



State Policy Trends in Biomass

Biomass 2010

March 30, 2010

National Conference of State Legislatures



State Policies

More than 3,000 bills introduced in 2009; 151 enacted

- Renewable Fuel Standards
- Renewable Portfolio Standards
- Grants
- State Purchasing Requirements
- Greenhouse Gas Reduction
- Production Tax Credit
- Property or Sales Tax Credit
- Investment Tax Credit





Federal Biofuels Incentives

Biofuels	EPA's target for 2010: 13 billion gallons of the fuel dispensed nationally to be renewable. Must reach 36 billion gallons by 2022. (10.8 billion produced in 2009).
Ethanol	\$.45 per gallon tax credit (\$1 for cellulosic ethanol), \$.54 Import Tariff.
Biodiesel	Expired, \$1.01 per gallon producer subsidy



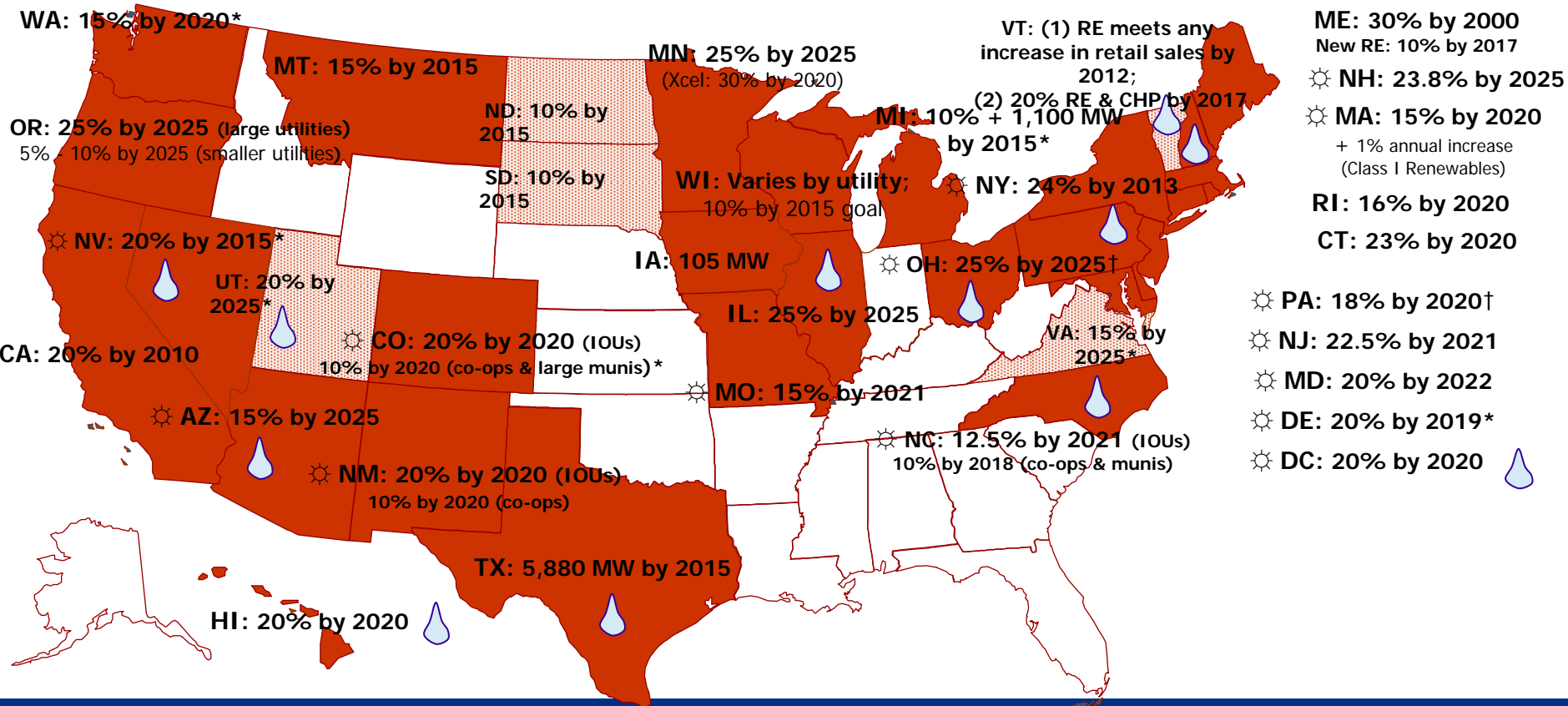





Renewable Portfolio Standards




Why are states passing RPS legislation

- Buffer electricity prices against volatile fuel costs
- Promote energy independence and in-state energy production
- Support state greenhouse gas reduction goals
- Support job growth
- Improve air quality
- Increasing technology growth

