

The U.S. Ethanol Industry: Exceeding Expectations

Brian Jennings, Executive Vice President
American Coalition for Ethanol

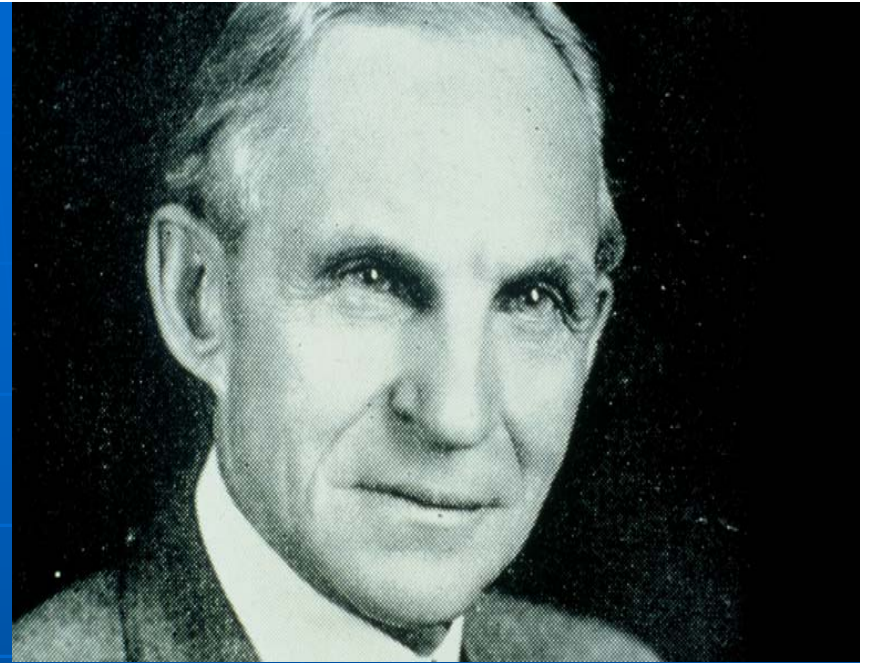
South Dakota Public Utilities Commission
Energy Conference – April 20, 2005



Henry Ford

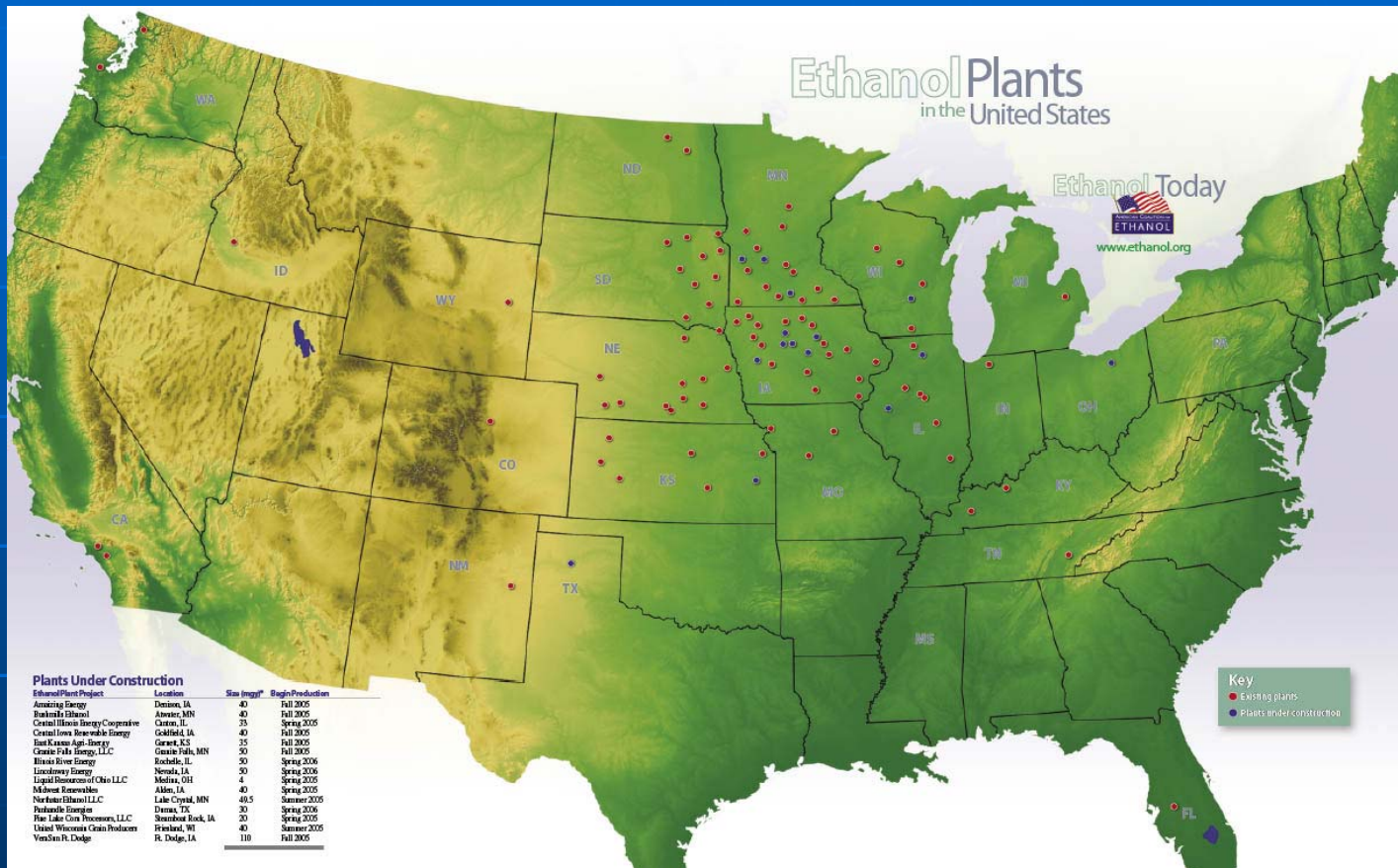
Model T (1908)

