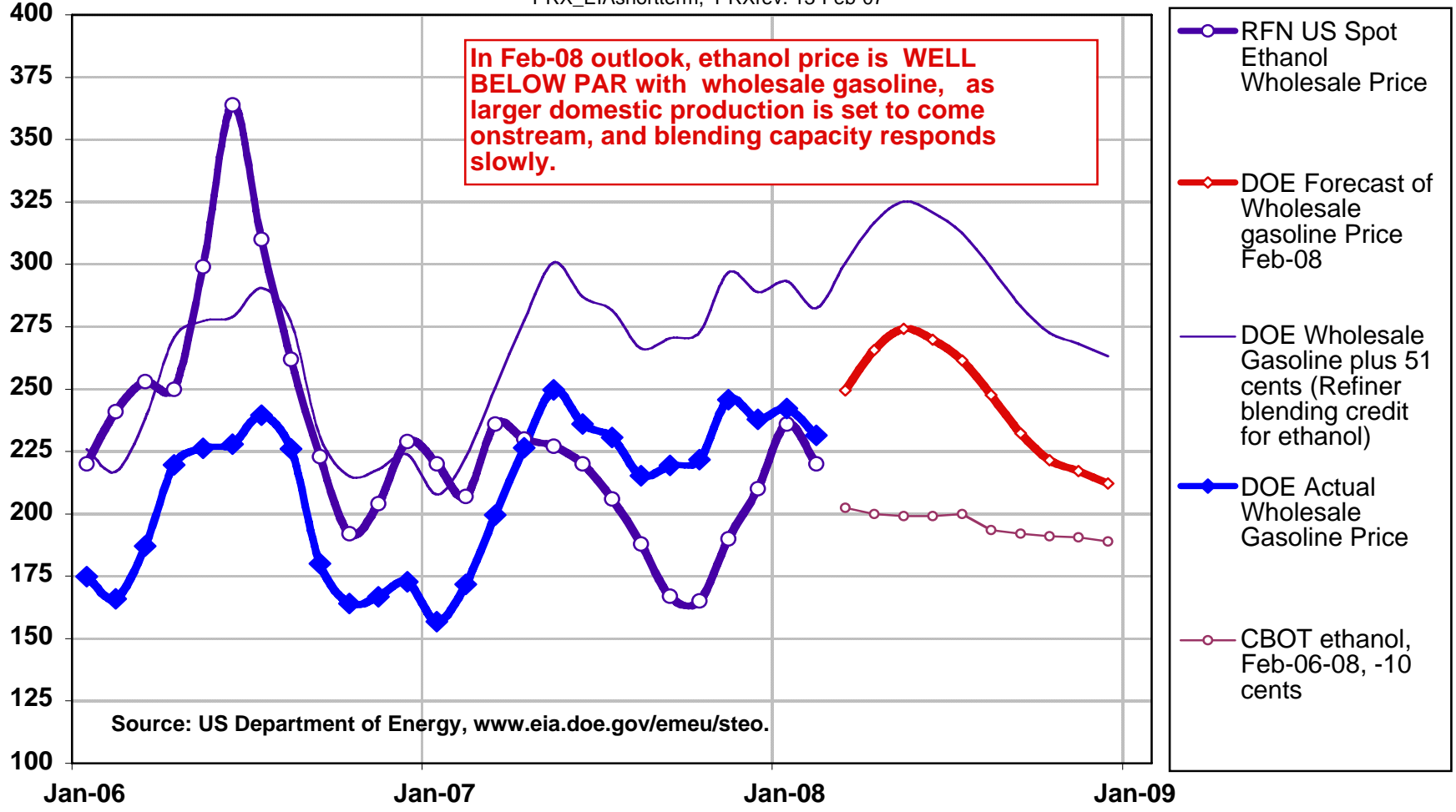
US dollars per barrel



US MOTOR GASOLINE vs. ETHANOL, WHOLESALE PRICE

Cents per gallon

PRX_EIAshortterm, PRXrev. 13-Feb-07



Cornbelt Model Ethanol ROIs, Cts/Gal

PRX_BS_Regions, GTB-06-10, Oct-12-06

		Ethanol Price				
		\$1.25	\$1.50	\$1.75	\$2.00	\$2.25
Corn Price	\$2.00	\$0.19	\$0.44	\$0.69	\$0.94	\$1.19
	\$2.50	\$0.07	\$0.32	\$0.57	\$0.82	\$1.07
	\$3.00	(\$0.05)	\$0.20	\$0.45	\$0.70	\$0.95
	\$3.50	(\$0.17)	\$0.08	\$0.33	\$0.58	\$0.83
	\$4.00	(\$0.30)	(\$0.05)	\$0.20	\$0.45	\$0.70
	\$4.50	(\$0.42)	(\$0.17)	\$0.08	\$0.33	\$0.58
	\$5.00	(\$0.54)	(\$0.29)	(\$0.04)	\$0.21	\$0.46