Renewable Portfolio Standards



-  State renewable portfolio standard
-  State renewable portfolio goal
-  Solar water heating eligible

-  Minimum solar or customer-sited requirement
-  Extra credit for solar or customer-sited renewables
-  Includes separate tier of non-renewable alternative resources



RPS Biomass Definitions

- Vary widely between states
- Some, such as New Jersey and Delaware, require a sustainability determination for biomass.
- Some, like Oregon, allow municipal solid waste, while others (such as Delaware) do not.
- Many states have exclusions—black liquor, construction waste and mixed municipal solid waste are common.



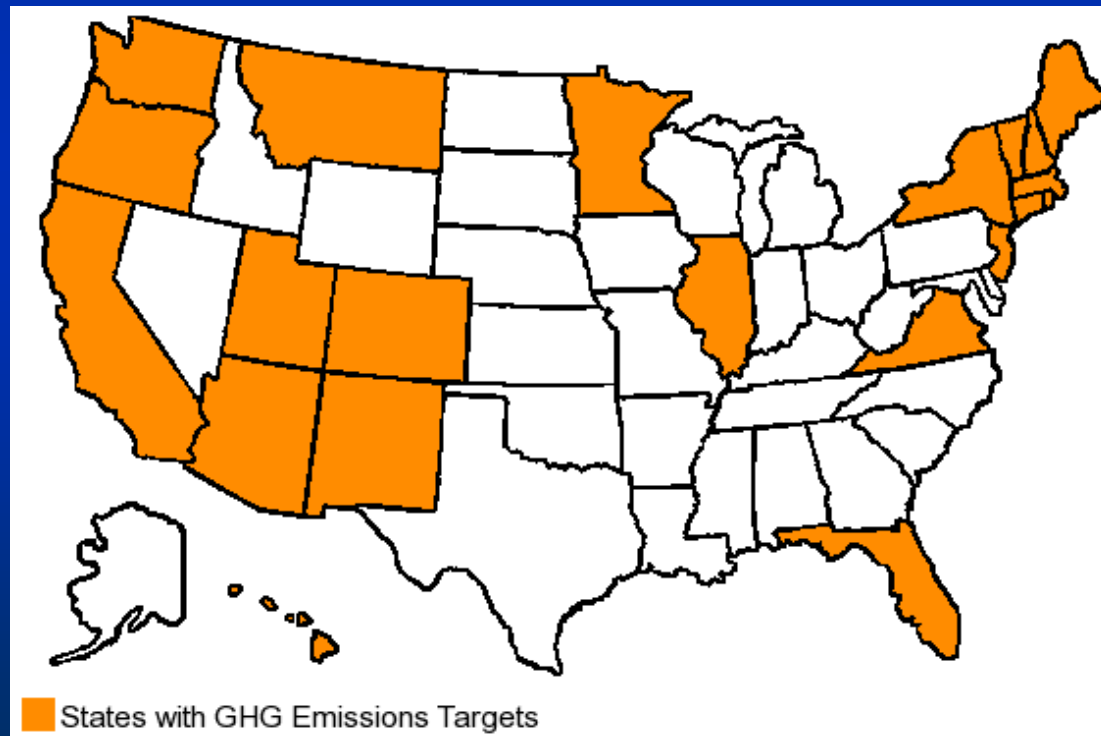


Biomass

- Minnesota Mandate
 - In 1994, required the state's largest utility to generate or purchase 125 megawatts (MW) by 2002. Lowered to 110 MW .
 - Required farm-grown, closed loop biomass to provide 100 percent (later lowered to 75 percent) of the fuel.
 - This eliminated co-firing biomass with coal.
- Oregon HB 3674 (Enacted 2010)
 - Allows facilities that generate electricity by using biomass or combusting municipal solid waste to comply with renewable portfolio standard under certain conditions.



