

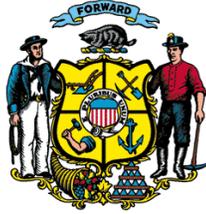


# Wisconsin Guide to Building Biofuels Facilities

Wisconsin Office of Energy Independence

Achieving 25 x 25

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Publication of the State of Wisconsin  
Version I

Publication Date: April 20, 2007

Publication Number: DOA-1101-P

Wisconsin Office of Energy Independence  
17 West Main Street, Room 429  
Madison, WI 53702

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***Cover Photos (from top):***

Second -- Badger State Ethanol, a 50 million gallon per year ethanol facility located in Monroe, WI. Photo provided by Badger State Ethanol.

Fourth -- Soybean photo provided by the Wisconsin Soybean Association

Fifth -- A small scale biodiesel reactor being developed by Madison Area Technical College and UW-Madison that will be used for educational purposes. Photo provided by Madison Area Technical College.

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## ***Welcome to Wisconsin!***

From our rolling hills to our Great Lakes, Wisconsin is a beautiful place to live and do business.

Wisconsin has a history of creating value-added economic opportunities for agriculture, manufacturing, and forestry. Today Wisconsin is shifting to renewable energy and fuel that utilize our biomass resources from working lands in agriculture and forestry.

We are proud of the diverse biomass options available for biofuels, biopower, and bioproduct production in Wisconsin. We have abundant resources including agricultural crops and waste from paper mills, to cheese plants and livestock facilities. I am confident you will find the ideal feedstock for your process and facility in Wisconsin.



As Governor, I encourage you to learn about Wisconsin's sophisticated business resources and skilled, dedicated workforce. In addition to Wisconsin's diverse biomass, the state's business assets will positively impact your company.

In an effort to expedite your bio-based business plans in Wisconsin, I established the Office of Energy Independence. I requested the Office of Energy Independence outline the biofuels facility building process in Wisconsin. The *Wisconsin Guide to Building Biofuels Facilities* draws a clear picture of the considerations to follow when planning and building in our state. Each facility and process is unique, and I recommend that you contact the Office of Energy Independence directly. The team will jump start your building process and respond to questions and concerns as you move forward.

The Office of Energy Independence is leading Wisconsin toward the goal: *Achieving 25 x 25*. Wisconsin will strive to meet 25 percent renewable energy and fuel use through innovation, cooperation, and the work of the Office of Energy Independence. By locating in Wisconsin, you will be part of our efforts to become national market share leaders in renewable and green technologies.

I am confident your experience in our state will be positive.

A handwritten signature in black ink, appearing to read "Jim Walker".

# Acknowledgements

This publication was made possible by collaboration of multiple state agencies in Wisconsin. It is the state agencies intentions to ensure that the growth of the biofuels industry is fostered proactively and efficiently.

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## I. INTRODUCTION

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This guide is designed to provide emerging biodiesel and ethanol industry entrepreneurs with valuable tools and resources to assist them through the regulatory and permitting process. The regulatory process is established to verify business plans and to move a business through the permitting and project development process efficiently. This document is intended to summarize local, state or federal regulations that may apply to the development and construction of a biofuels refining facility. The State of Wisconsin encourages those seriously evaluating the construction and development of a new ethanol or biodiesel facility to do as much additional research as possible. This document will be updated periodically as needed. Definitions and a complete list of web links found in the document can be found in Appendix A and B. This guide can also be accessed online at <http://power.wisconsin.gov>.

## II. CONSIDERING THE ENVIRONMENT

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The following information is intended to provide a preliminary overview of the State's environmental regulations. To ensure effective and efficient communication and permitting, **the Wisconsin Department of Natural Resources (DNR) strongly encourages those interested in contributing to the state's biofuel infrastructure to contact the department in the *early stages of planning*.**

DNR is the primary state agency assigned to protect the state's air, land and water resources. Determining which permits and regulatory approvals are needed as early as possible in the planning process is critical.

