



Investor Ideas' Financing Renewable Energy Conference



Sigma Capital Group, Inc.
Bruce Woodry
Chairman and CEO

April, 2006

Sigma Capital Group, Inc.

Who we are:

- Sigma Capital is a boutique investment bank, providing advisory and representative investment banking services primarily to energy and renewable energy companies.

My focus:

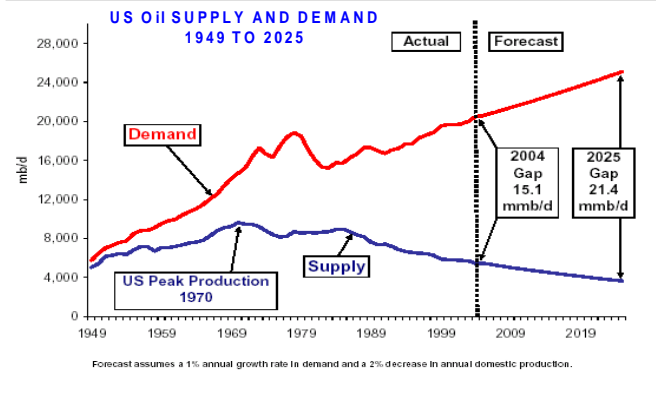
- Project finance (private equity and debt) for ethanol and integrated agri-energy projects

Today: Primer on Renewable Energy Project finance:

- Comparison to Growth Funding
- Some things to consider when reviewing a renewable energy project finance transaction

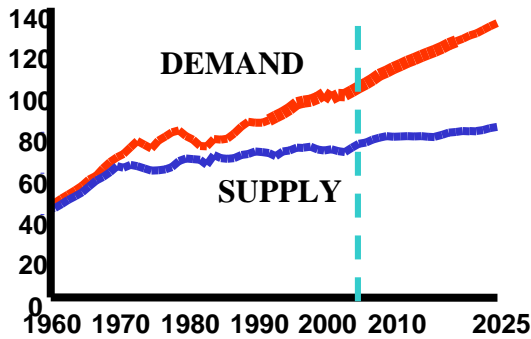
Energy: Changing industry

US OIL

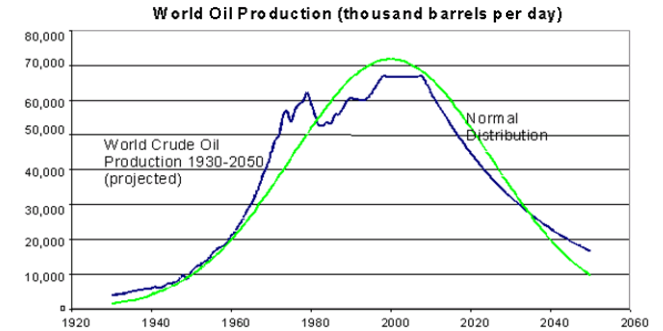


Sources: EIA and RJ Research estimates and analysis

US NATURAL GAS



WORLD OIL

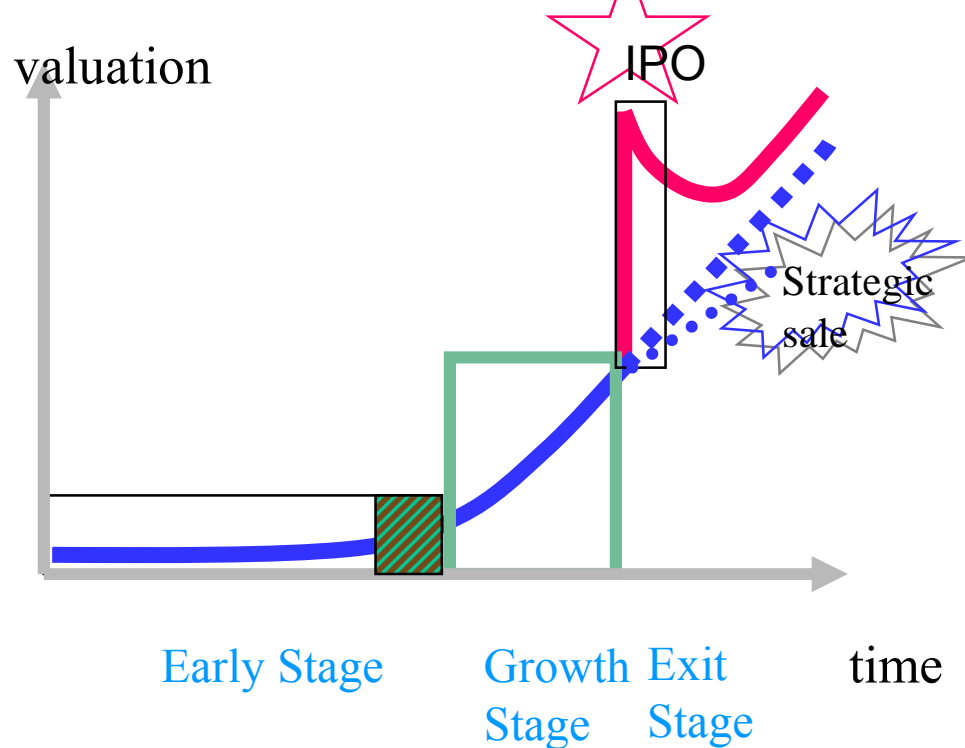


- World oil peaked circa 2000, no major discoveries, existing wells on decline curve
- U.S. Oil
 - Production peak in 1970
 - Today, United States consumes 20 MBBL/day, 76 % imported (2004) going to 25 MBBL/day, (86%) imported (2025)
 - China, #2 at 9MBBL/Day is growing at 9%, competing for scarce supplies
- US Natural Gas
 - Price from \$1.5 to \$14 MCF over past several years
 - Summer/winter shortage
- Concerns over price, supply

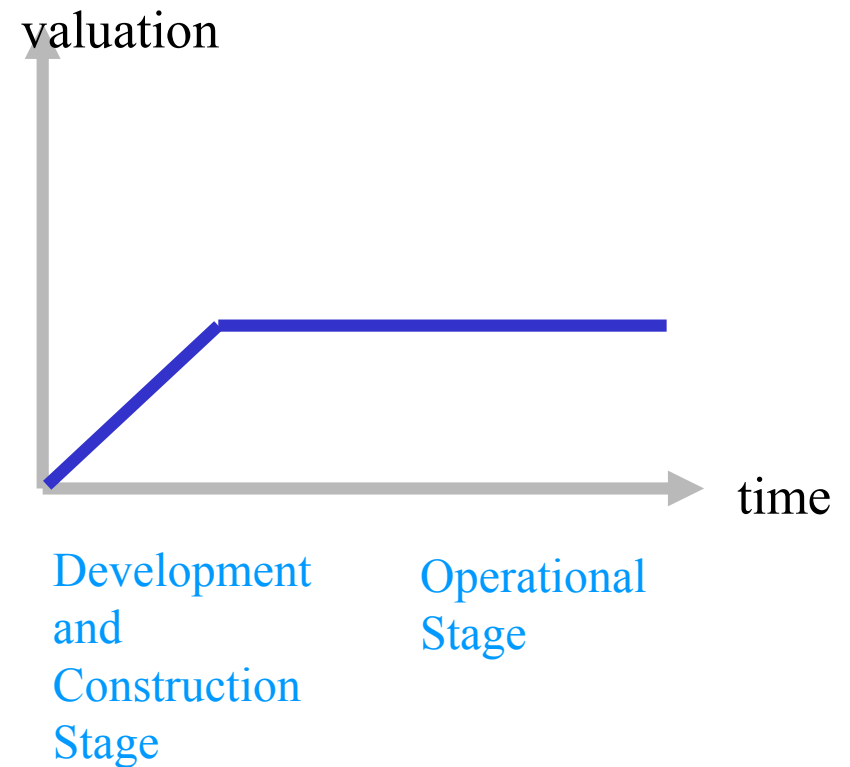
Quick Project Finance Tutorial

Growth funding vs. Project Finance

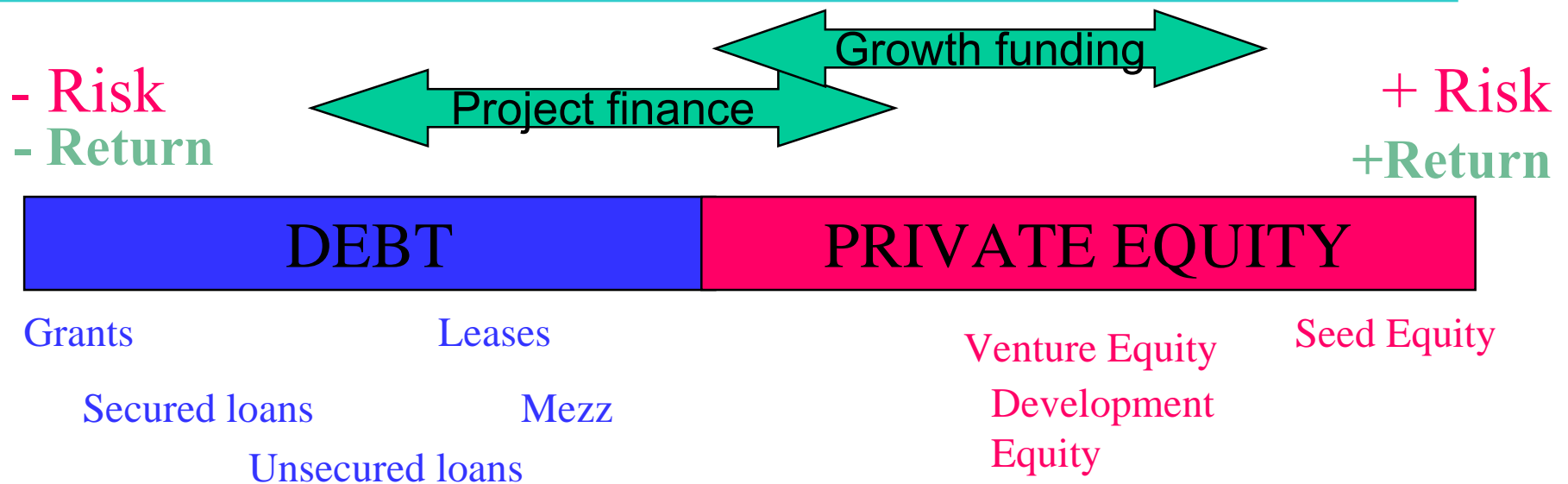
Investor returns derived from the value at exit