Designed to run on ethanol



“What we need is a whole lot of people who are not experts in what can't be done.”

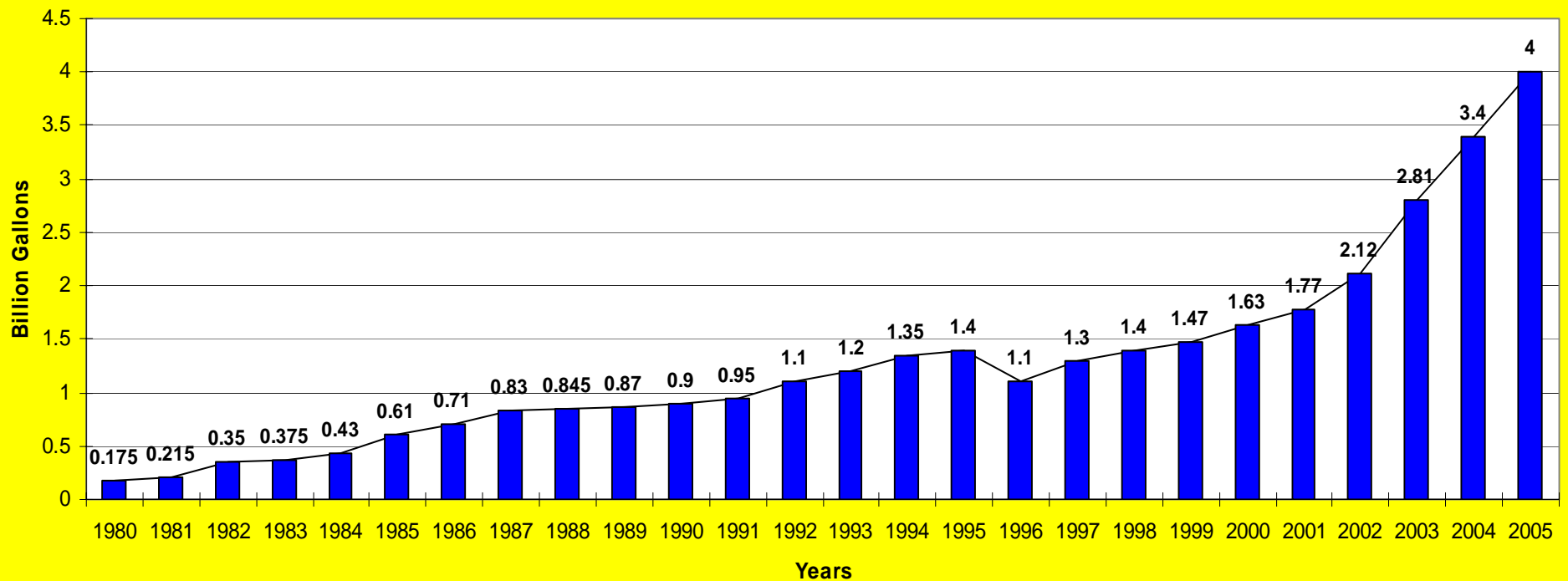
State of U.S. Ethanol Industry



- 84 facilities operating in 20 states, 15 plants under construction.
- Farmer-owned facilities represent 1/2 of production.