Early coordination is useful for screening the project site/sites for possible presence of and conflicts with sensitive resources or other protected sites such as:

- Endangered/threatened species or their habitats,
- Natural/scientific areas and recreation use areas (parks, forests, trails, fishery/wildlife, etc.),
- Sensitive or protected water resources, and
- Water supply wells that are operated by a utility to serve the public
- NOTE: General air, stormwater, and wastewater permits are necessary prior to construction.

Screening for sensitive resources during concept planning will help avoid complications and controversy later on. The DNR Permit Primer is a useful tool that can help guide you through the types of permits you will need for biodiesel and ethanol production facilities specific to water supply, storm water management, solid waste, hazardous waste, and air management. It can be found by clicking [here](#).

Contact information for DNR State Service Center Offices may be found by clicking [here](#).

### WATER REGULATIONS

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When selecting a site, your company must consider the all the costs and benefits of that location. Proximity to raw materials and markets often take primary roles during the decision making process, but environmental impacts must be considered. As the site's potential owner, you will need to determine if

the location will suit your needs and be an appropriate place to build the facility. It is best to be clear that all environmental requirements can be met BEFORE purchasing a property.

In order to avoid issues with federal and state regulations **site planning should avoid construction in or near wetlands**. If there are questionable areas on the proposed site it is strongly recommended that contact be made with DNR staff as early as possible in the planning process.

If the proposed site location has an existing facility (i.e. building) intended for use in the new project, your company should contact the building owner or municipality to determine if a wetland delineation study has been conducted. Environmental consultants can facilitate this process if delineation has not been conducted. If delineation has been conducted, obtain a copy of the study and evaluate it to determine if the site will accommodate immediate as well as long term plans.

NOTE: If the location of interest in is a Greenfield site, wetland delineation will be required. This service is often conducted by an environmental professional/consultant. It is common to have the entire site evaluated to ensure that any future plans can be accommodated.

If the property has a wetland that will be impacted, a permit from DNR will be required. Common activities that require permits include:

- impacts on wetlands
- culverts
- dams
- intake/outfall structures
- pea gravel blankets
- Utility water crossings

If the project will be near a navigable waterway DNR may need to issue a water regulation and zoning permit under [Chapter 30 Wisconsin Statutes \(Wis. Stats.\)](#). Depending on the nature of your request, DNR may need to enlist the assistance of the U.S. Army Corp of Engineers, which regulates construction in or near wetlands. Please review the information by clicking [here](#).

### Drinking Water & Ground Water

Most ethanol plants construct and operate a private water supply system. The information below summarizes the process for obtaining approvals for a water supply system. **This information is primarily targeted for prospective ethanol plants, NOT prospective biodiesel plants.**

**If an ethanol plant purchases all its water from a municipal water supply this information does not apply.**



**Potential ethanol plant owners are encouraged to:**

- 1. Contact DNR early in the planning process, and**
- 2. Submit a high capacity well application to DNR early in the application process.**

The following is a summary of approvals needed for a private water system for an ethanol plant; each is described in more detail below:

- High capacity well approval
- Approval for non-pressurized water storage vessels
- Capacity development approval (required for [Safe Drinking Water Act](#))

Most ethanol plants operate two production wells and a third potable supply well that serves all of the plant's potable needs. The information below summarizes the regulatory requirements for this typical scenario.

**High Capacity Well Approval:** A high capacity well must be approved by DNR prior to construction. If the combined capacity of all wells at one location exceed 70 gallons per minute, each of the wells that serve the plant are labeled as high capacity wells. DNR evaluates high capacity well applications for the following location and water usage criteria:

- Springs that flow at a rate of one cubic foot per second or more at least 80 percent of the time
- Potential impacts on nearby municipal wells
- Trout streams or exceptional or outstanding resource waters within 1,200 feet of a proposed well
- Water loss of over 95 percent of the water pumped from a major basin
- Water loss of over 2 million gallons per day from a major basin
- Special casing areas
- Landfills within 1,200 feet of a proposed well
- DNR remediation and redevelopment of contaminated sites for ground water use restrictions

NOTE: Each of the scenarios outlined above are critical factors in the well siting and approval process. A problem with one or more of the above location or water use constraints may affect pumping capacity approval for the proposed ethanol plant water supply. There are locations in Wisconsin that will NOT be available as appropriate for an ethanol plant due to water supply.