Investor returns derived from project cash flow

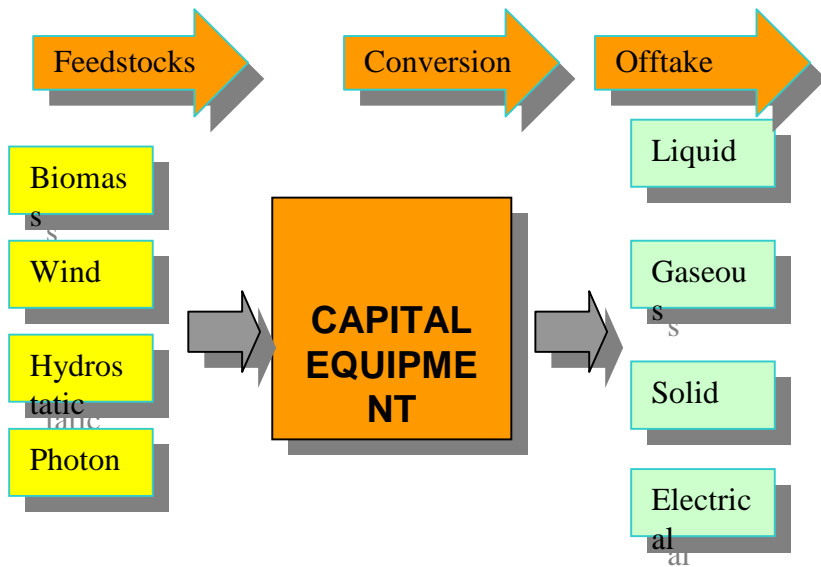


Funding spectrum

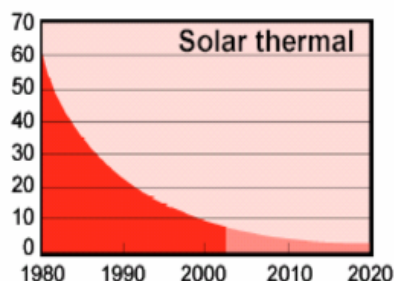
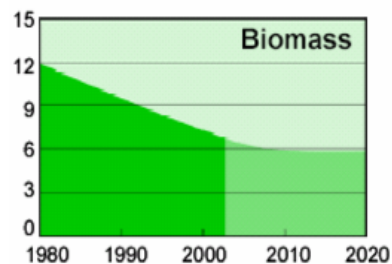
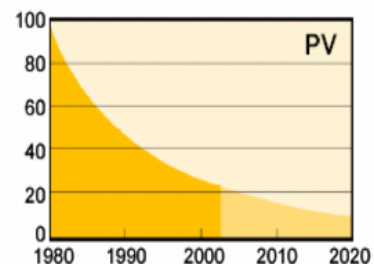
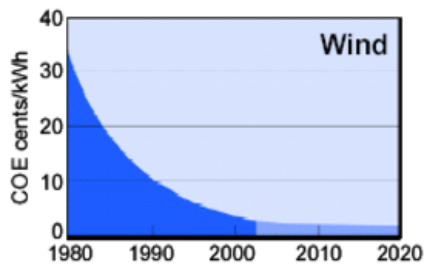


- Cost of money is dependant on risk profile
- Growth funding (venture capital) typically all equity and includes technology and market risk return premiums
- Project finance mitigates technology and risk premiums, Debt/Equity, looks to the cash flow and balance sheet of the Offtake agreements
- Lower overall project IRR compensated by leverage

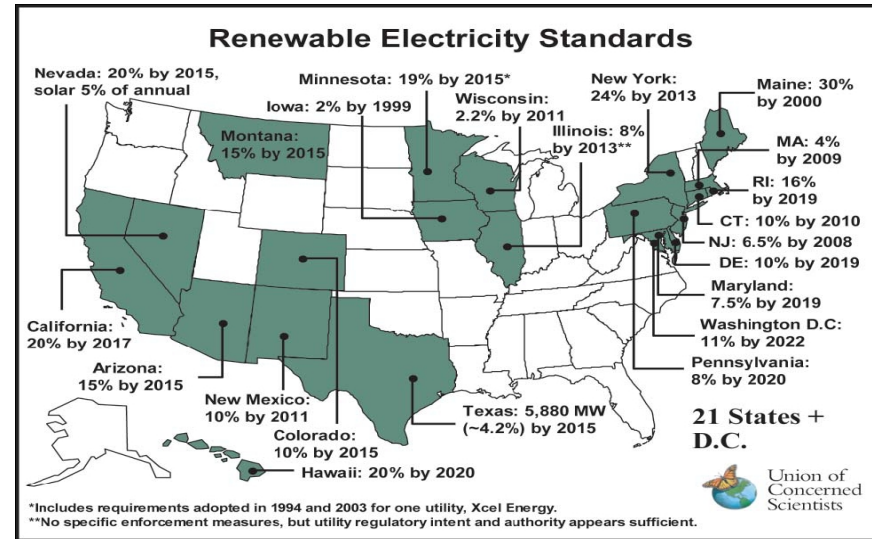
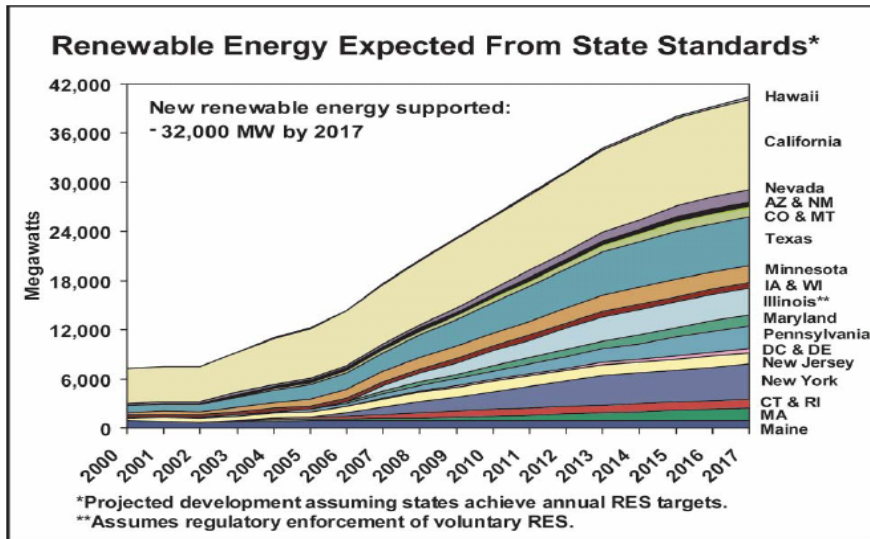
Renewable Energy Industry



- Renewable energy takes one form of energy (biomass, wind, hydro, sunlight) and converts to another, more usable form (liquid, solid, gaseous, electrical)
- Capex intensive
- Dynamic of the conversion: must relate local supply to local need



State and Federal Drivers

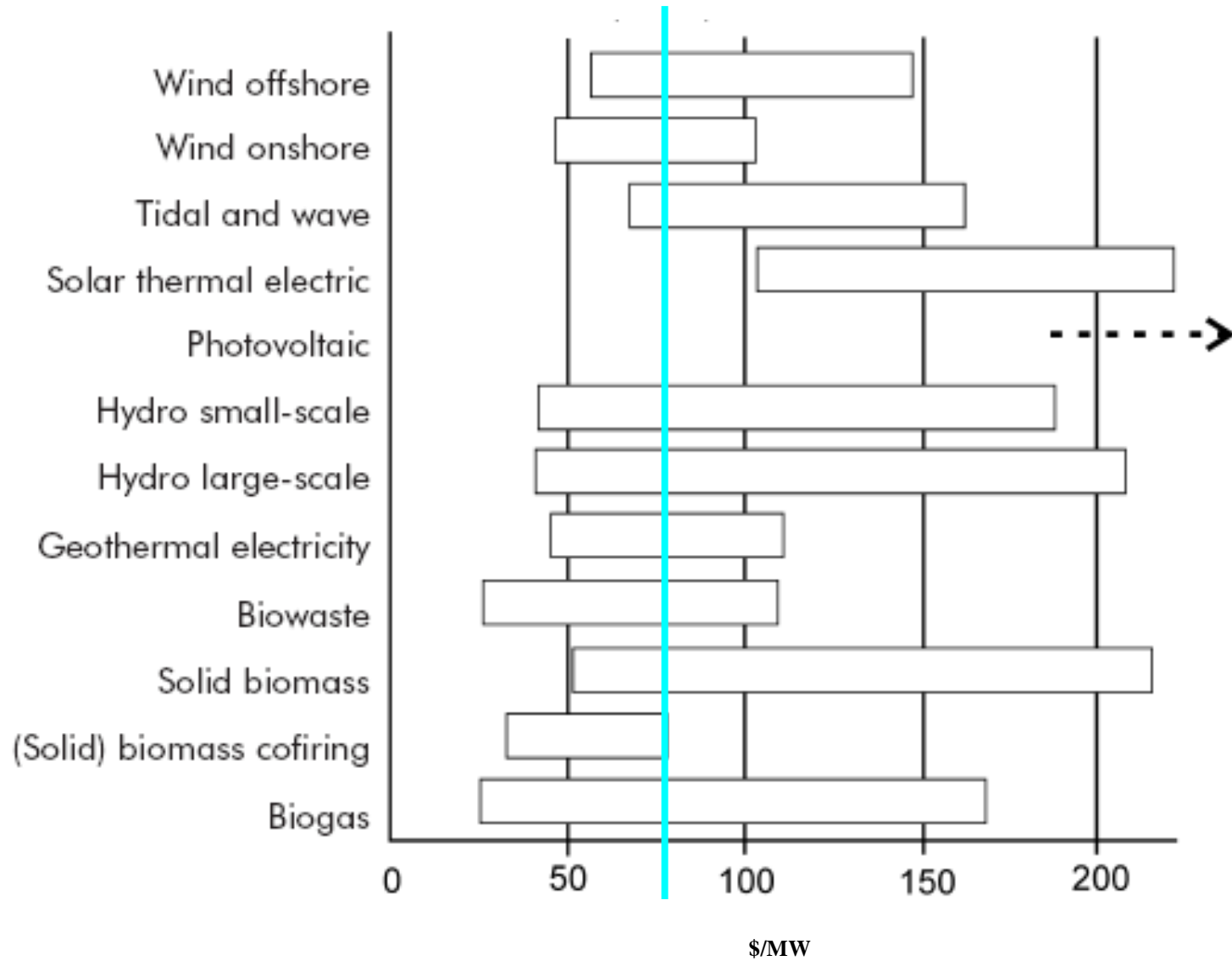


- Energy policy act of 2005
 - **PTCs By Technology:** 1.9 cents/kwh for 10-year period beginning on date facility is placed in service for Wind, Closed-loop biomass, Geothermal, Solar
 - Generally must be put in service between 2007 and 2008