U.S. Ethanol Production

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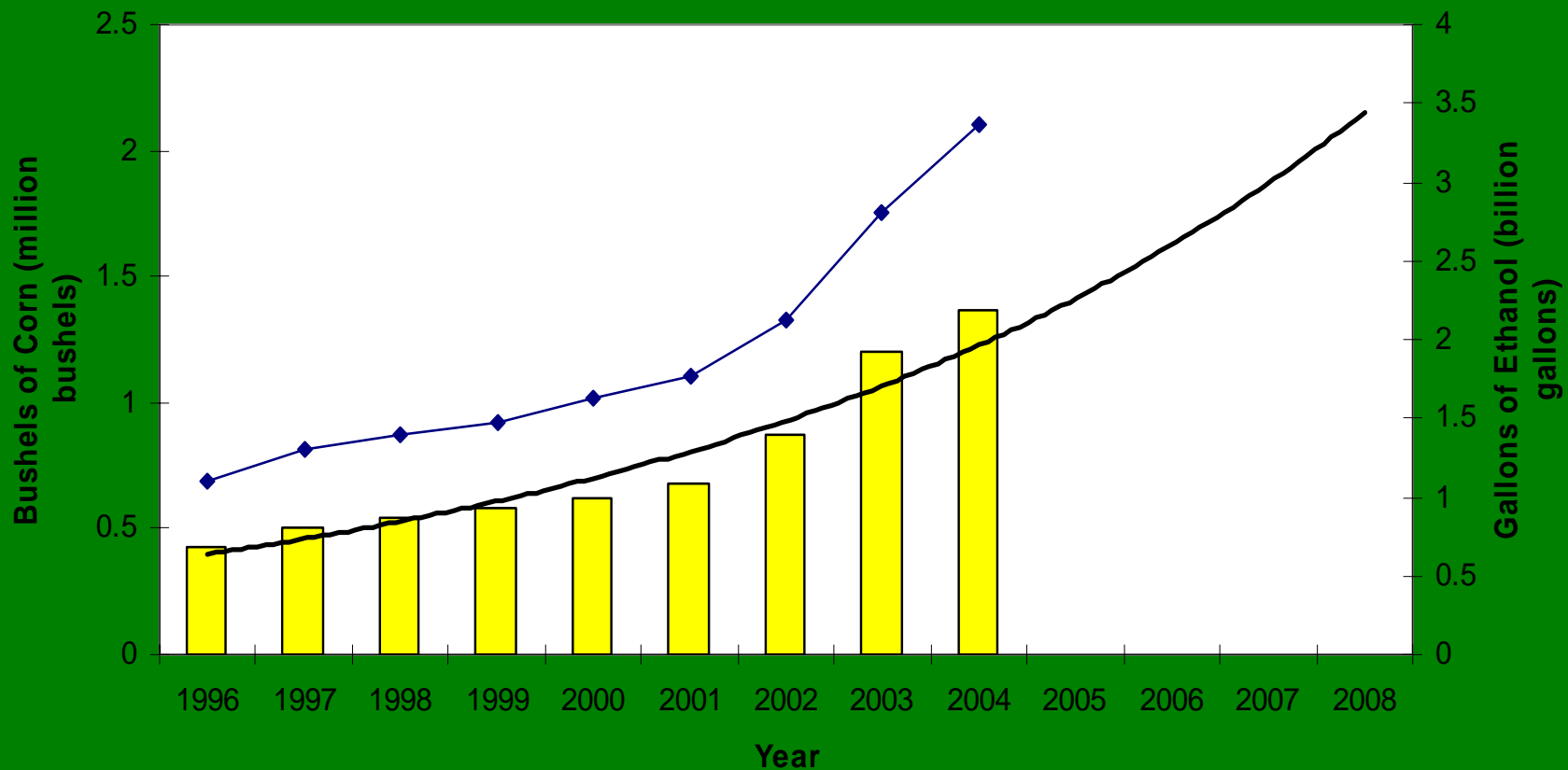


2 year average growth is record 625 million gallons per year.

Corn for Ethanol Production in U.S.

12% of 2004 crop for ethanol

U.S. Ethanol Production and Corn Used for Ethanol



■ Corn for Ethanol ◆ Ethanol Production



Top 5 Ethanol-Producing States

<u>State</u>	<u>*Production Capacity</u>
Iowa	900 million gallons
Illinois	800 million gallons
Nebraska	540 million gallons
South Dakota	450 million gallons
Minnesota	400 million gallons

* Current production capacity.

South Dakota Ethanol Production Facilities

<u>Company</u>	<u>City</u>	<u>Year</u>	<u>Production</u>
Broin Enterprises	Scotland	1988	9
Heartland Grain Fuels	Aberdeen	1992	10
Heartland Grain Fuels	Huron	2000	12
Dakota Ethanol	Wentworth	2001	45
Glacial Lakes Energy	Watertown	2002	45
Northern Lights Ethanol	Big Stone City	2002	45
VeraSun Energy	Aurora	2003	100
Great Plains Ethanol	Chancellor	2003	45
James Valley Ethanol	Groton	2003	45
Sioux River Ethanol	Hudson	2004	45
*Tri State Ethanol	Rosholt	2002/2004	20

- 11 total facilities capable of producing 450 million gallons ethanol, enough for NY.
- 8000 South Dakota farmers, investors involved in ethanol facilities.

