# Wisconsin Experience with Bioenergy Project Development

WISCONSIN BIOENERGY INITIATIVE

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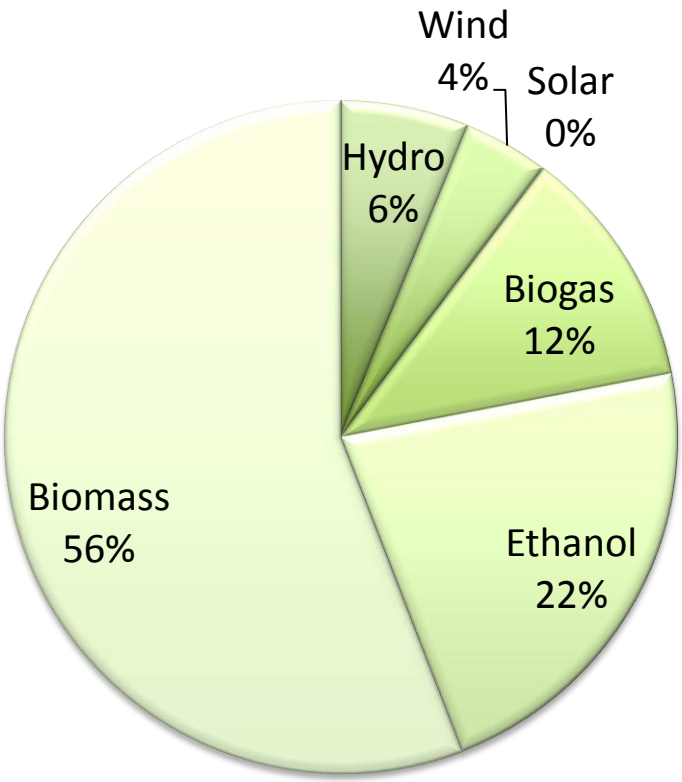
# Wisconsin Renewable Energy

Wisconsin Renewable Energy by Type

| 2009 Production | $10^9$ BTU | % of Total |
|---|---|---|
| Hydro | 5.4 | 13.98% |
| Wind | 3.59 | 9.29% |
| Solar | 0.035 | 0.09% |
| Biogas | 10.2 | 26.41% |
| Ethanol | 19.4 | 50.23% |
| Biomass | 48.9 | 126.60% |