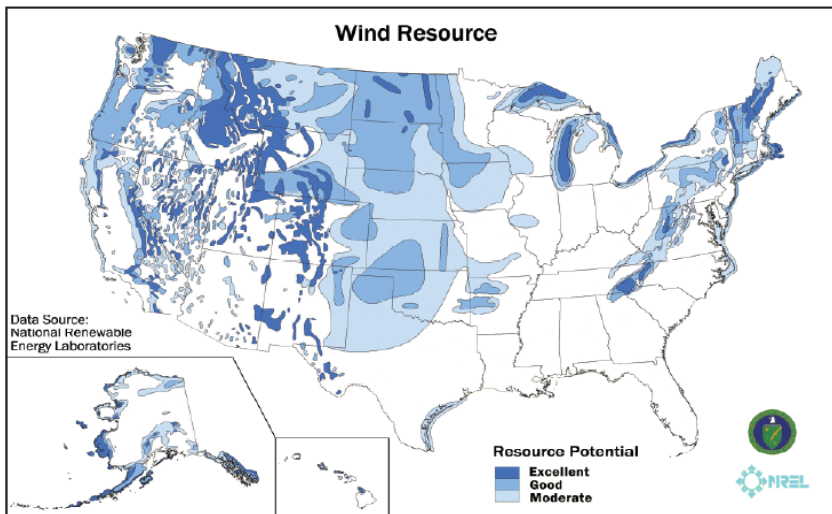
- State policies augment federal policies
 - Renewable portfolio standards in 21 states & District of Columbia
 - Requires 2%-24% of electricity to be generated by renewables

Expected to be 32,000 MW by 2017, California, New York, Texas will lead

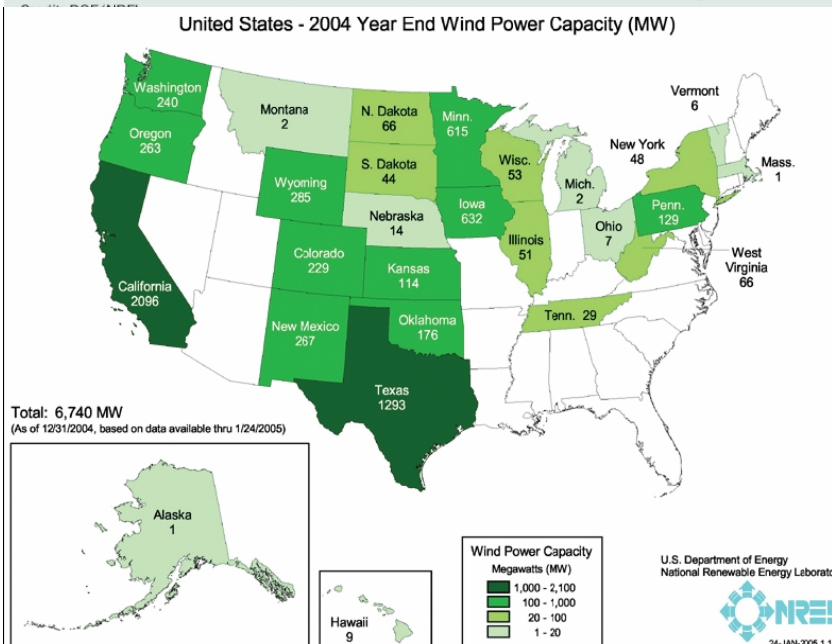
Overview, cost of electricity by technology



Wind potential in US



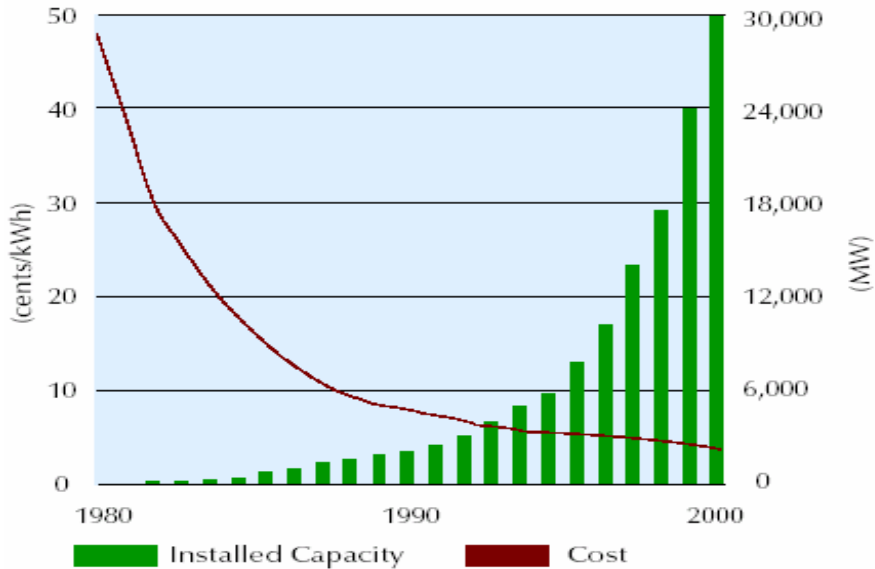
Map shows major U.S. land-based wind power reservoirs on the Great Plains and in mountainous regions.



- World Potential: 12% of world's electricity by 2020 - 1,250 gw
- Potential 10-12% of US electric capacity by 2020
- One 2 MW system can run 600 average US homes, or 2.3m US homes under wind power
- US total YE 2005:9149 MW
 - 25% in 2005
 - \$3b in 22 states
 - 2431 mw in 2005, 35%
- Where:
 - CA: 2150 mw
 - TX: 2150 mw
 - IA 836
 - MN 744
- GE 60% of new US installs
- 2005 installs will pay farmers \$5B

Source: NREL
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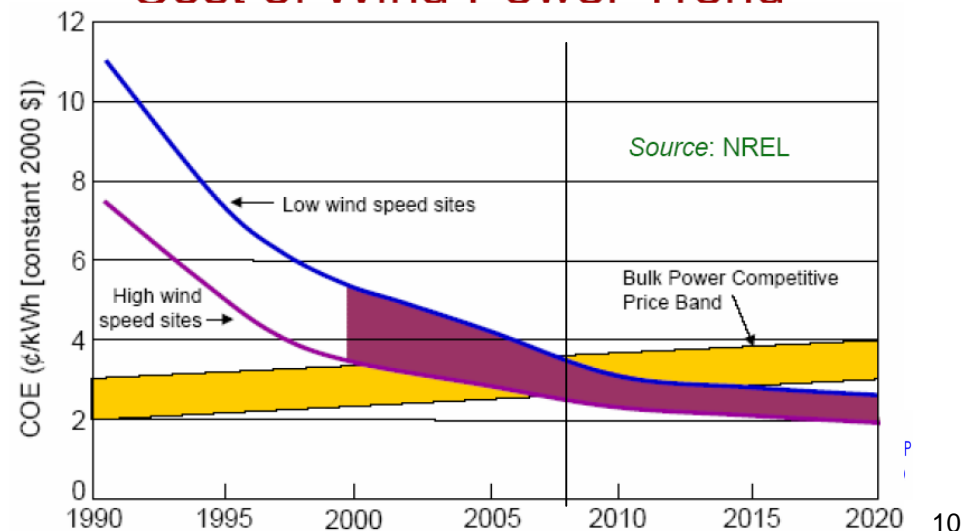
Wind Power, Installed Base vs. Cost



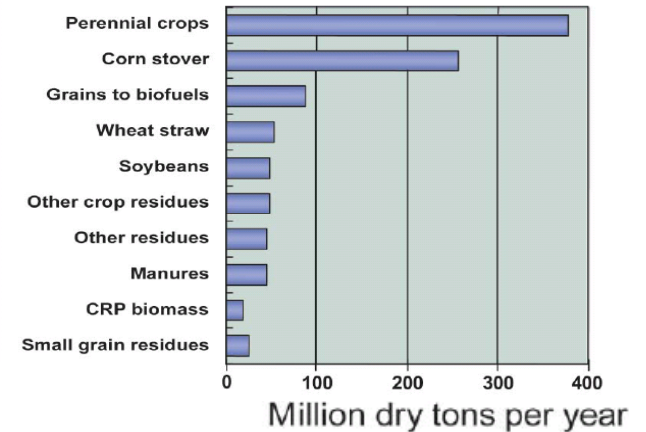
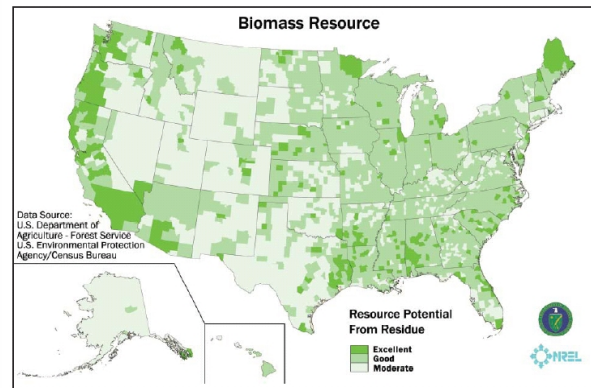
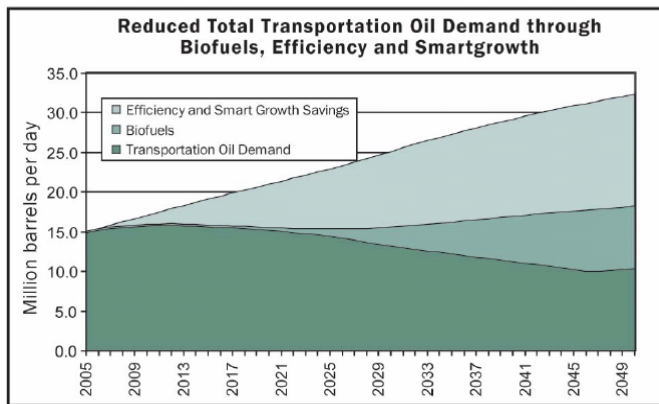
The Energy Foundation, 2004

- Wind received 72% of U.S. energy asset investment in 2005
- Average deal size \$75 million
- \$4 billion for 65 wind parks
- Buyouts: 25 in 2005 for \$3 billion (global), mostly in Spain