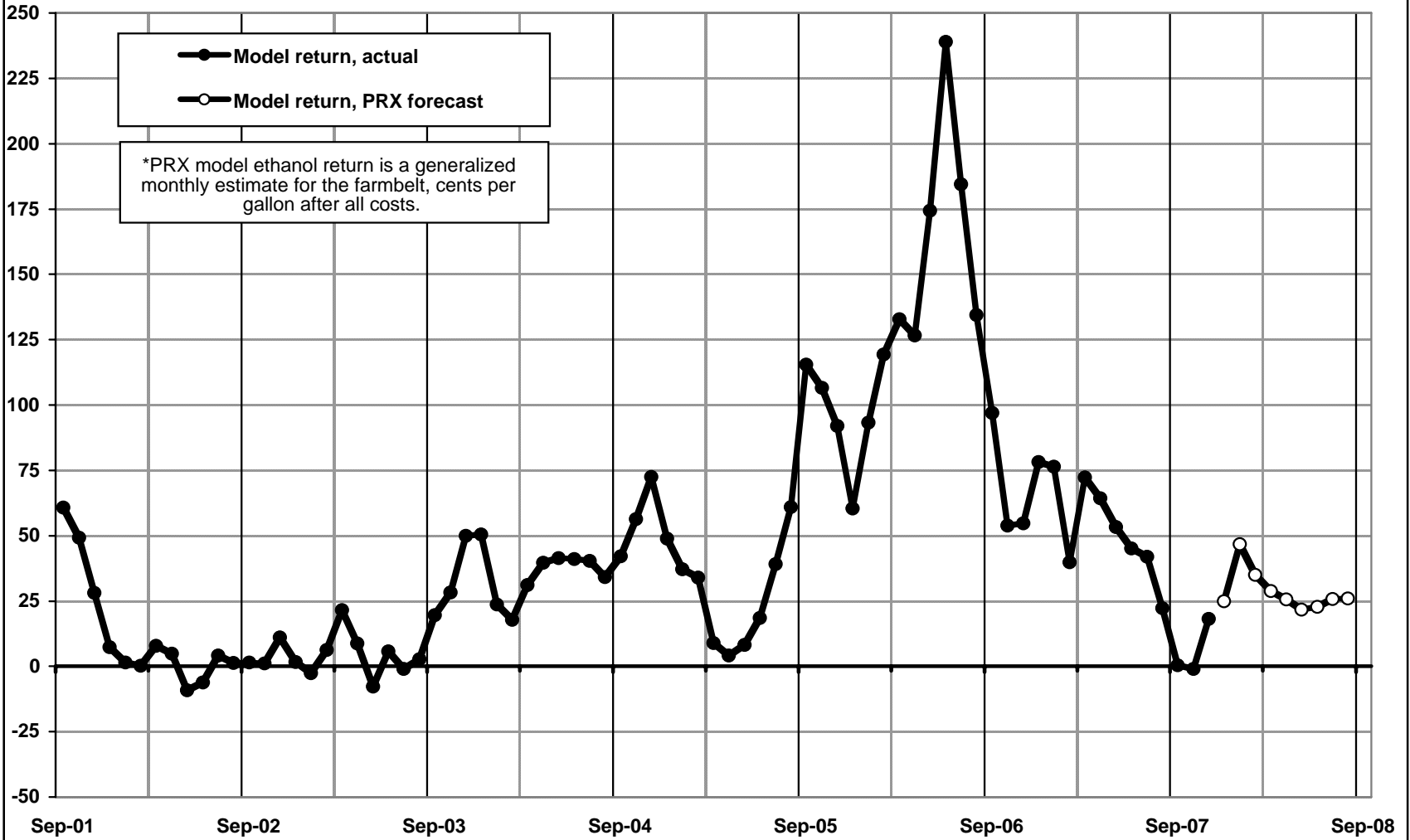
DDG price moved in relation to corn price. Gas set at \$7.00 per cu ft.

The future of corn supply-demand depends as much on the future of ethanol price as any other factor, and ethanol price has now declined from its above \$3.00 levels. The job of corn price is easier, of course, the lower one's opinion of ethanol price!

MODEL ETHANOL RETURN*, Past Six Years by Month

Source: US DOE, Energy Information Administration (EIA). PRX_EIA_PriceAnal, GTB-07-12, Jan-03-07

Cents per gallon



*PRX model ethanol return is a generalized monthly estimate for the farmbelt, cents per gallon after all costs.