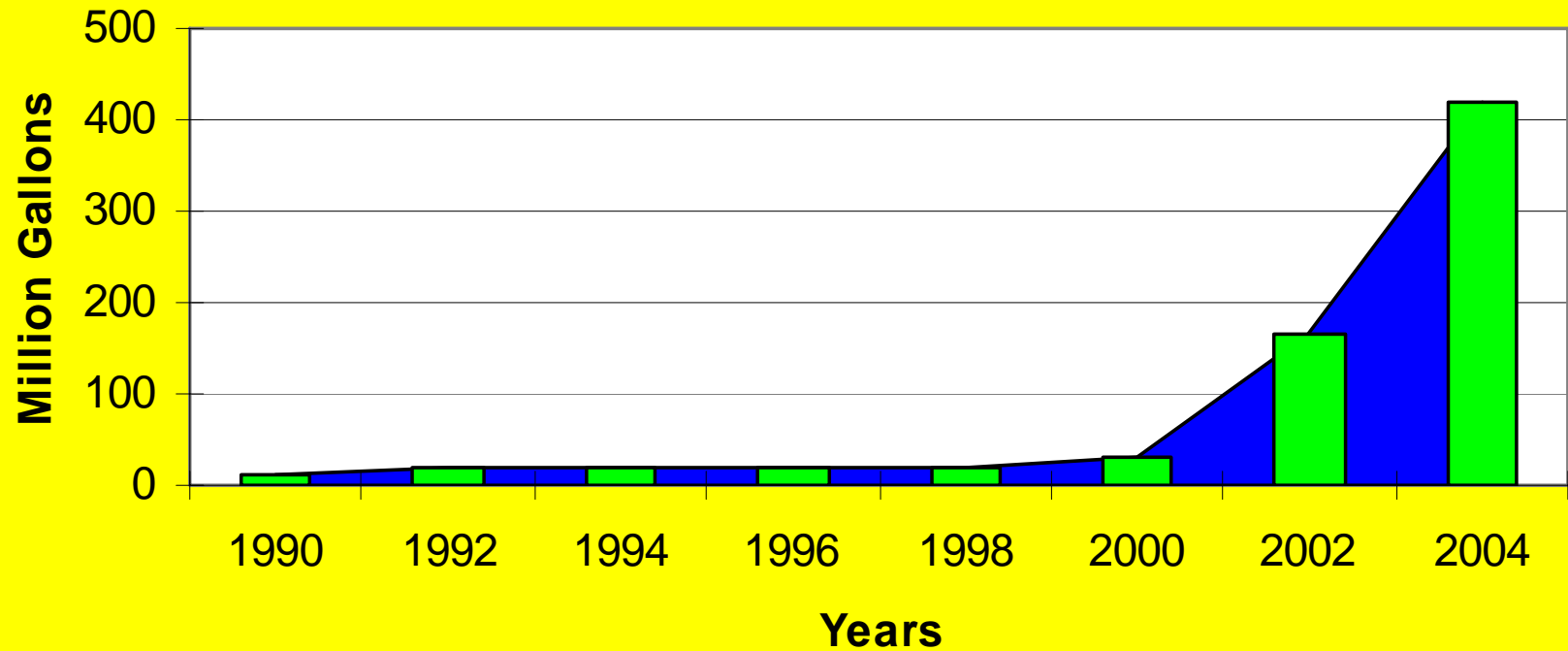
*Tri State now called North Country Ethanol, recently through bankruptcy court.



Economic Impact of 40 - 45 mgy Ethanol Plant

- \$142 M construction boost – one time
- \$56 M direct spending annually
- Creates 35-40 direct jobs, 697 area jobs
- Increase household income by \$19 M/yr
- Increase corn prices 5 to 10 cents / bu
- Expands tax base by \$1.2 million for state and local governments.