- + Wind plants are economically viable...costs have dropped from 50 ¢/kWh to under 5 ¢/kWh since 1980
- + 9149 MW in the United States
- + Cost of generation is almost comparable with fossil fuels
- Low capacity factors (6-37%)
- 2 MPH change in average wind speed can make the difference between investment-grade returns, or not



Biofuels

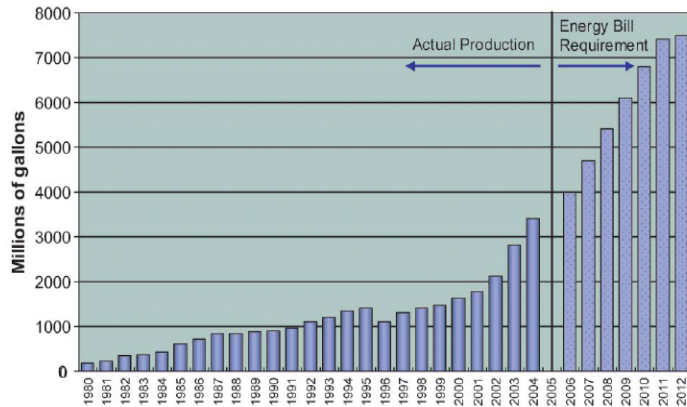


- Today:
 - Ethanol (liquid)
 - Biodiesel (Liquid)
 - Ag-Gas (gaseous)
 - Biomass (electrical power)
- Future
 - Cellulosic Ethanol
 - Ecalalene
 - Butylene

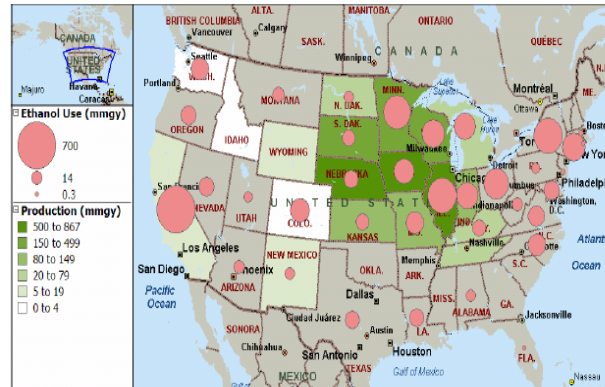
- Feedstock:
 - Starches: corn, sorghum, sugarcane
 - Fats: soybeans & canola oil, animal fats
 - Organic (wood, manure, Corn Stover, etc.)
- Feedstocks: 1.4 billion TPY
- 48-114 million acres (12-25% of U.S. crop acreage)

Ethanol

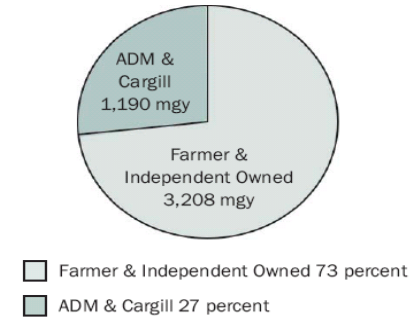
CAPACITY



PRODUCTION AND CONSUMPTION



OWNERSHIP



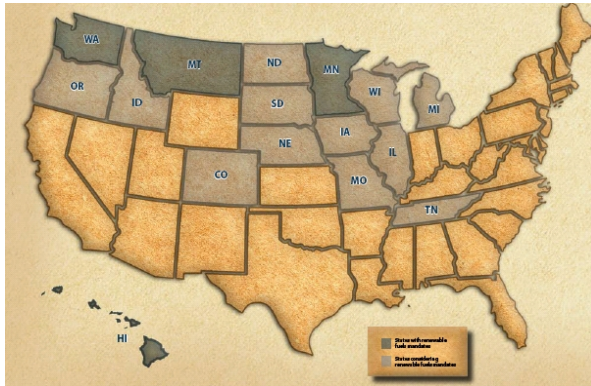
- Capacity: 4.3 billion gallons (2005)
- Goal: producing at least 8 billion gallons by 2012
- 21% increase in 2004, 109% increase since 2000
- 3% of the 140 million gallons consumed (2005)
- 2012 RFS of 7.5 gallons
 - feedstock lemons
 - only 6% of vehicle fuel consumption

- Ethanol use vs. production
- 40 million gallon plant creates 142 million in local economic activity
- \$56 million/year to local community, 71% to farmers for grain

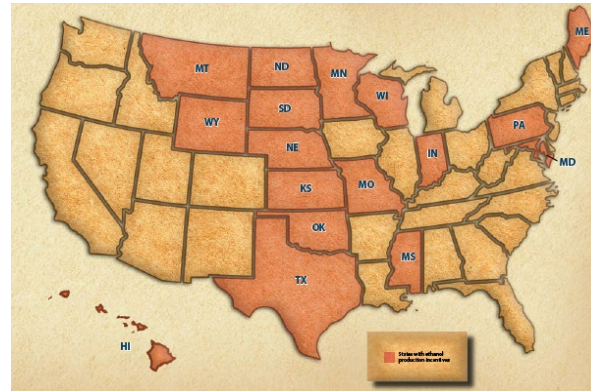
- 2005 Ownership
 - 104 Plants
 - 4.3 billion GPY capacity
 - ADM/Cargill = 27% (1.2BGPY)
 - Farmer & independent 73% (3.2BGPY)

Drivers of the Ethanol Industry

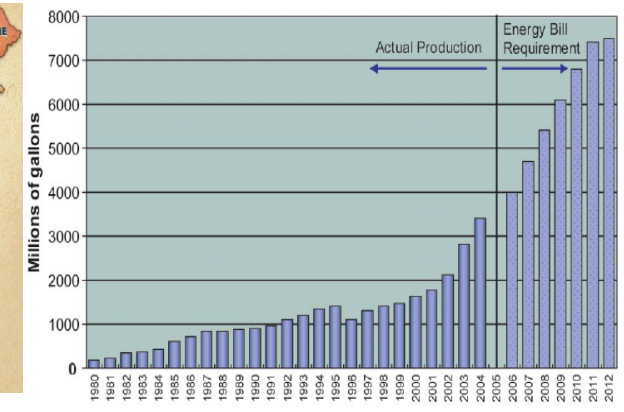
RENEWABLE FUELS MANDATE



ETHANOL PRODUCTION INCENTIVES

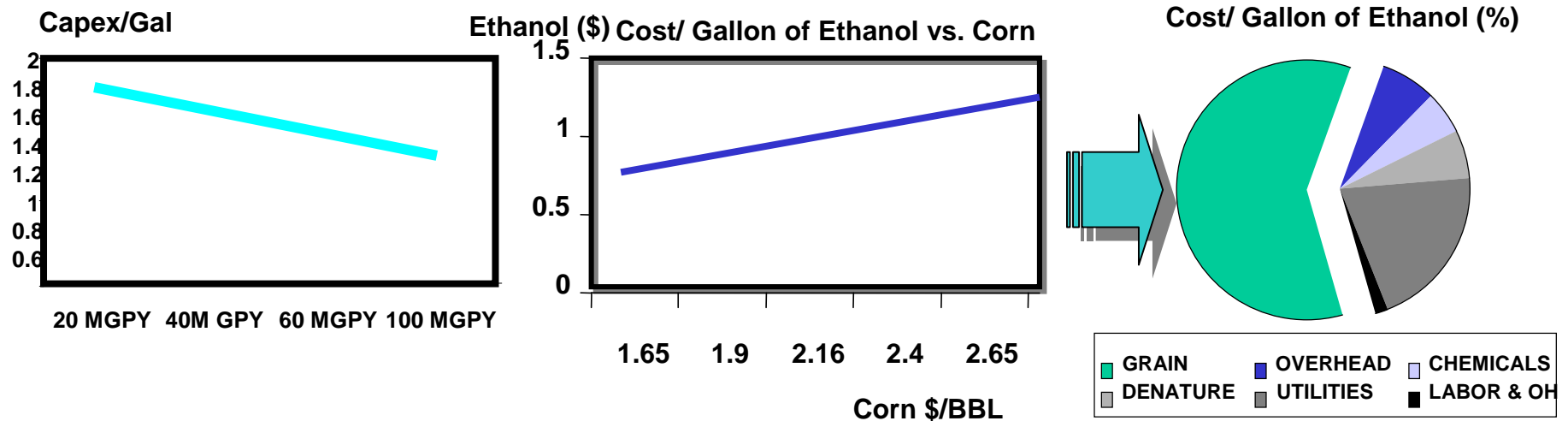


ETHANOL PRODUCTION CAPACITY



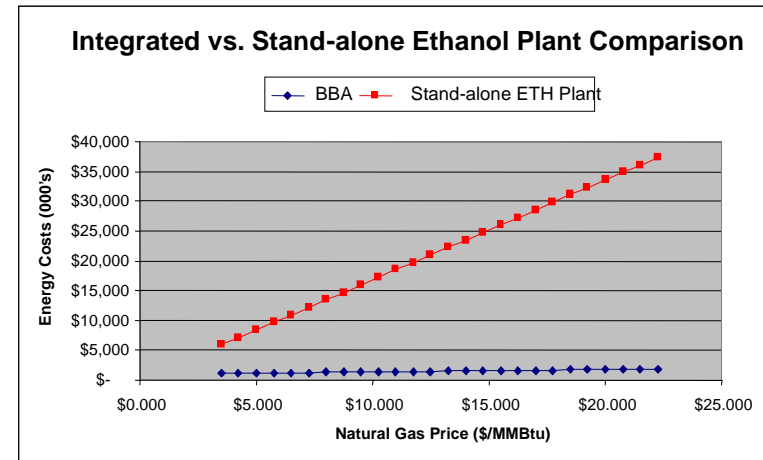
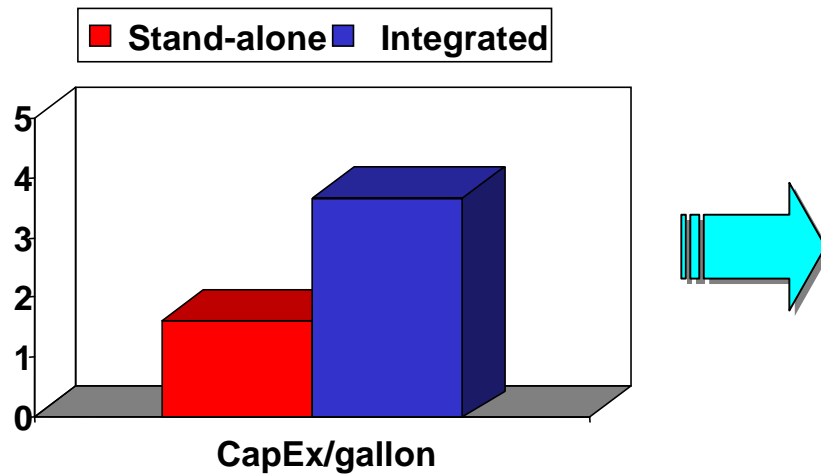
- + **Price of oil**
- + **MTBE Ban:** 21 states banned, 5 proposed
- + **Production incentives:** 17 states have Ethanol production incentives
- + **Consumption incentives:** 11 states have at-the-pump (North Dakota, South Dakota, Iowa, Illinois, MN, Missouri, Oklahoma, Maine, Connecticut, Idaho, AK)
- + **Renewable fuels mandates:** 16 states have or are planning mandates for renewable fuels
- **Quality problems:** (Blending, settling, production)
- **Transportation problems:** railroad car shortage
- **Feedstock problems:** spot prices of corn, risk management
- **Combustion problems:** not all cars can use
- **Technology obsolescence:** cellulosic Ethanol?