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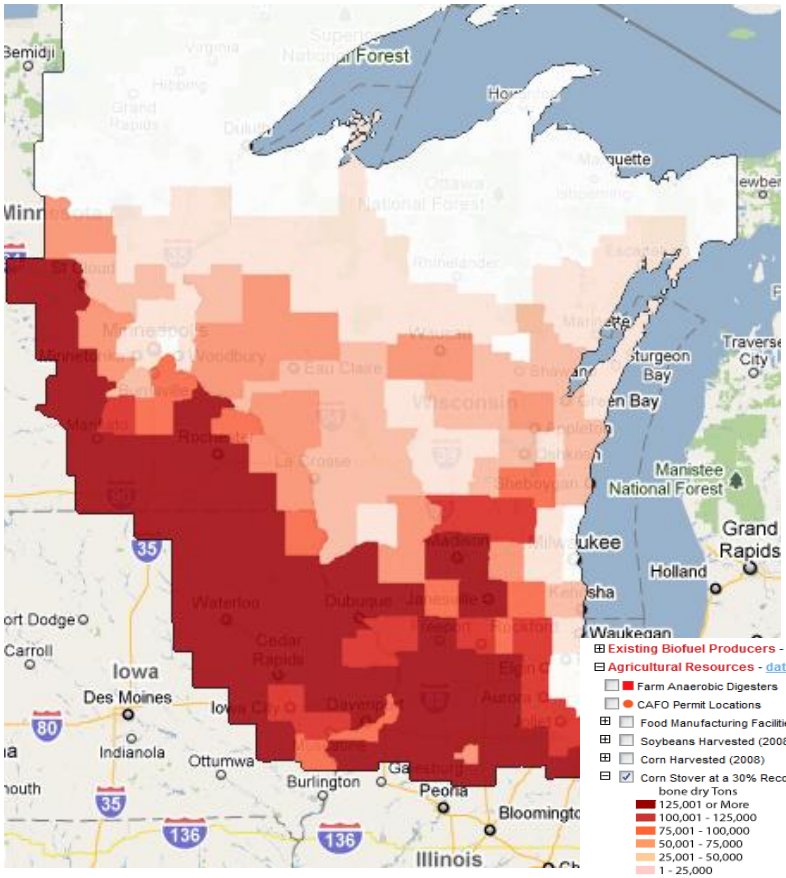
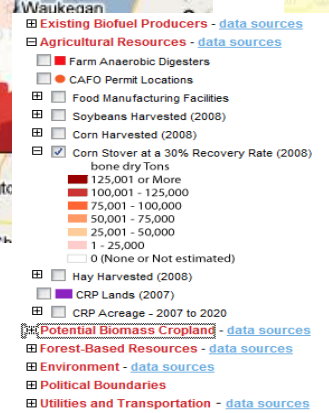
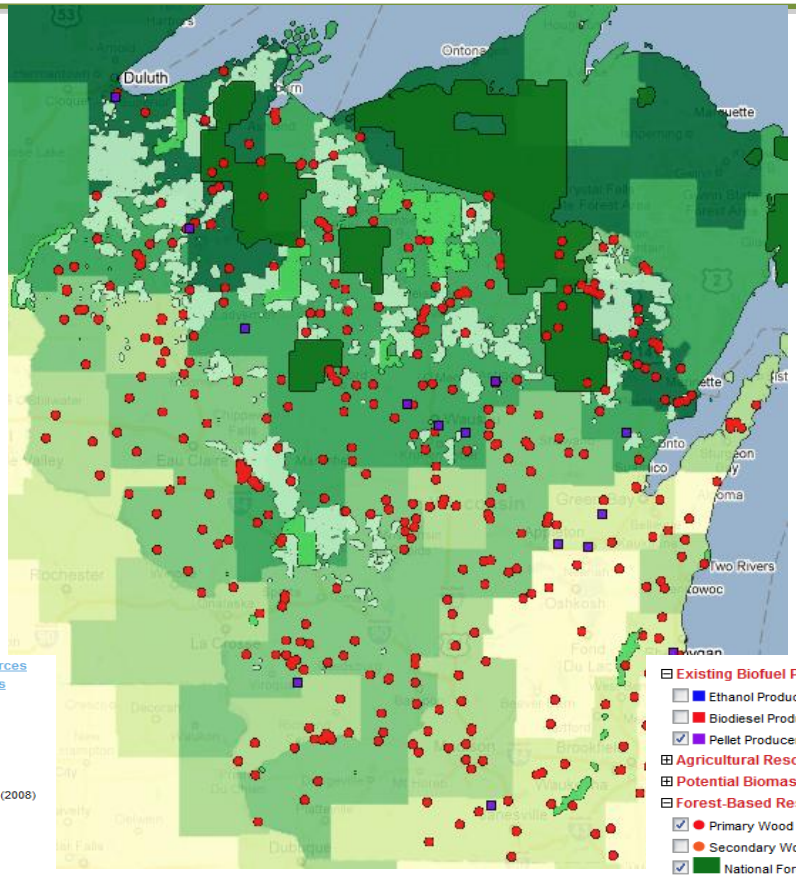
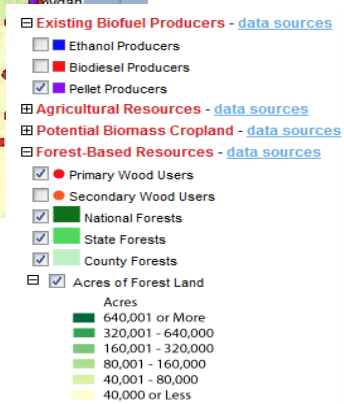
Source: WI Office of Energy Independence
http://energyindependence.wi.gov

# Wisconsin Biomass




http://wiscbioenergy.org/atlas.php

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# Mission

The WBI helps the talent within Wisconsin create, evaluate, commercialize, and promote bioenergy solutions.