States With GHG Emissions Targets





Greenhouse Gas Emissions Mandates

- CA AB 32 (2006)
 - 1990 levels by 2020, 80% below by 2050
- CT HB 5600 (Enacted, June 2008)
 - 10 percent below 1990 levels by 2020 and 80% below 2001 levels by 2050
- HI HB 226 (2007)
 - 1990 levels by 2020
- MA SB 2540 (Enacted, August 2008)
 - 80% below 1990 levels by the year 2050
- MN SB 145 Next Generation Energy Act (2007)
 - 80% below 2005 levels by 2050
- WA SB 6001 (2007)
 - 1990 levels by 2020, 50% below by 2050
- NJ A3301 (2007)
 - 1990 levels by 2020 and 80% below 2006 levels by 2050



Carbon Emissions and Biofuels

- MA HB 4951 (Enacted 2008)
 - State gasoline tax exemption for cellulosic ethanol, provided it yields a 60% reduction in greenhouse gas emissions.
 - Home heating oil must be 2% biofuel by 2010, 5% by 2013 (must reduce GHG by 50% to be eligible).
 - Low Carbon Fuels Standards agreement with RGGI states.



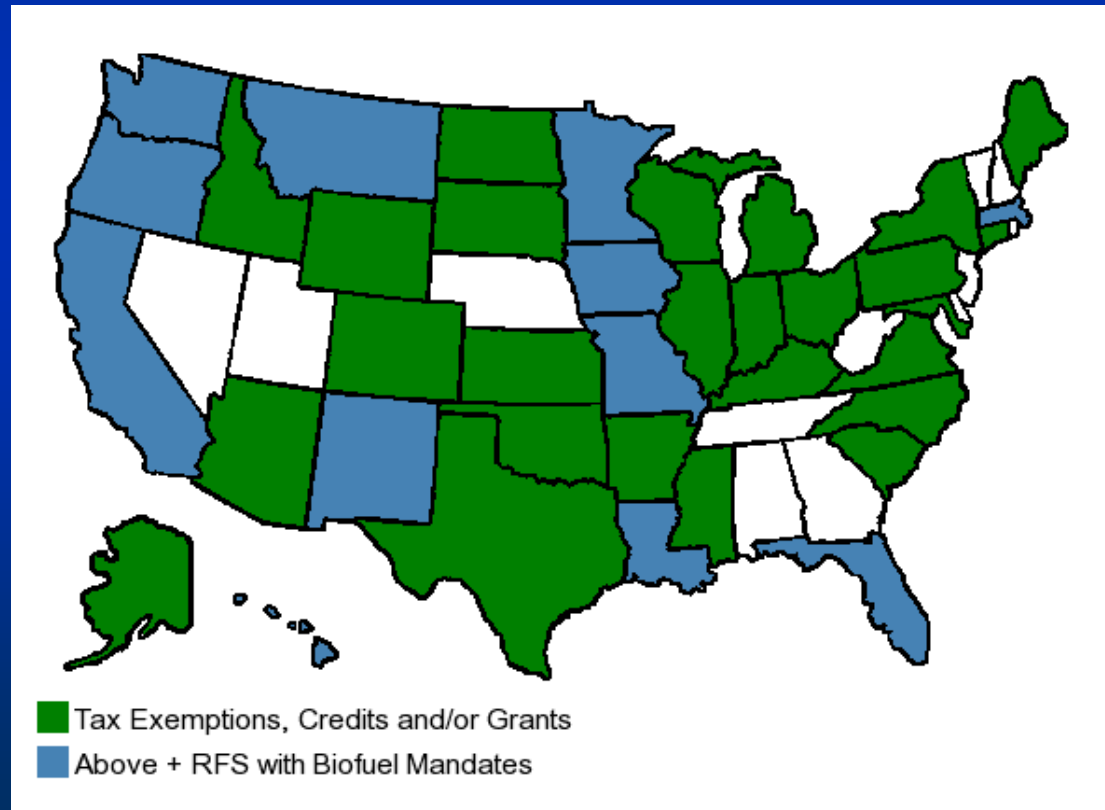
Low Carbon Fuel Standards

- 2007 CA Executive Order
 - Reduces carbon intensity of California's vehicle fuels by $> 10\%$ by 2020
 - Expected to greatly expand alternative and hybrid vehicles in the state.
 - Supports A.B. 32 goals
- Governors of RGGI and Pennsylvania have signed a memorandum of understanding to create a similar standard.