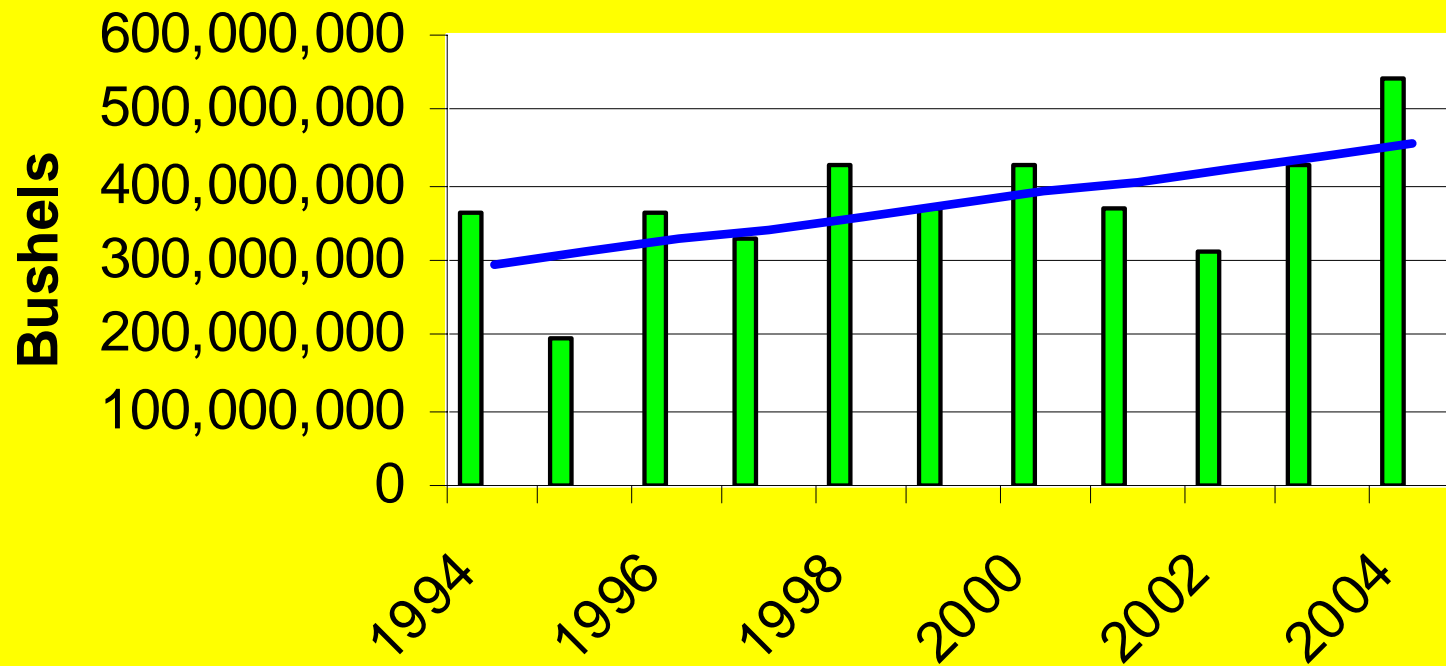
South Dakota Ethanol Production



Ethanol production in SD has expanded for many reasons:

- Ample supplies of corn, inexpensive feedstock costs.
- State policies supporting ethanol production and use.
- Farm and non-farm investment.

Corn Production in South Dakota



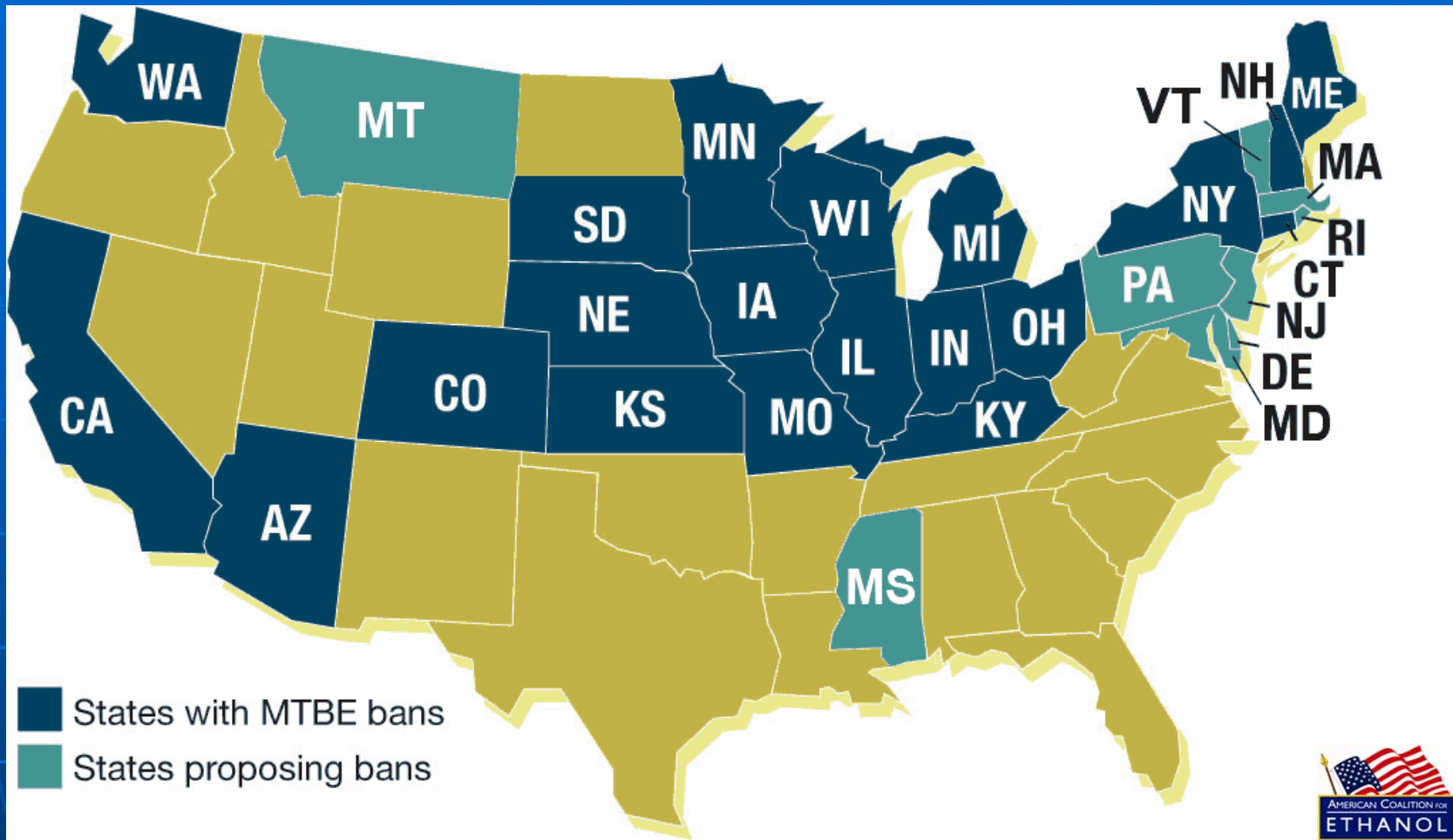
Over 150 million bushels of corn in South Dakota used for ethanol production in 2004, represents about 30% of corn crop, larger share of corn crop devoted to ethanol than any other state.