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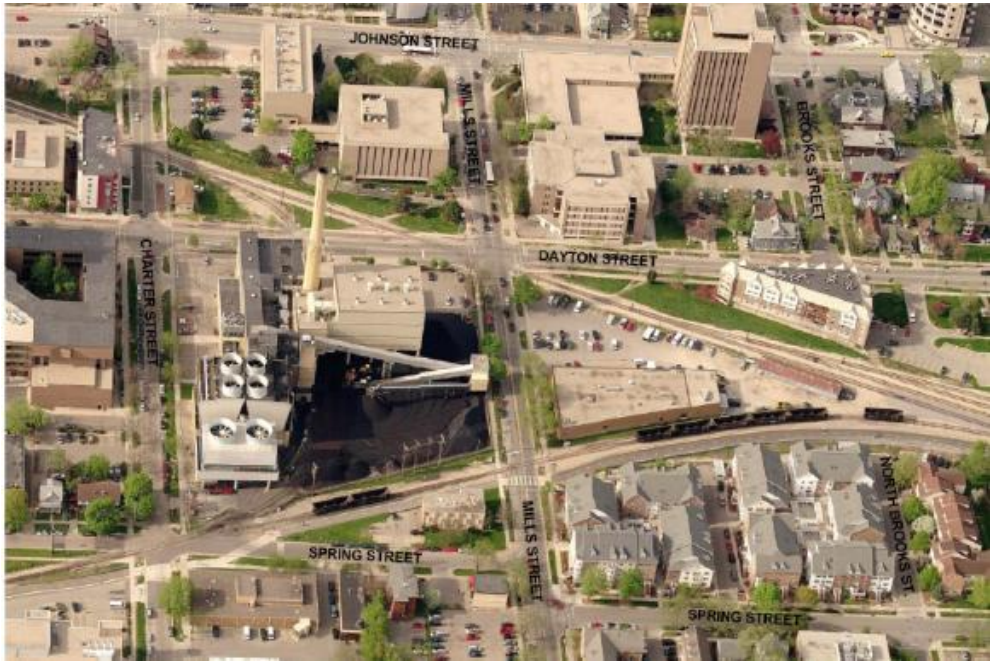
# Some of WBI Projects

- Demonstration projects biomass supply
- Project siting tool
- WEI building
- Support for WIST, UWGB, EI of WI
- Bioenergy Summit
- Sponsored research and large federal grants
- 8 Bioenergy faculty
- New bioenergy curriculum

# Current Charter Street Heating Plant

Current Capacity:

- 800,000 lbs/hr steam
- 26,000 tons chilled water
- 9 MW electric production




- Historically burned 130,000+ tons of coal per year
- 1960 vintage technology
- Air emissions - candidate under *Prevention of Significant Deterioration* program

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# Planned Upgrade

Convert Coal Heating Plant to

- 3 gas boilers & 1 biomass boiler
- New capacity: 1.1 million lb/hr steam
- 29 MW electricity

Biomass Benefits

- Economic benefit – create market for homegrown fuel
- Create Fuel Flexibility for the Plant
- Environmental benefit – No Coal

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# Project halted January 23, 2011

## Walker announces Charter Street plant will convert to natural gas

**Advocates for biomass claim conversion could have helped create jobs around Wisconsin**

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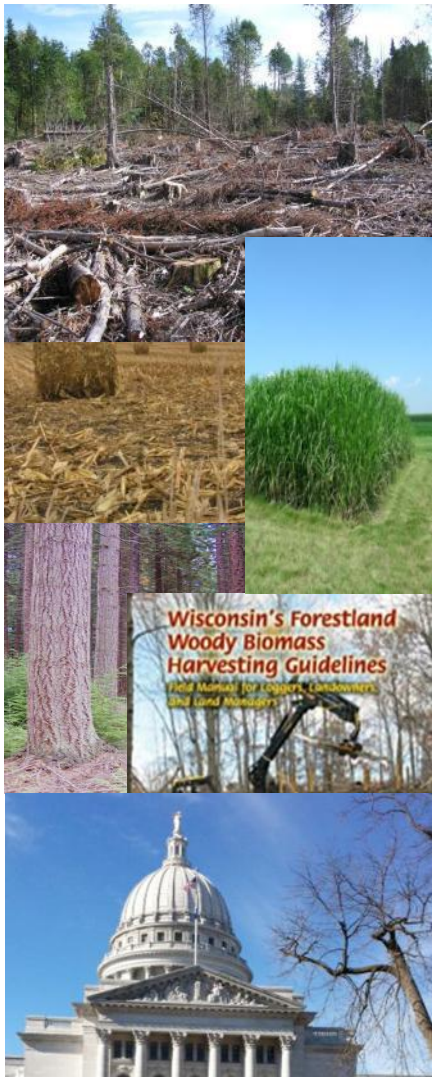
# Workforce Development Lessons

- We saw largest workforce impact was around biomass fuel supply
- Development needs
  - *Education:* Many interested parties does not equal many informed parties
  - *Policy:* Huge risk for businesses to invest with policy and commodity uncertainty
  - *Outreach:* Energy projects are political and there is competition for the resources
  - *Research:* Best practices and guidelines not in place for conversion, sustainability, management
  - Demonstration:  More

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