Ethanol Costs



- Size of plant: larger plants have economies of scale, significant logistical issues regarding transportation of feedstock & Offtake
- Cost per gallon is nominally \$.95-1.15/gallon current cost of corn
- 40 MGPY plant: two biggest costs are Corn and Natural Gas, both commodities whose indices are not linked
- Cost of natural gas can be 18-25 % of the total cost, depending on price of natural gas, ethanol process (wet mill vs. dry mill vs. fractionation), etc.

Integrated AgriEnergy Plant vs. Stand-alone Plant

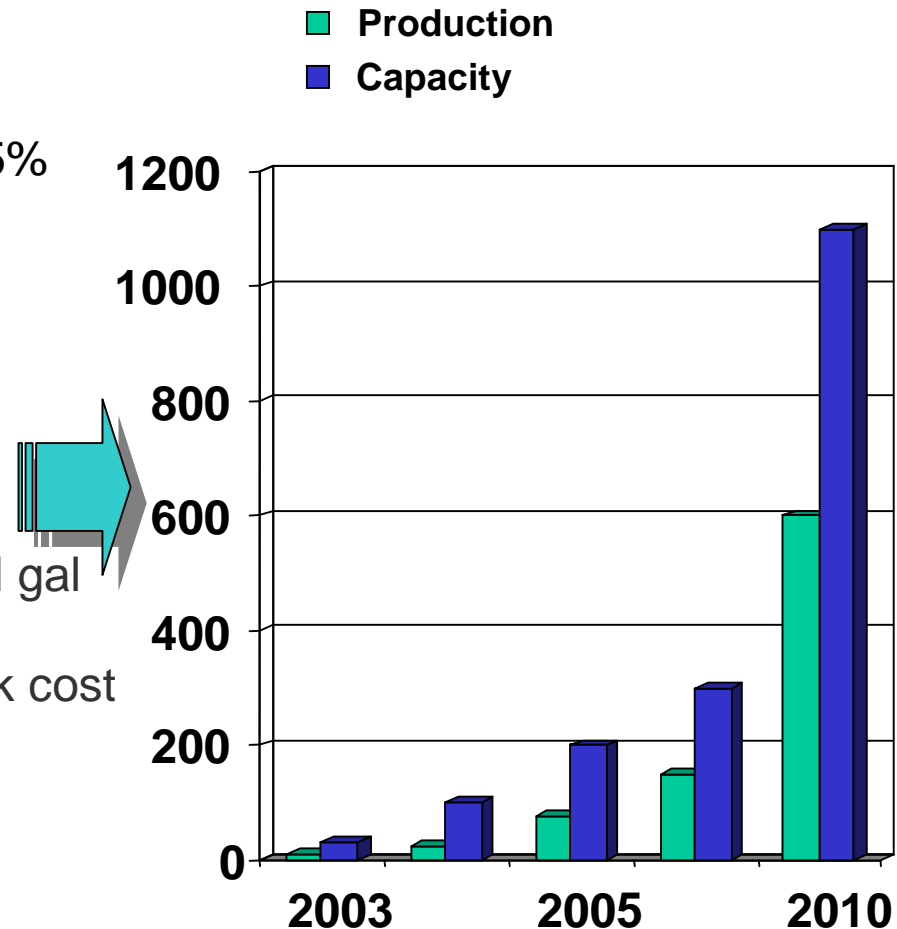


- Stand-alone: Cost of ethanol/plant EBITDA demonstrates high sensitivity to swings in natural gas pricing
- Integrated: Combines combines agri-energy production of energy (natural gas) from a biomass/waste product with the manufacture of ethanol
- Trade-off: higher CapEx vs. lower-cost of process energy, risk mitigation

Drivers of Biodiesel Industry

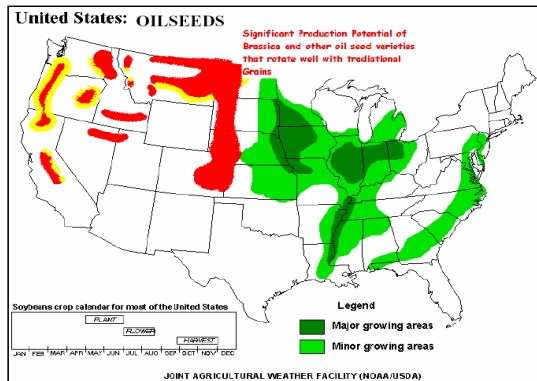
- + Energy Policy Act of 2005 created Blenders Tax Credit
- + Bush State of the Union of Union: 75% reduction of Petroleum by 2025
- + Risks associated with interruption of supply
- + Balance of payment deficit

- Capacity / demand
 - Capacity ~ 300M gallons
 - 2005 production/consumption 75M gal
- Cost competitiveness
 - 70-80% of cost driven by feedstock cost
- Reporting problems
- Quality Problems
- Cold flow problems
- Distribution problems
- Feedstock Supply /volatility???
- Regulatory risk – 2008 end of tax credit

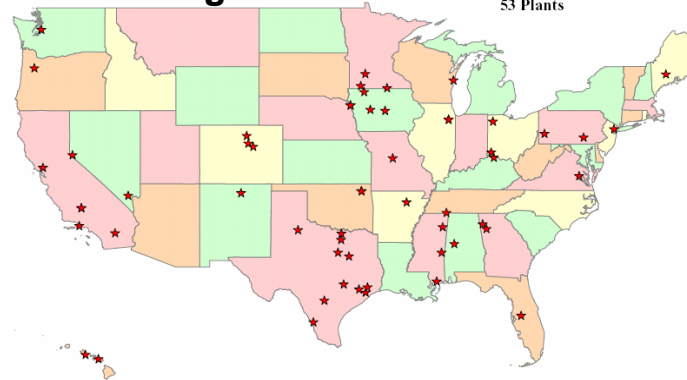


Biodiesel Production

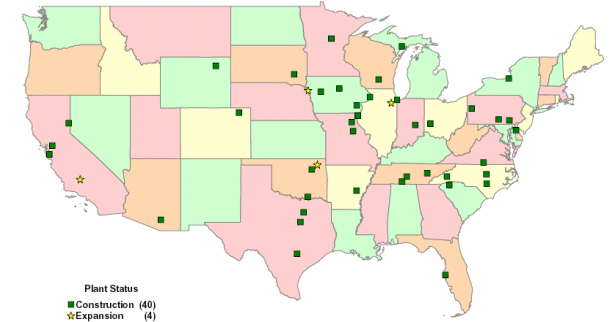
Oilseed Growing



Existing Plants



Planned Plants



- Oil Crushing

- 78 % revenue is meal
- 22% revenue is oil
- Meal: oversupply, price is declining

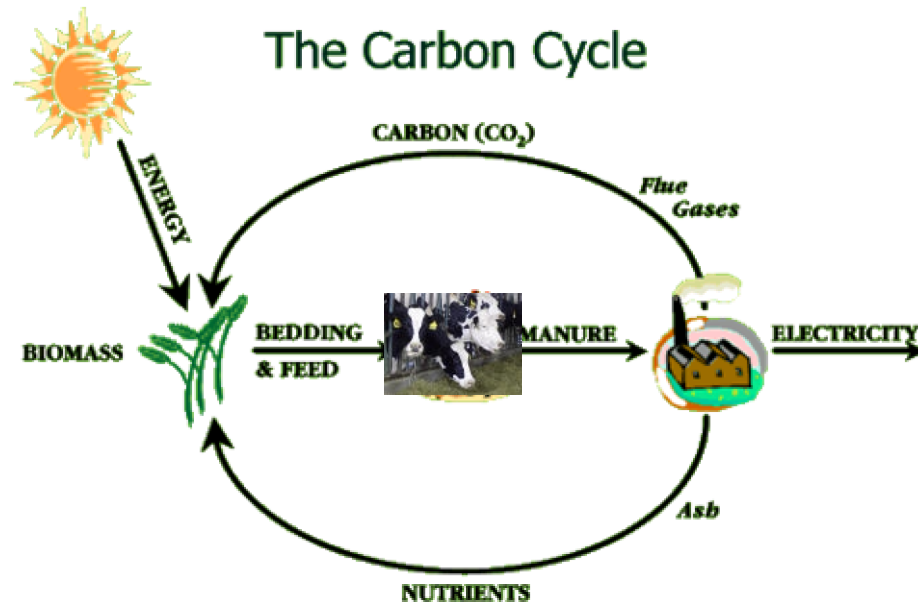
- Planned:

- 40 under construction
- 4 expansion
- 329 mgpy

- On- line

- 53 plants
- 354 MGPY

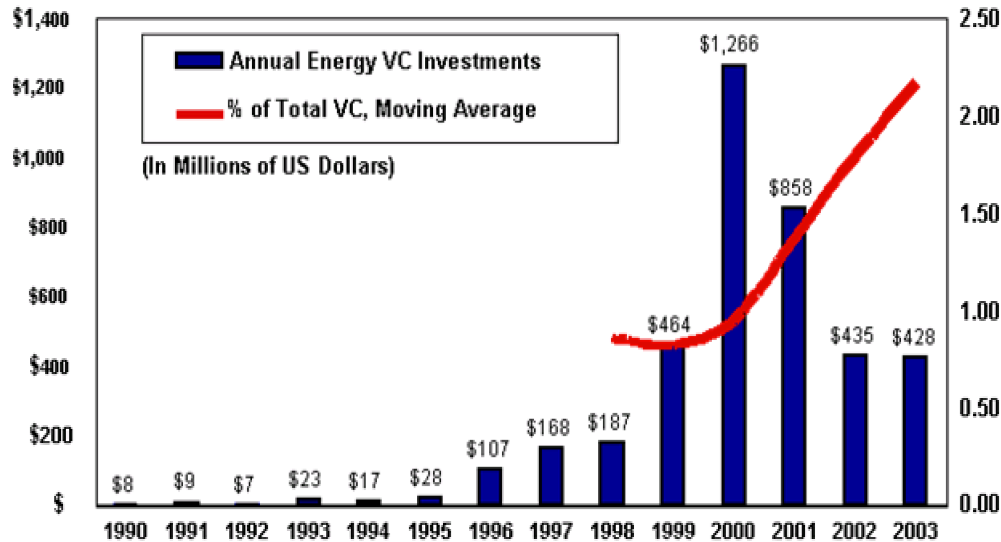
Biomass: AD and Direct Combustion



- Anaerobic digestion
 - Wet process
 - Converts biomass (MSW, agricultural waste, etc.) into Bio-gas (low quality, low BTU natural gas)
- Direct combustion
 - Dry process
 - Burns dried biomass (MSW, agricultural waste, sawdust/wood chips, etc.) in boilers or specialized combustion systems
 - Creates heat/electricity

INVESTMENT CONSIDERATIONS

Growth Company finance

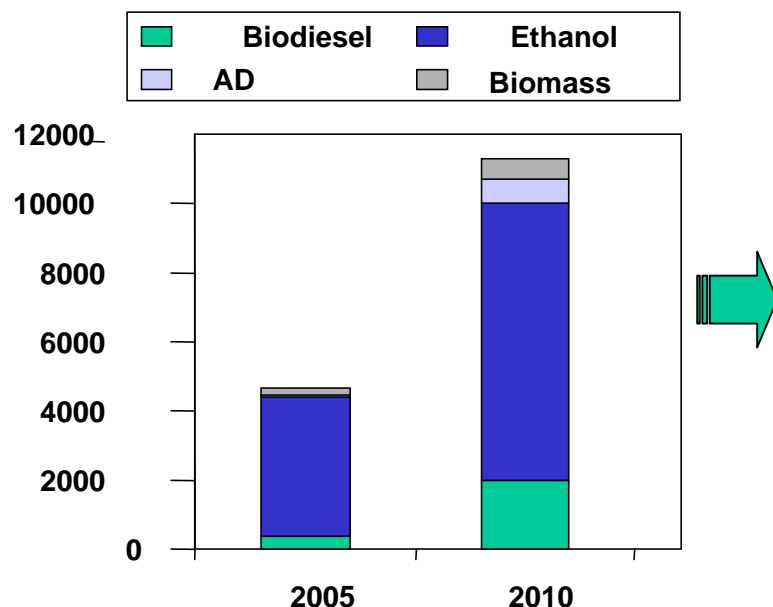


POWERSHARES WILDERHILL CLEAN E
as of 5-Apr-2006



- Immature sector
- Growth funding is limited, but gaining momentum
- Many/most energy technology companies have not delivered investment grade returns
- Few IPOs, with some underperformers (Clipper & Capstone)
- BUT: great long term market potential if the right companies and fundamentals are selected

Investment Prospects: Biofuels



Biodiesel Market Potential:

- About 700 MGPY new build out
- \$830M-\$1.4B Capex at \$1.20/gal -\$2.00/gal each

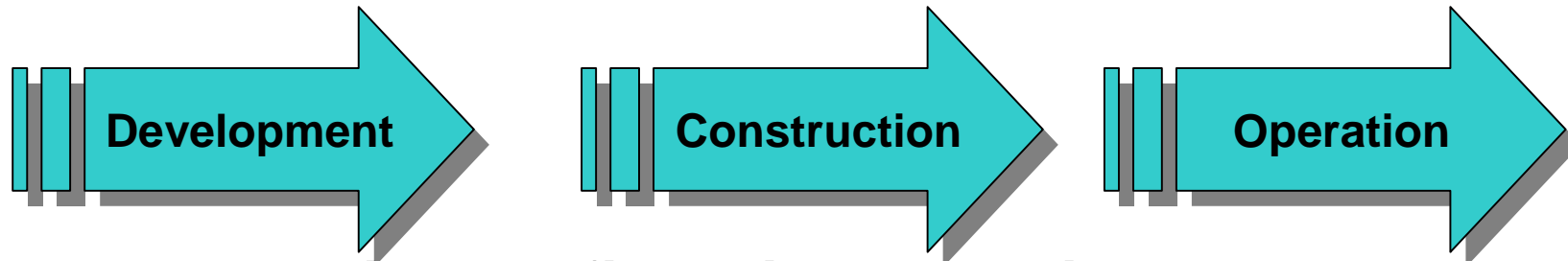
Ethanol Potential:

- About 3 BGPY build out
- \$3.6B- \$4.8 B CapEx at \$1.20-1.60/gallon CapEx

- Analogous to the Dot.Com days...“frothy” market,,Everyone rushing to “get in”
- Educated investors/lenders are cautious, access to lenders & investors is limited, projects are slowing down due to Investor & lender workload
- Potential exists for plant failures in the near term... However good long-term prospects
- A variety of new & inexperienced developers create substantial uncertainty in projects & marketplace
- Questions regarding feedstock, quality, transportation & market development (demand) heightening concerns

Project Finance

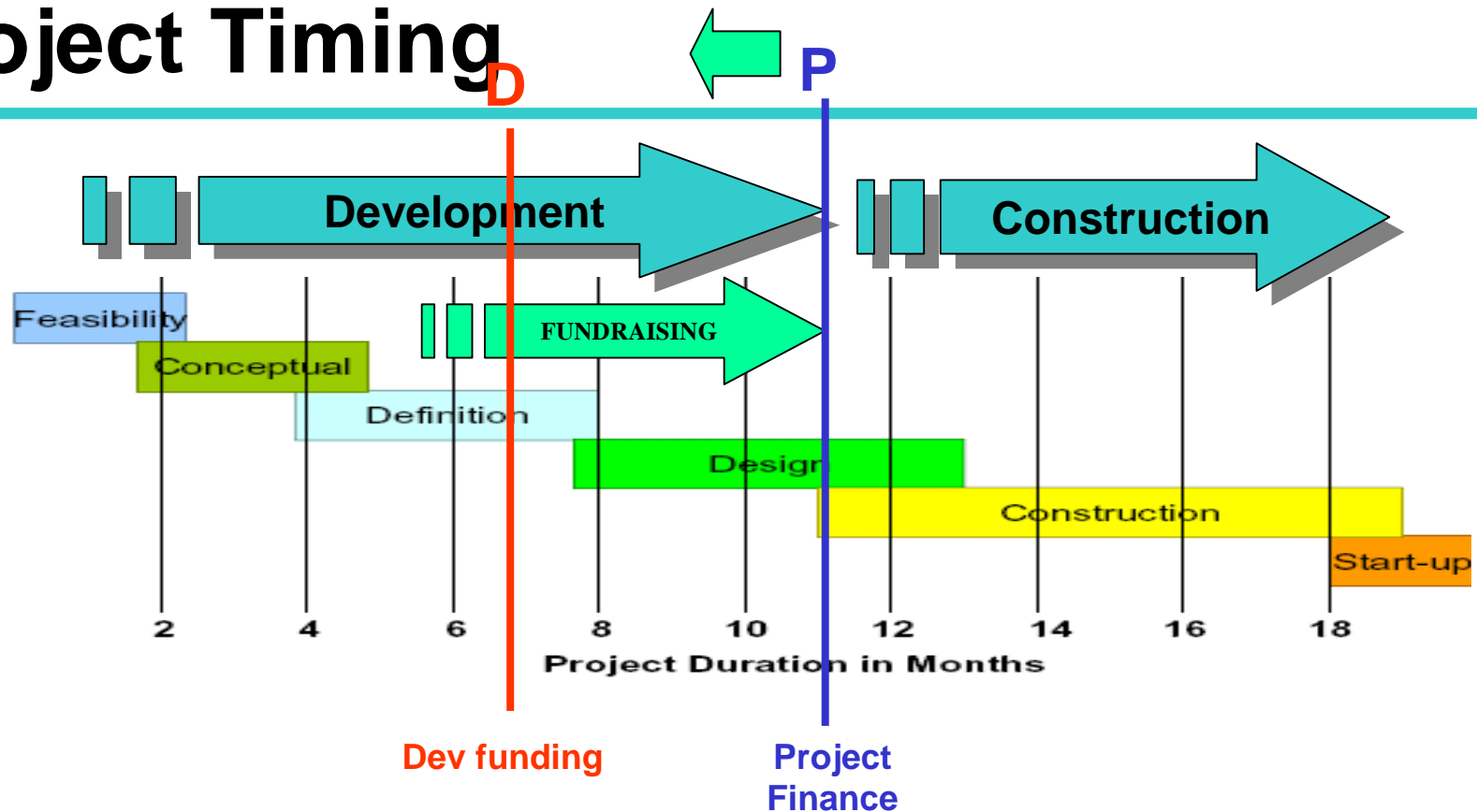
Phases of Renewable Energy project



Matching the financing type with phase

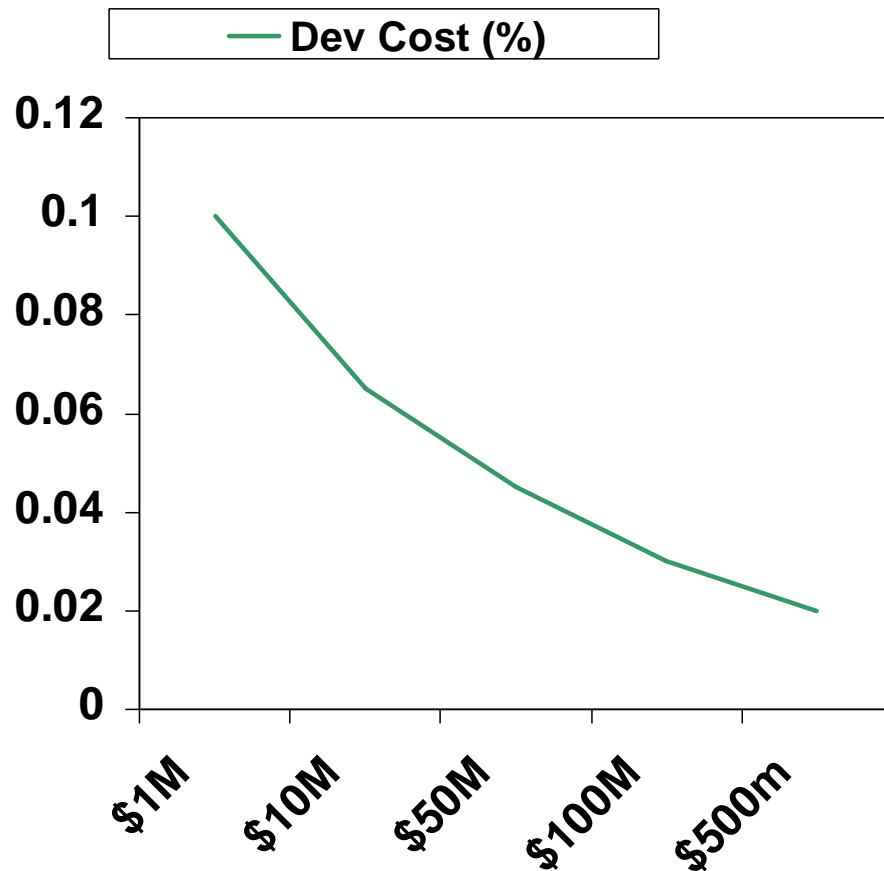
Development Finance	Construction finance	Operational finance
Getting ready for fundraising and project	Managing engineering and construction	Managing operations
Validate the project, obtain sites, permits		
Preliminary design engineering		