State Renewable Fuels Standards



Source: Pew Center on Climate Change



State Renewable Fuels Standards

- Renewable Fuels Standards
 - Minnesota
 - 2005 legislation – increases the ethanol mandate from 10 to 20 percent by 2013.
 - In May 2008, created a 20% by 2015 biodiesel mandate.
 - Iowa
 - 25% biofuels by 2020
 - FL, MO, OR, MA, MT, ND, NM, WA also have standards ranging to 10 percent
 - LA, OR and PA have standards that kick in after state production thresholds are met.



State Incentive Programs



Production Incentives

HI, KS, ME, MD, MN, MT,
NC, OK, SC, SD, WA, WY

Minnesota is reducing incentive

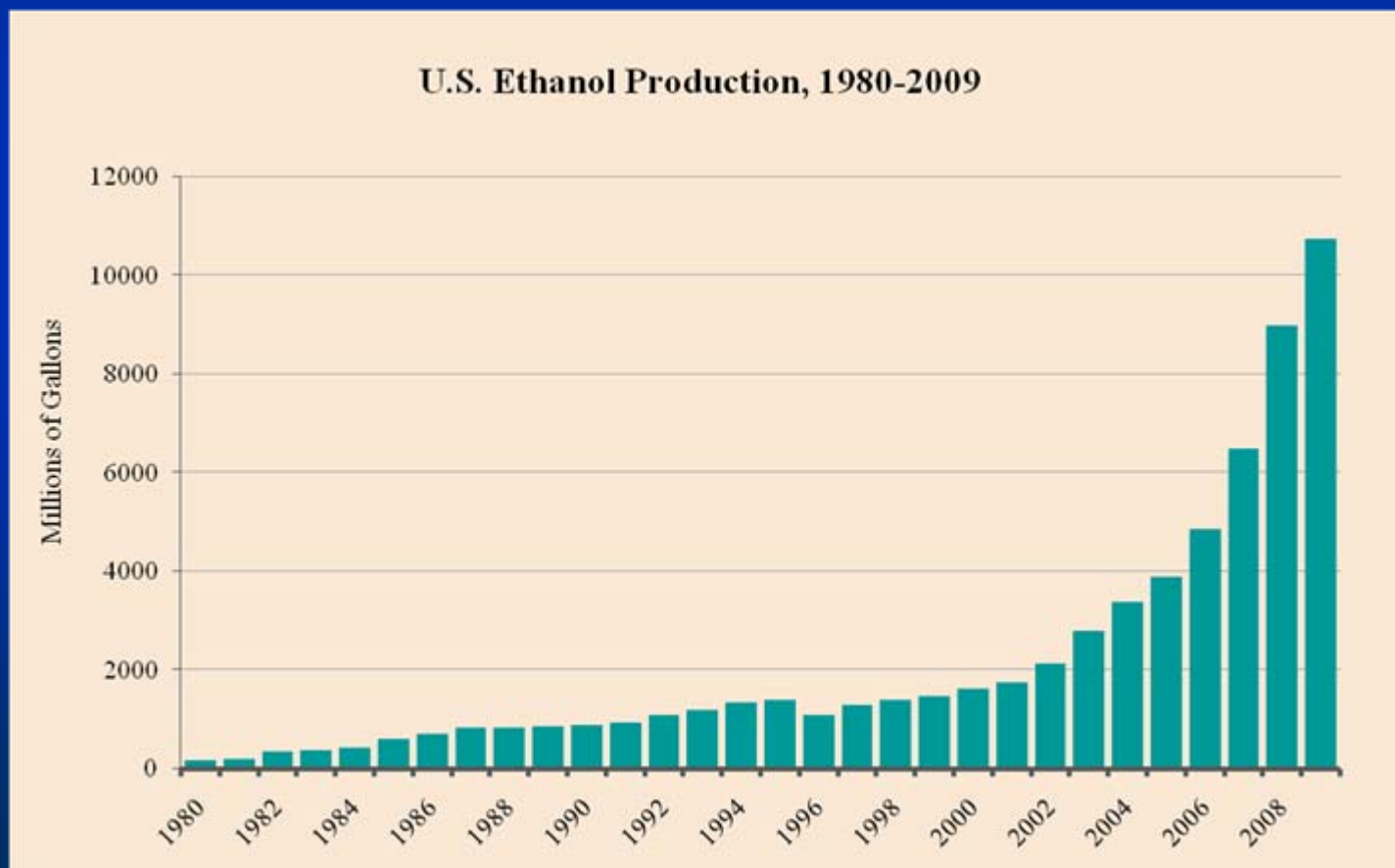


State Incentive Programs

- Infrastructure Incentives
 - CO, KS, LA, ME, NY
- Loans
 - **Iowa:** 0 interest loans
 - ME, OK, OR, UT, VA and WA also provide loans for biofuel infrastructure.
- State Purchase Requirements
 - Colorado requires B20 for state-owned diesel vehicles (10 cent limit on price difference).
 - Alabama, Alaska, Georgia, Kansas, Missouri, Montana, Nebraska, New York, North Dakota, Ohio, Wisconsin and Wyoming.

