



Bioenergy Project Siting

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Definition of a Bioenergy Project

- **Large, industrial design**
- **Significant inputs and outputs**
- **Significant demand for community resources**
 - **Land**
 - **Water**
 - **Power**
 - **Waste treatment capacity**
 - **Infrastructure**

Badger State Ethanol (Monroe, WI)





Plant Inputs

- **Ethanol plant**
 - 4-6 gal water per gal ethanol
 - 10-30 million bushels corn/year
 - 2000 tons/day woody biomass (Flambeau)
- **Power plant (eg. Nelson-Dewey)**
 - 200,000 tons/year switchgrass (20%)

Switchgrass (Alliant plant, Chillicothe, IA)





Plant Outputs

- **50-100 million gal ethanol**
- **100,000-200,000 tons/year distillers grains (about 17 lb/bushel)**
- **About 400 tons glycerin per million gal biodiesel**



Local Transportation Impacts (Truck)

- **Maintenance and repair of existing roads and bridges**
- **Potential need for new roads**
- **Impacts on traffic patterns and travel times**
- **Need for alternate and emergency routes**
- **Increased noise/pollution from vehicles**



Plant Impacts

- **Site (construction and operation phases may be distinct)**
 - Impacts on wetlands, wildlife, waterways
 - Stormwater/Erosion control
- **Air Quality**
 - Pollutants
 - Odor
- **Water Quality**
 - Surface water
 - Groundwater
- **Waste**
 - Solid
 - Hazardous

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Mitigating Project Impacts

- **Regulatory Process**
- **Public Process**



Layers of Governmental Control

- **Federal**
- **State**
- **Local**



Federal Regulation

- **For all, major federal interest is tax incentives**
- **For ethanol, federal regulatory interest is:**
 - **Bureau of Alcohol, Tobacco and Tax**
 - **Internal Revenue Service**
 - **Environmental Protection Agency (reformulated gasoline standard)**



State Regulation

- **W Department of Natural Resources**
 - Air and water pollution permit
 - High capacity well
 - Construction/operation, stormwater control
 - Endangered species issues
- **W Department of Commerce**
 - Storage Tanks

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Local Regulation

- **Zoning**
- **Building permits**
- **Sanitary permits**
- **Consistency with Smart Growth planning efforts**

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Public Siting Process

- **Aim is to address non-regulatory concerns of community**



General Public Impacts of Large Projects

- **Demand for water increases**
- **Sewer inputs increase**
- **Power demand grows**
- **Traffic increases**
- **Police protection needs may grow**
- **Fire/emergency needs may grow**
- **New residents (schools, housing, etc)**
- **Property values?**



The Traditional Approach- Decide, Announce, Defend (DAD)

- **Anticipates opposition**
- **No community advance information**
- **Only public involvement required by law**
- **No real opportunity to change decision**
- **Effort to stay “under the radar”**
- **Try to outlast (or bankrupt) opponents**



Typical Results of “Decide, Announce, Defend”

- **Outraged Public**
- **Neighbors who fight project forever or are bought out to eliminate opposition**
- **Political problems for governing body**
- **Lawsuits/legal challenges to project and process**
- **Delays**
- **Political difficulties for similar future projects (LULU; eg. wind, landfill, cafo)**



New Approaches – Involving The Public

- **Who is the public?**
 - Some- always for or don't care
 - Some- always against
 - Majority- no initial judgment, may have questions or concerns
- **Process needs to grow numbers for and isolate those against**
- **DAD tends to push numbers the other way; “outrage” according to Sandman**



A Siting Process That May Work Better Than DAD

- **Not a “fait accompli”**
- **Open and understandable**
- **Based on accountability, not trust**
- **Allows opportunity for input and negotiation of concerns**
- **Willingness to compensate some real or perceived impacts**



Developer-Community Agreements

- **Alternative to regulation, potential litigation**
- **Can build community trust and support**
- **Can cover areas not covered by regulation**
 - Provide dispute resolution process
 - Monetary rewards to community for associated project costs
- **Can not waive state or federal requirements**
- **To work, both sides must bargain in good faith**



Using A Siting Committee

- **Advantages**
 - Can provide a forum for reaching consensus on key issues
 - Can represent broad community interests beyond just political body
 - Can facilitate two way communication and information sharing
 - Can negotiate community concerns
- **Disadvantages**
 - Can slow siting process
 - Ignoring committee recommendations will promote opposition