Project Timing



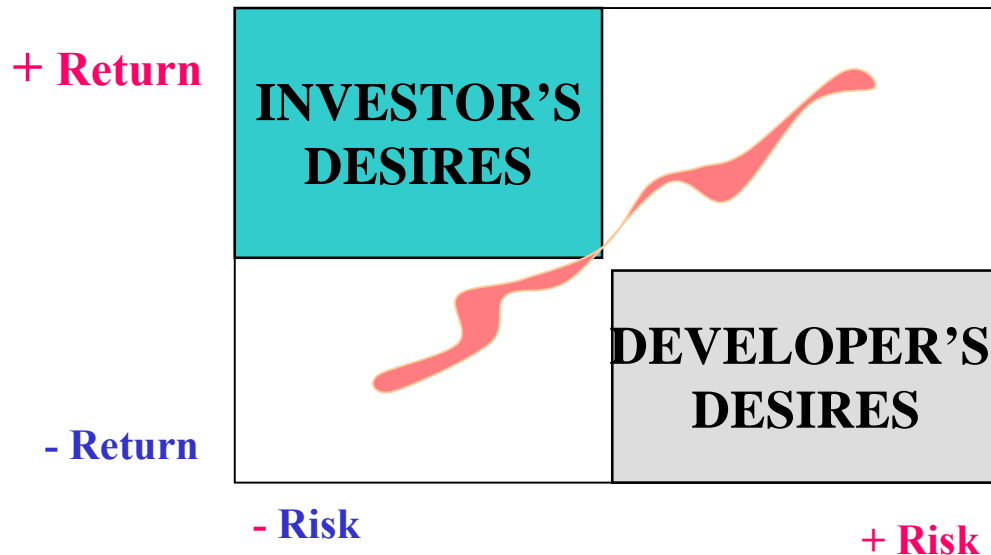
- Timing varies widely, but typically 12-18 months from project inception
- Development funding should be sufficient to last through the development.
- Fundraising may take 4-6 months after finalized “package” depending on complexity and structure

Development finance



- Depending on size, development costs range from 2-10% of total project,
- Highest risk funding
- Highest rate of return money (30%-50%++)
- Development funding may be complimented with grants, loans

Renewable Energy Project Finance Gap



(unsophisticated) Investor/ Lender

- I want 40% ++ with no risk
- Get me out next year with an IPO
- Give you \$3 million Pre-money valuation

Developer

- Investors should invest in my project because it is the socially responsible thing to do
- Let's get going, will fill in the details later
- I give you slightly better than prime rate, so I can keep the majority of "my project"
- I'll offer you 5% of the project for \$80 million
- Don't look over my shoulder, I want a "silent partner"

Project Finance

Proper structuring to balance debt and equity can reduce risk & improve returns

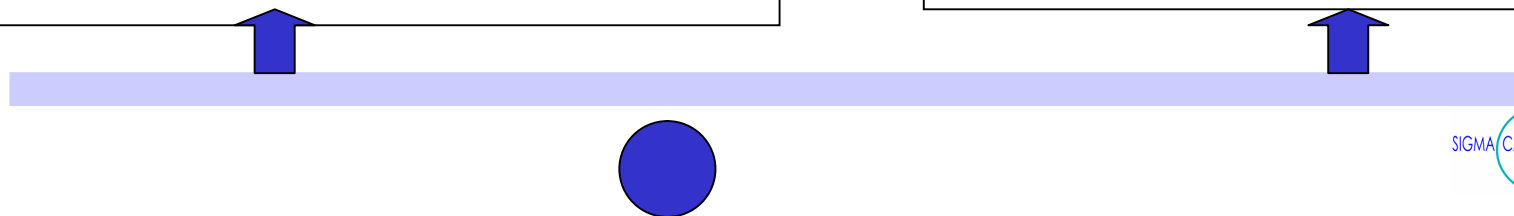
The larger the project, the more complexity & possibilities of improvement through structuring

Debt

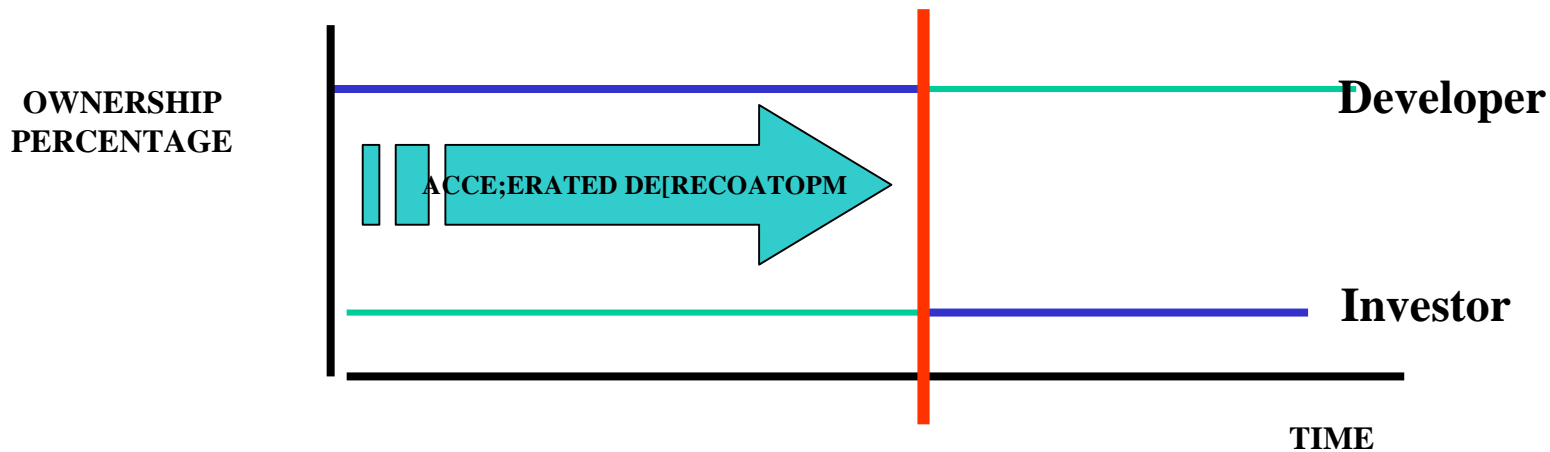
- Construction
- Permanent Finance
- Bonds (taxable and exempt)
- Equipment / Operational Lease
- Mezzanine (limited)
- Grants & government loans

Equity

- Private-accredited
- Institutional
- Socially Responsible Investors
- Strategic & Vendor Finances
- Tax investors

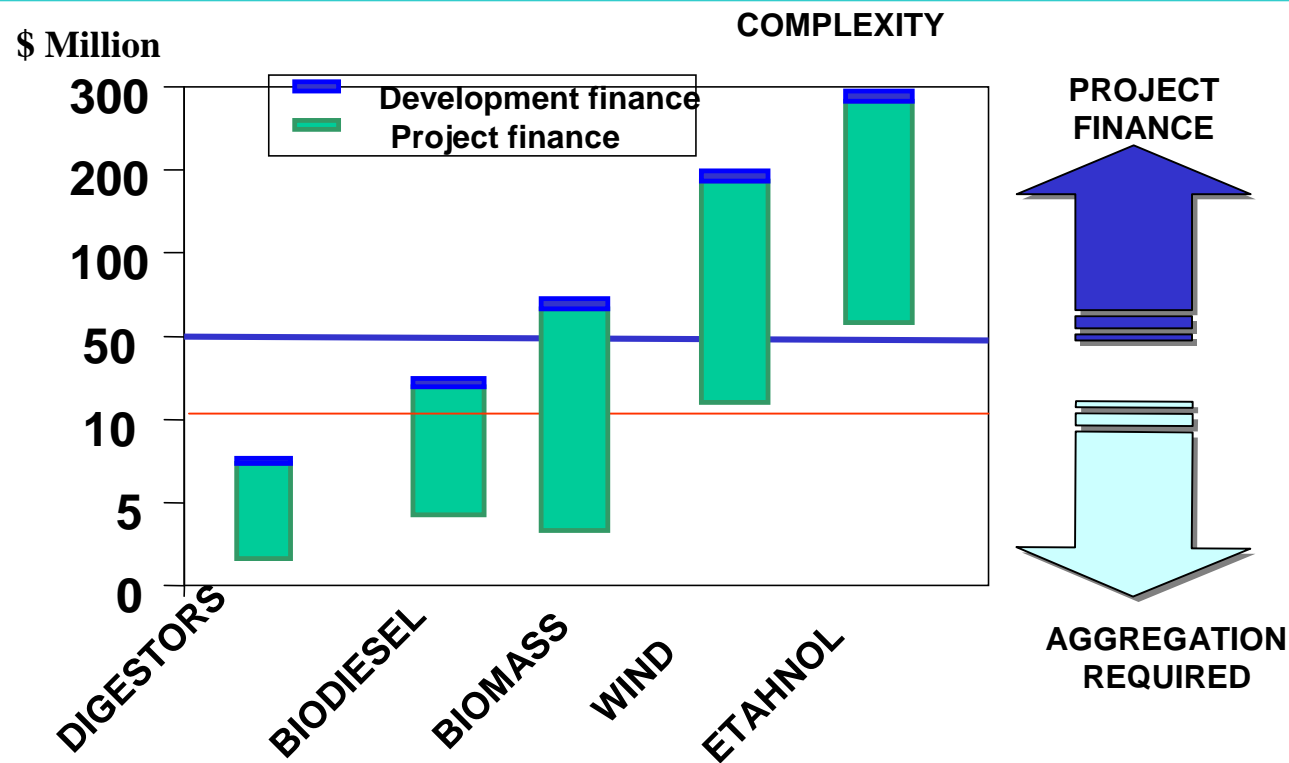


Tax investment



- Initial (3-5 years) depreciation in excess of project's ability to use it
- "Sell" the majority of the project to investor who can tax losses against passive gains
- "Flip" back to the developer (ratio reversed) after investor returns are realized
- Complex structures, requiring legal and accounting professionals skilled in the issues

Economy of Scale: Size vs complexity



- Larger transactions: (ethanol, wind, biomass power generation) more complex, require substantial structuring
- Smaller transactions: (bio diesel, Anaerobic digesters) less complex, require little or no structuring
- Investment banking generally required to structure larger transactions
- Investment in smaller transactions better suited to aggregation

What do we look for?