Other design issues that potential ethanol plant owners should be aware of include:

- Application procedure: An application for a high capacity well system is made on [Form 3300-256](#). There is a \$500 application fee that covers all of the wells on the property. A property boundary map showing well locations must be submitted with the application.
- Potable vs. non-potable well construction: Construction standards for a well with a capacity of 70 or more gallons per minute are more costly if the well is constructed for potable use. The plant owner may consider constructing production wells to non-potable standards to reduce construction cost. In this scenario, all water for potable use at the facility must come from another well designed and constructed to potable criteria.
- Property ownership: **DNR issues approvals to the property owner.** If the owner of the proposed ethanol plant has an option to buy the property, but does not yet own the property, the current property owner is the correct name of owner to list on the application. In this situation it is recommended that the applicant describe the ownership situation in a cover letter submitted with the application. After the property is purchased by the ethanol plant owner, the plant owner then applies for approval to continue to operate the high capacity well system after a change of ownership. There is no fee for an application for continued operation after a change of ownership provided that no additional wells are requested and an increase in pumping capacity is not sought in that application.
- Other possible requirements: DNR, on a site specific basis, may impose additional restrictions on well construction or use to protect ground water resource. Most commonly such restrictions are used in areas where high levels of natural contaminants exist, such as Arsenic.
- Buried piping and cross connections: Water piping, connections and storage require permits from DNR. Water in buried piping between a well and a water storage vessel must be under constant positive pressure. DNR requires that water from one well cannot flow into another well. A permit application should include the proposed water piping schematic for review by DNR.

If the owner of the ethanol plant hires an engineering firm to design wells, DNR recommends that the engineering firm consult with a well driller before the well application is submitted. It is not uncommon

for DNR to issue a high capacity well approval for a specific well design, after which a well driller recommends a lower cost well construction method to the owner. In this scenario, a change in well design necessitates that DNR revise the high capacity well approval before construction can occur. This causes additional delay for the owner.

**Non-Pressurized Storage Vessels:** DNR must pre-approve water storage vessels based on plans for the vessel and specifications for the vessel's coating. Submit vessel plans, including sufficient detail on the coating materials, for DNR review. Ideally, this information is submitted as part of the application for high capacity well approval, but DNR recognizes that fast tracked construction practices may necessitate that storage tanks receive approval after wells are approved. There is no application fee for reviewing and approving tanks.

[Chapter NR 812 Wisconsin Administrative Code \(Wis. Adm. Code\)](#), provides specific information about Well Construction and Pump Installation.

**Capacity Development Approval:** A non-transient non-community water system is a water system that serves the same 25 persons, or more, for over 6 months of the year but does not serve year-round residents. A non-transient non-community water system must have a capacity development approval. Application is made on [Form 3300-246](#).

The application is intended to ensure that non-transient non-community water systems comply with the requirements of [Chapter NR 809, Subchapter VIII, Wis. Adm. Code](#) and [Section NR 809.931, Wis. Adm. Code](#). That section requires that all non-transient non-community water systems develop and maintain adequate financial, managerial, and technical capacity to meet the requirements of the federal safe drinking water act.

**Operation, After Construction:** This guidance document is intended to describe the approvals that are necessary prior to and during construction. Thus, a detailed discussion of post-construction operation procedures and requirements is beyond the scope of this document. Be aware that the following inspections and sampling are expected during operation:

- Periodic potable water sampling for potential contaminants as directed by DNR staff
- Periodic inspections of the potable water system and wells by DNR staff
- The plant owner must have a certified water system operator on staff or under contract
- Monitor and report the amount of water pumped from the high capacity well system

**Contact for capacity development coordinator:** [Michelle Schneider](#), (608) 266-8470

**Contacts for drinking water & ground water inquiries:** [George Mickelson](#), (608) 267-7652  
[Mark Putra](#), (608) 267-7649