Issues / Concerns:

■ MEDIA / PUBLIC PERCEPTION

- The sky is falling; poor chicken little has been or will be crushed.
- “Opportunistic” investors (a/k/a the “vultures” are circling)
- Publicly traded stocks at 52 week lows; below initial offering price
 - * (Capitalization in some cases significantly less than the cost of new construction)

Impact on Debt / Equity Capital:

- QUOTES (as best I can remember) at RFA CONFERENCE
- “There is no appetite for additional ethanol”
- “Days of 60% - 70% debt are over”
- “Many projects were looked at as power finance projects and structured as such in terms of leverage and cash flow expectations”
- “Much of the funding that flowed into the industry during the past couple years did not understand the risks”

The Reality:

- FEW (BUT SOME) PROJECTS ARE BEING FUNDED
- Most favored – expansions or additional plants by existing company/management teams
- New greenfield sites and start-up companies have high hurdles
 - * (Big Foot and the elusive “tolling agreements”)
- Leverage has definitely come down; debt per gallon vs. %
- Rates and fees have definitely gone up
- Participant lenders hard to find (portfolios “full”, or perceived risks too high)
- Farm Credit System generally “full”

“INNOVATIONS”:

■ Fractionation

- * Questions about basis of feasibility
- * Capital cost vs. expected higher product revenues, OR
- * Increased through-put and reduced energy needs

■ Gasification / CoGen

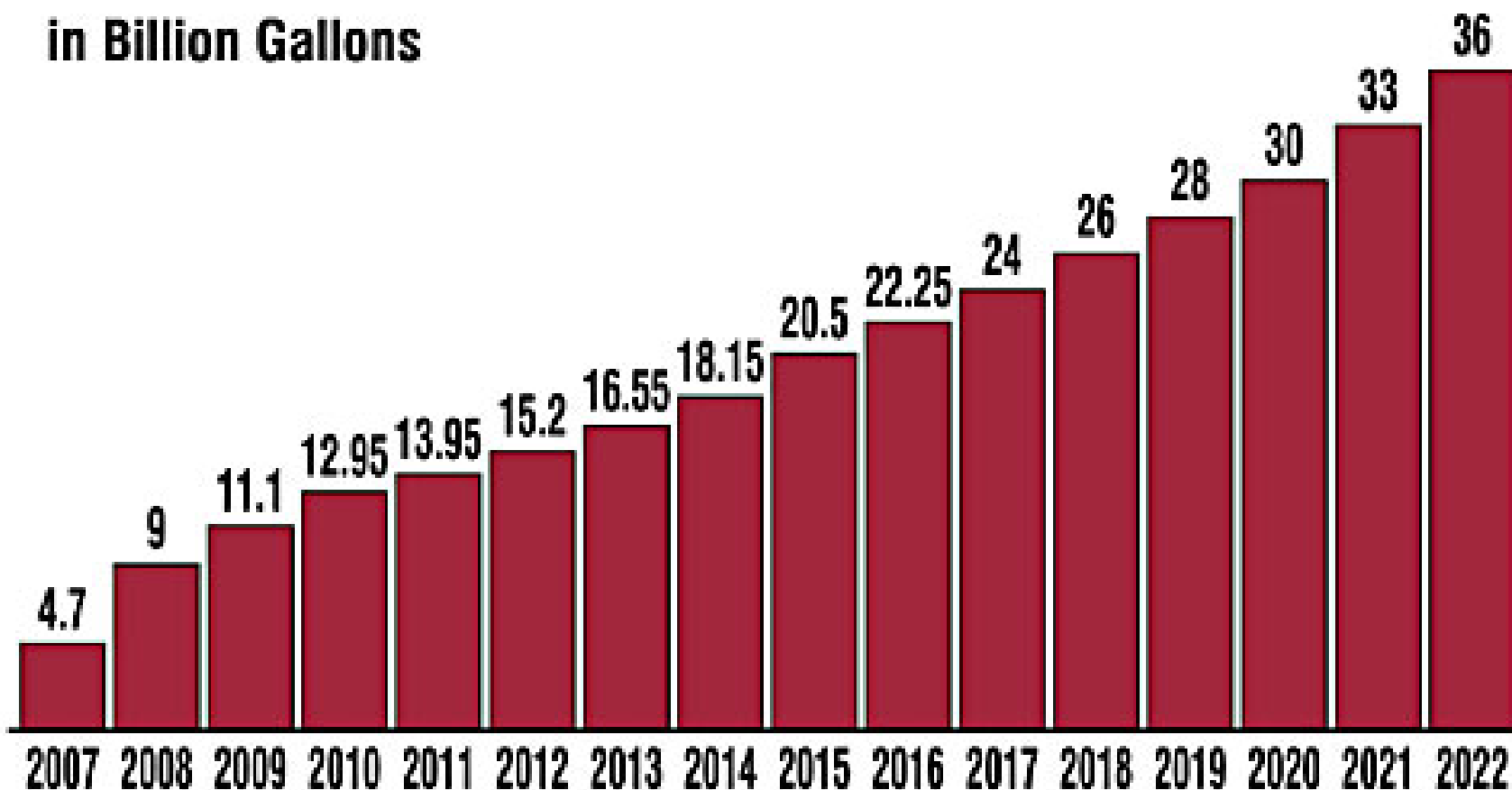
- * Capital cost vs. energy/efficiency gains; pay-back
- * Big enough “bucket” ??