South Dakota Ethanol Use

- SD motorists use over 400 million gallons of gas annually.
- If all were blended with 10% ethanol, create market for 40 million gallons.
- Today, just over 20 million gallons ethanol blended with fuel in SD – 54% of our gasoline contains ethanol.
- Most SD ethanol is exported to CA and other important U.S. markets.

U.S. Ethanol Consumption

- About 3% of 140 billion gallons of gasoline consumed annually.
- 30% of all gasoline in U.S. is *blended* with ethanol (E10).
- MTBE bans and Clean Air Act driving new markets for ethanol. State standards could drive demand upward.



20 states have banned methyl tertiary butyl ether (MTBE), bans under consideration in 9 states.

Coupled with federal oxyfuel requirements, MTBE bans in California, New York, Connecticut result in de-facto ethanol mandates.



Ethanol Use in U.S. - 2004

<u>MARKET/PROGRAM</u>	<u>GALLONS</u>
Conventional Gasoline (voluntary E10 use)	750 million
Minnesota Ethanol Program	250 million
Federal Winter Oxygenated Fuel Program	250 million
Federal Reformulated Gasoline (RFG) (CA 900 M, NY 350 M, CT 150 M).....	2.15 billion
TOTAL USE	3.4 billion

New Ethanol Demand? Federal Markets

<u>MARKET</u>	<u>GALLONS</u>
*Baton Rouge, LA (June 2004)	35 million
**Atlanta, GA (2005)	250 million
Boston, MA	250 million
Philadelphia, PA	200 million
New Jersey	150 million
***California	675 million (300 w/ 7.7%)

* Implementation of RFG tied up in courts and EPA.

** Implementation of RFG pending stay issued by district court and appeal.

*** CA currently uses a 5.7% blend of ethanol, considering 10% ethanol.



California Independent Petroleum Marketers Association (CIOMA)

April 1, 2005

“After substantial discussion it was voted to support the ethanol industry in their efforts as allowing up to 10% ethanol would provide additional fuel supply into the state.”

- Understand the value of ethanol: more fuel and price bargain for motorists.

Soaring Crude and Gas Prices – Out of our Control?

- Record \$58 per barrel on April 4, 2005.
Goldman Sachs: oil could top \$100/barrel.
- Speculative market participation and increasing demand.
- Gas prices to soar even higher into Memorial Day and summer driving season.
- Other factors: China, India, OPEC.

Spring Clearance Sale: Ethanol can ease \$\$ pain at pump

- E10 selling for up to 10 cents/gallon less gas. E85 selling for up to 50 cents less.
- Value: domestic, available, adds to overall fuel supply, tax incentives for blenders.
- Higher quality, higher octane fuel at a more reasonable price.
- Removing ethanol would increase pump prices.

States Requiring Ethanol Use

Minnesota – E10 since 1997.

Hawaii – E10 in April of 2006.

Montana – E10 bill signed into law today.