## Wastewater

Biodiesel and ethanol plants often have wastewater discharges. NOTE: Wastewater directed to a municipal wastewater treatment plant will not require a permit; industrial wastewater is not allowed to be directed to a domestic septic system. All other types of discharges will require a [Wisconsin Pollutant Discharge Elimination System \(WPDES\) permit](#). Common activities that require a WPDES include:

- Cooling water
- Filter backwash
- Wash water
- Other process water

Disposal of these types may also require you to conduct treatment of the wastewater stream prior to discharge. A list of the general permits can be found by clicking [here](#).

If you determine that you are not eligible for a general permit, a site specific facility permit will need to be drafted. The criteria to be included for this permit include:

- Influent monitoring requirements
- Effluent monitoring requirements and limitations (a page for each outfall and sample point)
- Groundwater monitoring requirements and limitations
- Facility diagram (optional)
- Special report requirements:
  - Compliance maintenance annual reports
  - Sludge monitoring requirements
  - Monitoring for toxic substances and biomonitoring
  - Other Special Reports as appropriate
    - Schedule of compliance (includes actions needed and deadlines)
    - General conditions (includes standard language for all wastewater dischargers)
    - Schedule of compliance (includes actions needed and deadlines),
    - General conditions (includes standard language for all wastewater dischargers)

This will require you to work with a permit drafter for DNR. For further assistance, please click [here](#)

## Stormwater

The Stormwater Program addresses two primary activities that businesses may undertake: construction/expansion activities and stormwater management once the facility is operating. It is important for a company to consider activities during each of these phases of operation. If your facility will be disturbing one acre or more of land, you will need to comply with the following requirements related to construction/expansion activities:

- **Construction:** This will require your company to develop an erosion control plan and a stormwater management plan. In addition, you will need to notify the DNR of your plans by filing a Notice of Intent (NOI) - [Form 3400-161](#).
- **Operational:** Production facilities will need to manage stormwater once operating. For example, facilities may be required to develop:
  - Stormwater Pollution Prevention Plan (SWPPP) - [Form 3400-167](#).
  - NOI - [Form 3400-163](#).
  - Annual facility site compliance inspections - [Form 3400-176](#).
  - Quarterly visual monitoring - [Form 3400-176A](#).

For more information on the DNR Stormwater Program click [here](#).

While DNR is responsible for issuing operational waste water permits, the Department of Commerce (Commerce) is responsible for enforcement of construction-site erosion control, and post-construction stormwater rules at building construction sites for public buildings, places of employment and one-and two-family dwellings. Information for Commerce Soil Erosion Control/ Stormwater Program [here](#).

**Commerce contacts for stormwater inquiries:** Erosion Control - [Brian Ferris](#), (608) 785-9335  
Stormwater Projects - [Brad Johnson](#), (920) 492-5605

## AIR REGULATIONS

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DNR is authorized by U.S. Environmental Protection Agency (EPA) to issue Air Permits. Information on Air Permits can be found [here](#). Wisconsin Statute allows DNR 145 days to complete an air permit. However, DNR typically issues permits in half the time. **Permit threshold requirements are available at [Chapters NR 406, Wis. Adm. Code](#) and [NR 407, Wis. Adm. Code](#).** **Determining applicability for these regulations can be complex and is location, technology, and size dependent.**



**All new ethanol and biodiesel facilities will need to apply for an air pollution control construction permit and operation permit.** A single application is used to apply for both types of permits.

- Construction permits allow:
  - Construction, modification, expansion or replacement of an air pollution source
  - **No construction may occur until after the construction permit has been issued**
  - Operation of the source for a trial period to test equipment and demonstrate compliance with permit conditions
  - Prior to the expiration of the construction permit, the company is required to complete the operation permit application by submitting test results and compliance information
  - **The source may not operate after the construction permit expires unless there is a complete and timely operation permit application on file**
- Operation permit allows:
  - Operation of the source within the requirements of the operation permit. It is typically valid for up to five years, and may be renewed.