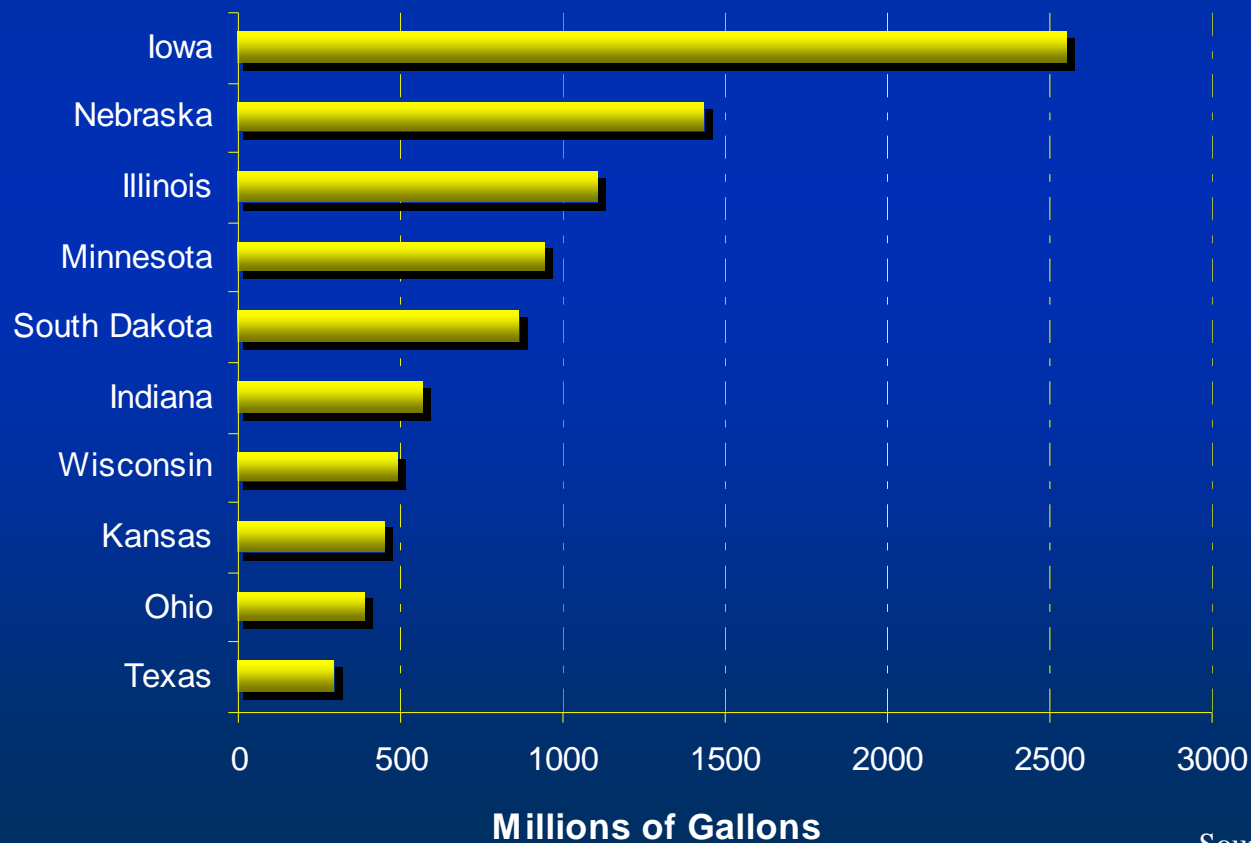


Ethanol Production Trends





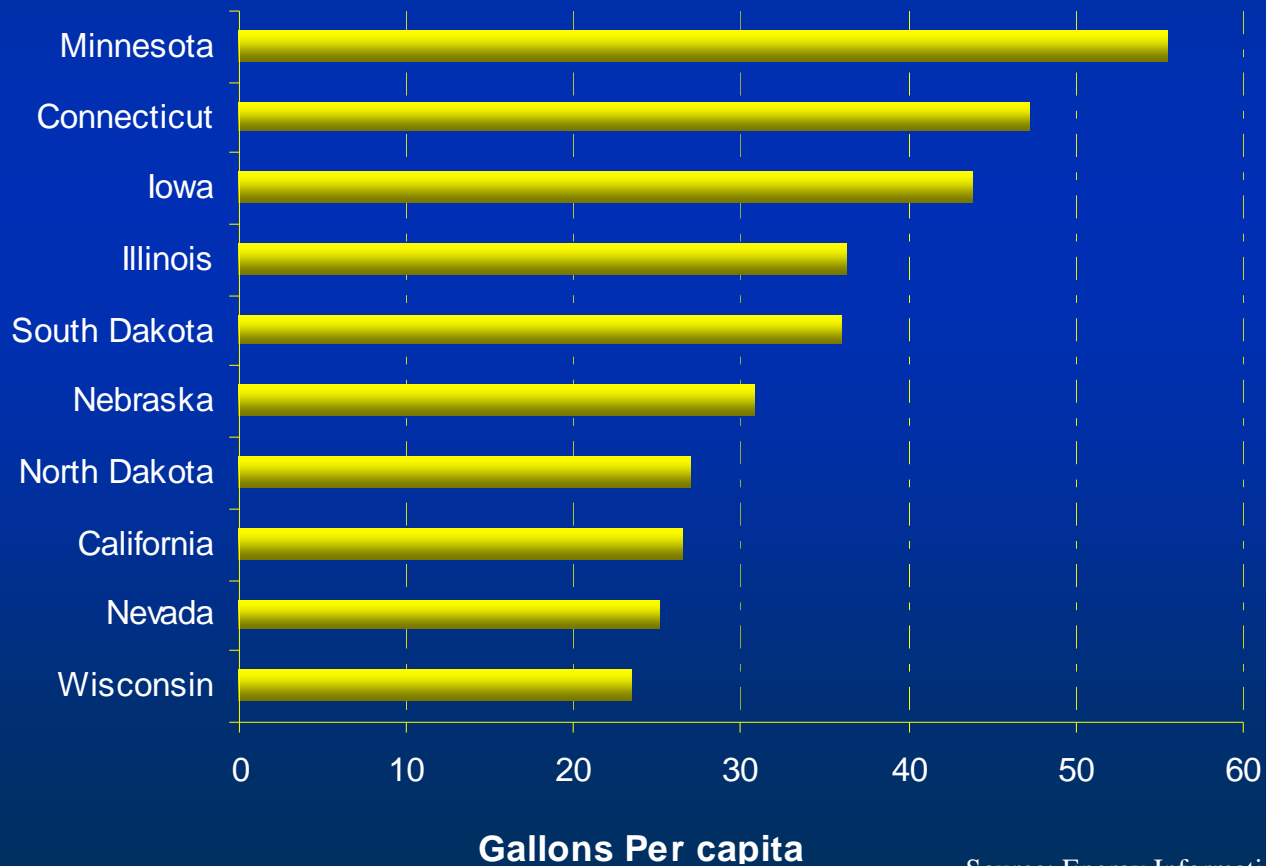
Top 10 Ethanol Producing States



Source: Ethanol Producer Magazine, March, 2007



Top 10 Ethanol Consuming States (per capita)



Source: Energy Information Administration, "Ethanol Consumption Estimates by Sector, 2005;" U.S. Census



Commonalities of High Biofuels Consuming States

- Top 3 (Minnesota, Iowa, Connecticut), have renewable fuels mandates
- Infrastructure Support
 - Minnesota, Iowa, Illinois
- State Purchasing Requirements
 - Connecticut, Illinois, Iowa, Minnesota



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