- The risk/return profile and valuation are consistent with the deal structure and company expectations
- Project finance/development funding requirements consistent with the development cycle
- Management team has the experience and capability for the project undertaken
- The project is realistic and major risks are mitigated
 - Feedstock agreements
 - Offtake agreements (Merchant vs. contract)
 - Creditworthiness of Offtake purchasers
 - Technology risk/obsolescence
 - Performance bonding/ Construction risk

Readiness for Funding: Development

Review the project to understand & mitigate risk:

- Experienced and competent management team
- Comprehensive business plan developed
 - Good feasibility study
 - Industry dynamics and competitive landscape evaluated
- Financial projections developed with well defined assumptions
 - Clear understanding of market needs
 - Exit strategies/alternatives for investor
 - Risk mitigation identified
 - Construction and operation reserves
- Compelling financial characteristics and returns
 - Strong cash flow margins
 - Adequate asset utilization

Readiness for Funding: Project Finance

Review the following to mitigate risk:

- Experienced and competent management team, BOD in place
- Comprehensive business plan developed
 - Industry dynamics and competitive landscape evaluated
 - Good offtake, contracts and credit worthiness of buyer
- Financial projections developed with well defined assumptions
 - Clear understanding of capital needs – appropriately planned
 - Exit strategies/alternatives for investor
 - Risk mitigation
 - Construction and operation reserves
- Compelling financial characteristics and returns
 - Strong cash flow margins
 - Adequate asset utilization
 - Attractive return on investment (ROI)
 - Adequate reserves reserves and coverage ratios
 - Shareholder value expectations in line with market perception of value

Biodiesel Finance Considerations

Industry Risk Assessment:

- Chemical process – quality control issues in production, storage and use as transportation fuel
- Technology Risk:
 - Older stable equipment vs. newer, less costly and unproven technology from startup companies
 - Technology is still evolving – technology obsolescence risk
- Byproduct – Glycerin – value crashing?
- Feedstock risks
 - Alternative feedstocks – oilseed: palm oil, canola, corn oil...virgin vs. yellow grease...vs. brown grease vs. tallow
- Transportation/geography risk: local market vs. import
- Marketing, Distribution, Branding – all being “fought over”
- Lenders and investors want proven management team, however, little industry experience

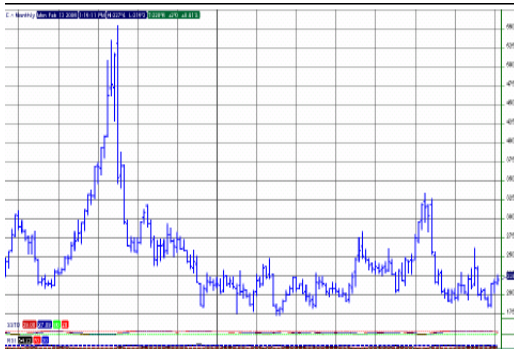
Ethanol Finance Considerations

Industry Risk Assessment:

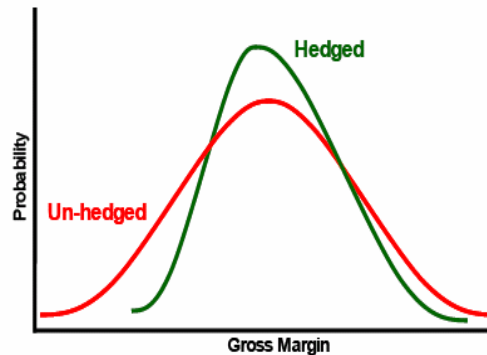
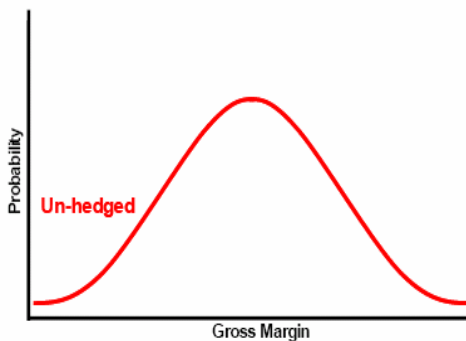
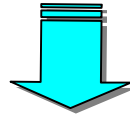
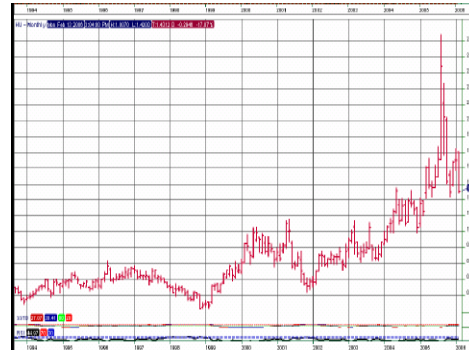
- Industry maturing
- Chemical process – quality control issues in production
- Technology Risk:
 - Distillery vs. Cellulosic Ethanol
- Feedstock/Offtake commodity risks (cash versus futures strategy)
 - Corn Pricing
 - Natural gas pricing
 - Ethanol: spot vs. contract
 - Byproduct: CO₂, DDGs/DWG...oversupply/values crashing??
- Competitive costs:
 - Close to feed and cattle
 - Transportation/geography risk: local market vs. rail out of midwest

Commodity Risk: Minimize

Monthly Corn Futures 1994-2006

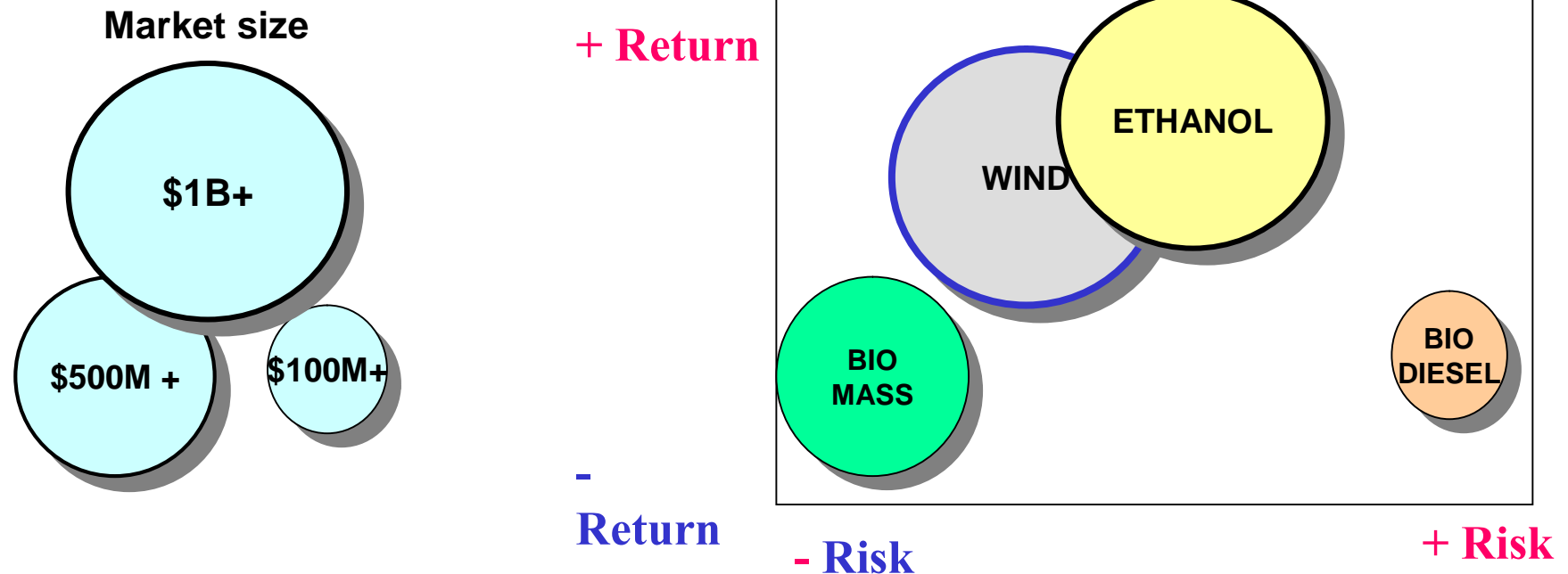


Monthly Unleaded Futures 1994-2006



- Systematic and integrated approach to address risk components
 - Ethanol, Corn, Natural Gas, Distiller's Grains, CO2
 - Soy oil, glycerine
- Long term commodity price uncertainty
 - Cash vs. Futures strategy
- Different technologies and projects have very different financing characteristics
 - Fuel commodity risk, Market price risk, Performance risk
- Regulatory risk
 - Production tax credits, Biofuels blenders tax credit, State RPS and incentives

What Does It All Mean?



- Financial markets: frothy
 - Unknowledgeable investors will fall into failed deals?
 - What happens in the overbuilt over hyped short/medium term: Dot.Bomb shakeout coming?
 - Long term prospect: Overall, excellent, returns will improve as oil prices increase and developers mature
- Best near term investments are ethanol, wind, longer term biomass

Contact Points



Sigma Capital Group, Inc.

Bruce Woodry, Chairman and CEO

Phone: (231) 881-4540

woodry@sigmacapital.net

www.sigmacapital.net



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TURNING RENEWABLES INTO SHAREHOLDER VALUE