Before submitting an application for a construction permit and operating permit, the company should know the operation's emissions from storage tanks, boilers and/or generators, equipment leaks, process emissions and cooling towers associated with the proposed project while operating at maximum capacity.

- For example, if the operation's processes will in aggregate, emit less than 100 tons per year (tpy) of any individual criteria air pollutant, less than 10 tpy of any individual federal hazardous air pollutant, and less than 25 tpy of all federal hazardous air pollutant combined they would be considered a minor source and should proceed with their application accordingly.
- Ethanol plants that are designed to be synthetic minor sources will typically have capacities from 50 million gallons per year to up to approximately 120 million gallons per year with a natural gas fueled operation. Larger capacity plants will require more effective controls and lower emitting processes/boilers to assure that the emissions remain below the major source thresholds.

Emissions over the 100 tpy threshold for any criteria air pollutants, 10 tpy or more of any individual federal hazardous air pollutant, or which emits or is able to emit 25 tpy or more of combined federal hazardous air pollutants are considered a federal major source. The operation permit required for these larger operations is considered a "Title V" or "Part 70" major source permit. The emissions may also trigger the federal "Prevention of Significant Deterioration" (PSD) construction permit requirements of [Chapter NR 405, Wis. Adm. Code](#).

Companies interested in the construction of new ethanol or biodiesel facilities should also know if the proposed site is within an attainment area. This is an important issue to be aware of as Wisconsin has ambient air quality restrictions for different areas of the state. Information on indirect and stationary source modeling can be found by clicking on the following links: [Indirect Sources](#) or [Stationary sources](#).

**For more information on air regulations:**

- Visit DNR's Air Permit Program's web page for an overview of the [permitting process](#), or [flowchart](#) of the permitting process.
- Information on emission estimates [EPA Technology Transfer Network Clearinghouse for Inventories and Emissions Factors](#).

**DNR Contacts for air regulation inquiries:** Ethanol - [Don Faith](#)  
Biodiesel - [Susan Lindem](#), [Michael Ross](#)

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**WISCONSIN ENVIRONMENTAL POLICY ACT (WEPA)**

All actions taken by DNR must comply with WEPA. Depending on the site, technologies used, and size of the project an **Environmental Assessment or Environmental Impact Review may need to be prepared by DNR with input from the applicant, developer, and local community**. Contact a Regional DNR Environmental Assessment staff person to determine if this assessment is necessary.

DNR contact for WEPA inquiries: [Russ Anderson](#)

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**SOLID WASTE DISPOSAL**

Biodiesel and ethanol production facilities may generate solid waste. Common activities that generate solid waste include:

- Office paper, cardboard, plastic, metal and glass food and beverage containers
- Food waste from cafeteria or break room operations
- Used engine oil, anti-freeze, batteries, and similar waste generated from fork lifts, cars, and trucks
- Office equipment and appliances, such as computer monitors and hard drives, printers and copy machines, televisions, and microwave ovens
- Packaging from materials received at you facility, such as foam, strapping, and lumber
- Wastes associated with heating and air conditioning systems, and building maintenance
- Used chemicals, sludge from process tank clean-outs, and other wastes generated from production

It is important to reduce, reuse, and recycle. All businesses must recycle computers and florescent bulbs, unless they are managed as a hazardous waste. State law gives local governments recycling responsibility for common recyclables and establishing local ordinances to ensure businesses recycle. For more information on recycling in Wisconsin click [here](#).



Any vehicle which carries waste or waste oils may need to be licensed as a Collection and Transportation Waste Carrier by DNR. If vehicles are carrying virgin materials, such as virgin soy oil, no license is needed from DNR. Applications can be obtained by calling any local DNR office.