■ Cellulosic

- * Technology risks remain
- * Commercial feasibility yet to be demonstrated
- * Role of “debt” vs. equity / “risk” capital

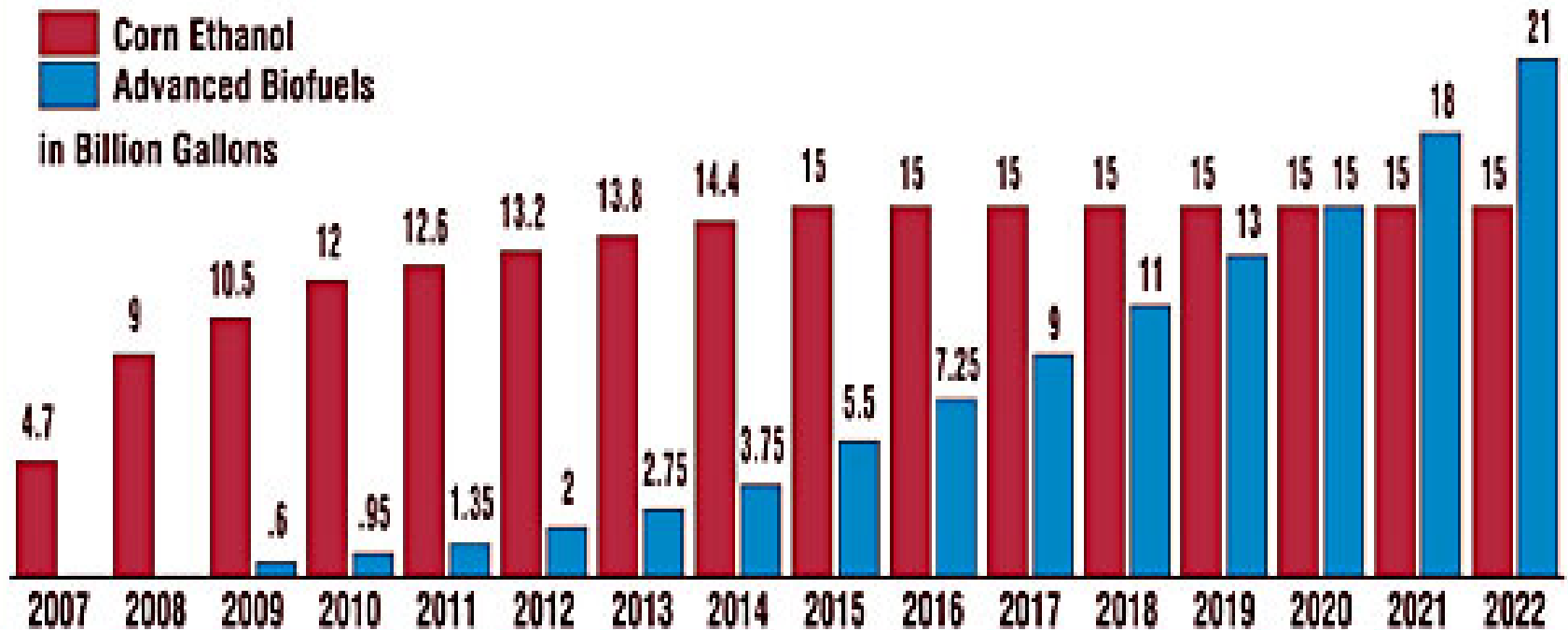
RFS-Mandated Biofuels Volumes

in Billion Gallons



Based on Energy Independence and Security Act of 2007

RFS-Mandated Corn Ethanol and Advanced Biofuels Volumes



Based on Energy Independence and Security Act of 2007

Summary

- Confidence is high that the bio-fuels industry is here to stay, and will continue to grow
- Industry risks are, though, significant, with substantial economic volatility anticipated
- Government support will be essential in the foreseeable future, especially with regards to commercialization of new technologies
- Well located, well capitalized, low-cost producers will survive, whereas projects lacking such attributes represent significant risk to capital providers.