States Considering E10 Standards

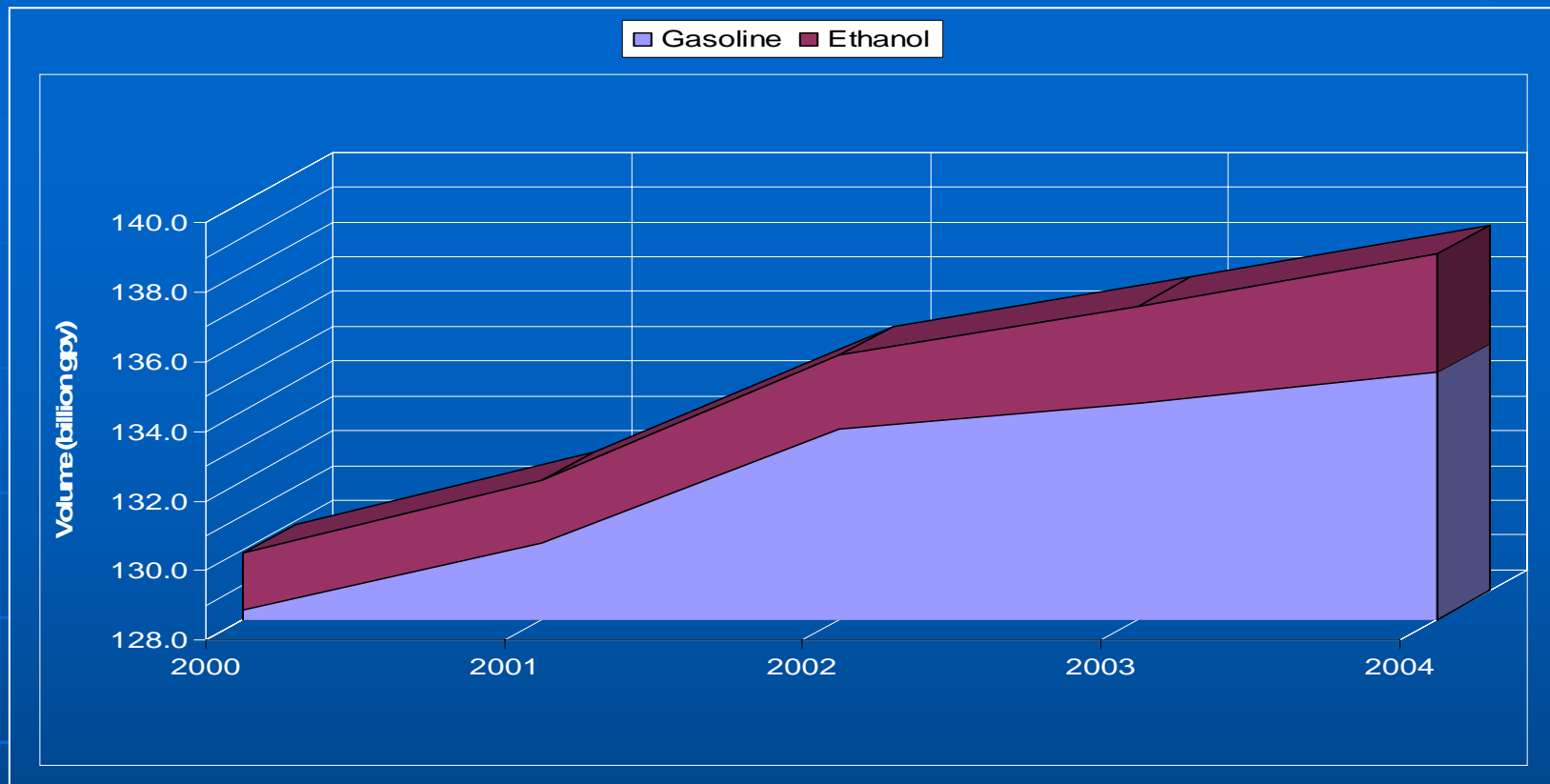
Idaho, Iowa, Missouri, North Dakota, Oregon, Washington, and Wisconsin.

Minnesota – E20 proposal. Passed in MN Senate by vote of 54-12. Passed in House Transportation Committee March 31.