DNR Contact for solid waste disposal inquiries: [Len Polczynski](#)

## HAZARDOUS WASTE

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Biodiesel and ethanol plants may generate wastes that are exempt, or conditionally exempt, from regulations as hazardous waste. Review the list of materials and refer to specific code citations to determine if the plant's waste is eligible for an exemption from the hazardous waste rules or for reduced regulation. If a facility generates a material that can no longer be used, can't be sold, or recycled it is considered a waste. Wisconsin's hazardous waste rules require businesses to evaluate all wastes to determine if they are hazardous waste. Information on hazardous waste identification can be found in [Chapter NR 661, Wis. Adm. Code](#).

**Waste glycerin** is a common byproduct of biodiesel production. Waste glycerin may be hazardous waste if it contains methanol in quantities large enough to lower the flashpoint below 140° Fahrenheit (F). If waste glycerin/methanol byproducts are sent offsite to be legitimately reclaimed, they are exempt from hazardous waste regulations, per [Section NR 661.02, Wis. Adm. Code](#). If you cannot find a recycling market for this waste, it may have to be managed as a hazardous waste. (Note: Recyclable materials that are accumulated for long periods of time prior to recycling may be regulated as hazardous waste. See [Section NR 661.01\(3\)\(h\), Wis. Adm. Code](#).) The following waste streams are potentially hazardous:

- Glycerin (that cannot be reclaimed for further use or is sent offsite)
- Strong acids or bases (unused excess, off-specification materials, spent materials)
- Wash water wastes not discharged to an approved wastewater treatment plant
- Methanol waste that isn't reclaimed
- Materials from transesterification process, such as sulfuric acid
- Paint waste
- Washer solvent
- Sludges from floor drains, sand pits
- Parts washer solvent, sludges or filters
- Aerosol cans

In addition, the following waste streams may require special handling:

- Mercury containing lamps, such as fluorescent or high intensity discharge lamps, regulated under the Universal Waste Rule, [Chapter NR 673, Wis. Adm. Code](#).
- Electronics
- Used oil regulated under [Chapter NR 679, Wis. Adm. Code](#).

If your operation does not generate hazardous waste, it is still important to have records on-site that outline waste stream evaluation. All hazardous waste must be sent to a licensed hazardous waste management facility.

**DNR contact for hazardous waste inquiries:** [Jill Schoen](#)

## SPILL PREVENTION, REPORTING, AND CLEANUP

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Biodiesel and ethanol plants may store and transport hazardous substances. It is important for a company to incorporate spill containment and control measures during construction and/or expansion in order to capture any accidental release and minimize environmental impacts.

## State Spill Reporting and Notification

If a spill occurs, it is the responsibility of the person who possesses or controls the hazardous substance or who causes the spill to notify DNR via the 24 hour Spill Reporting Hotline at 1-800-943-0003. The responsible party must determine whether a discharged substance is hazardous based on quantity, concentration, and physical, chemical, and infectious characteristics of the substance. For many substances, whether or not the substance is considered hazardous will depend on the quantity discharged and the location of the discharge. Example: Due to its high biochemical oxygen demand (BOD), spilled vegetable oil is a hazardous substance and must be reported if it enters waters of the state such as a storm sewer, lake, or stream or causes slippery road conditions. **The criteria below are for reporting purposes only. All spills of hazardous substances must be cleaned up, regardless of location or quantity.**

[Chapter NR 706, Wis. Adm. Code](#) established de minimis quantities. Spills which are below the de minimis quantities for petroleum, agricultural, and federally established reportable quantities **do not have to be reported as long as they meet all of the following four conditions:**

- Evaporated or been cleaned up in accordance with [Chapters NR 700 -726, Wis. Adm. Code](#),
- Does not adversely impact or threaten to impact the air, lands, waters of the state as either a single discharge or when accumulated with past discharges
- Does not cause or threaten to cause chronic/acute human health impacts
- Does not present or threaten to present a fire or explosion or other safety hazard

### Reporting requirements for petroleum products:

- Spills of light, medium, and heavy weight petroleum do not need to be reported if completely contained on an impervious surface such as concrete or black top
- Spill must be reported if one gallon or more lightweight petroleum is released on soil (gasoline, aviation fuel)
- Spill must be reported if five gallons or more of heavyweight petroleum is released on soil (fuel oil, diesel fuel, waste oil, hydraulic oil, mineral oil, etc.).