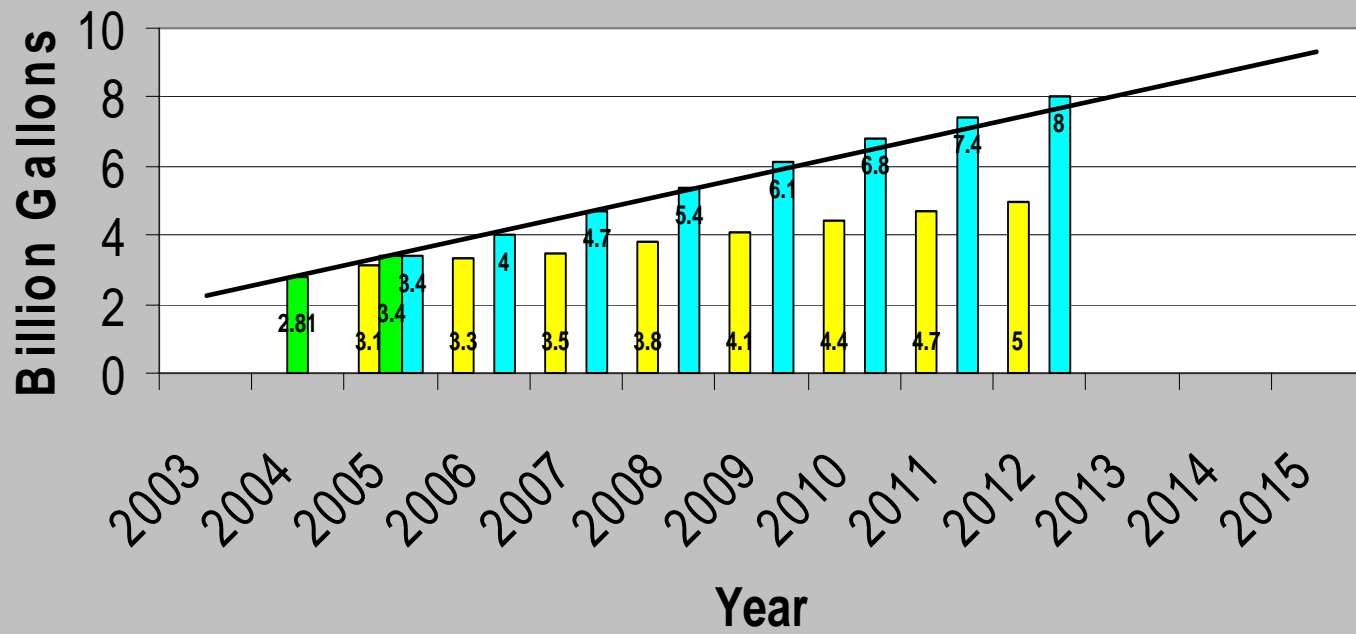
Key Issues and Public Policy

- Unprecedented growth – ethanol is fastest growing sector of energy industry and fastest growing market for U.S. corn.
- Current market imbalance, but only energy industry growing to meet demands. Indications that imbalance will turn around due to blending economics.
- Industry focused on creating new national demand driver in Congress. Making case for greater energy security and national energy policy – Renewable Fuels Standard (RFS).



- In 5 years the RFS has been pending in Congress, oil companies have increased gasoline volume in U.S. by nearly 9 billion gallons and increased imports of refined gasoline.
- Yet, big oil remains opposed to overall use of more than 5 billion gallons of ethanol in U.S.

Actual Ethanol Production and RFS Scenarios



HR 6 RFS

Actual Production

S. 650 RFS

Linear (Actual Production)

Bipartisan legislation introduced in U.S. Senate and House to create an RFS that better coincides with production trends.

President Bush's Saturday Radio Address to the Nation 4/16/05

"To meet our energy needs and strengthen our national security, we must make America less dependent on foreign sources of energy."



"American families are feeling the pinch from rising gas prices."

"The first order of business is for Congress to pass an energy bill. The energy bill must diversify our energy supply by developing alternative sources of energy like ethanol or biodiesel."

RFS benefits to U.S.

- Displace 3.2 billion barrels of crude oil and reduce \$\$ to foreign oil ministers.
- Add nearly \$200 billion to GDP between 2005 and 2012.
- Create over 230,000 jobs throughout the economy.

Frequently Asked Questions...

It Will Never Work...

"Ethanol won't run in my car."

It Will Cost Too Much...

"It's not energy efficient."

"If not for subsidies, there would be no ethanol industry."

I Thought It Was A Good Idea All Along

"Where can I buy more ethanol?" "Can my car use E85?"

Ethanol and Engine Use

- E10 won't void warranties.
- E10 approved/recommended for use in all autos (Audi to Volvo) made after 1982.
- Also approved in small engines, ATVs, boats and water craft.

Energy Balance

- Net Energy Value = difference between output and input energy, or energy in ethanol vs. energy needed to produce it.
- 1980s – Net Energy Value of Ethanol neutral to negative.
- 2004 – USDA study: Net Energy Value of Ethanol is +67%.

Subsidies & the Cost of Public Support

- 51 cent tax credit for blenders/refiners that incorporate ethanol in gas = 5.1 cents on E10 blends.
- \$1.7 billion in 2004, passed on to consumers in lower E10 prices.
- Oil – GAO (Oct. 2000) indicates over \$130 billion in since 1970. Includes defense of oil shipments, security, tax breaks, and support of production.

Ethanol and oil do mix

- Ethanol depends upon oil to market our product, we are direct competitors.
- Mixed reaction: some open minded about blending ethanol, others wouldn't blend ethanol if it were free.
- "Mandates"

Higher Blends (E20, E85)

- Brazil: 2/3 autos run on 18-22% ethanol.
- MN and ACE: studies on blends of 20 and 30% ethanol in vehicles.
- Over 3 million autos - approved for E85 use in Flexible Fuel Engines (FFVs).
- For list of FFVs and E85 refueling sites, go to www.ethanol.org

Ethanol Performs: Burns Cleaner, Burns Rubber



Indy Racing League's IndyCar Series made ethanol fuel of choice.

In 2007 all Indy cars will run on 100% ethanol.

Exceeding Expectations & the Choices We Make

60% of our oil is imported,
44% of the imports from OPEC.

U.S. imported more
finished gasoline than we
produced in ethanol in
2004.

No new oil refinery has been
built since 1976.

U.S. ethanol industry building
new "refineries" at rate of
greater than 1 per month



Thank you



For more on ethanol...

www.ethanol.org