**Reporting requirements for “other” hazardous substances:** For releases of other hazardous substances that Wisconsin has not defined a specific reportable quantity, the “[Federal Reportable Quantities](#)” is applicable. If the amount of the substance released is greater than the Federal Reportable Quantity, it must be reported to DNR and a spill form completed. The reportable quantity list is under the “**CERCLA RQ**” heading.

**Reporting when there is no state or federal reportable quantity:** For releases of hazardous substances for which Wisconsin or the Federal Government has not defined a specific reportable quantity, the reporting of a product spill is based on the quantity, concentration, location, and physical, chemical, and infectious characteristics of the substance, and whether it has been discharged to the environment.

**Reporting when the spill is contained:** A responsible party is **not** required to report a release of a hazardous substance into an impervious containment structure that completely contains the substance which can be subsequently recovered with no discharge to the environment. Such a release, into an impervious secondary containment structure, is NOT a “discharge” as that term is used in [Subchapter II, Section 292.11, Wis. Stats.](#) Only hazardous substance discharges “to the environment” require notification to DNR.

**Reporting requirements for releases or spills to the air:** Unauthorized spills or releases to the air must be reported immediately to DNR, information tables are embedded in [Chapter NR 445 Wis. Adm. Code](#):

- Discharges to the environment that do not conform with an air emission limit in your air permit in [Chapter NR 445 Wis. Adm. Code](#) and Tables 1 -5

- Discharges to the environment that exceed a table value from Tables 1, 2, 4 and any release of the compounds listed in tables 3 & 5
- Discharges of substances not listed in Tables 1-5, i.e. natural gas, CFCs, if the discharge poses a threat to public health or welfare or to the environment.

If the facility is regulated under [Chapter NR 445 Wis. Adm. Code](#), unauthorized spills should be directly reported to the regional air management staff person that the facility routinely works with.

**For spills that threaten to cause or cause an adverse impact to human health, safety, or the environment, report the incident to DNR Spills Reporting Hotline: 1-800-943-0003, the local spill coordinator, or DNR Warden.**

*If you are unsure of your reporting requirements, please contact your regional spill coordinator.*

**DNR information on spill prevention, reporting and cleanup:** Visit DNR's [Spill Program web page](#).

#### **DNR Contacts for spill inquiries:**

DNR 24 Hour Spill Hotline - 1-800-943-0003

Northeast Regional Spill Coordinator - [Jason Moeller](#), (920) 662-5492

Northern Regional Spill Coordinator - [John Sager](#), (715) 365-8959

Southeast Regional Spill Coordinator - [Scott Ferguson](#), (414) 263-8685

South Central Regional Spill Coordinator - [Ted Amman](#), (608) 275-3332

West Central Regional Spill Coordinator - [Thomas Kendzierski](#), (715) 839-1604

Statewide Spill Team Leader - [Roxanne Chronert](#), (920) 662-5488

#### **Federal EPA Spill Prevention Control and Countermeasures (SPCC) Rules**

Under the Clean Water Act and the Oil Pollution Act of 1990, vegetable oils and animal fats are considered oils. The EPA has determined that facilities must meet the rule's substantial harm criteria due to facility characteristics and their potential to impact sensitive areas, including drinking water intakes. Facilities under this rule must comply with secondary containment and emergency response requirements.

In this determination, the EPA has considered the physical, chemical, biological, environmental effects and other properties of petroleum oils, vegetable oils, and animal fats. Under the Edible Oil Regulatory Reform Act EPA found that petroleum oils, vegetable oils, and animal fats share common physical properties and produce similar environmental effects. Like petroleum oils, vegetable oils and animal fats and their constituents can:

- Cause devastating physical effects, such as coating animals and plants with oil and suffocating them by oxygen depletion
- Be toxic and form toxic products
- Destroy future and existing food supplies, breeding animals, and habitats
- Produce rancid odors
- Foul shorelines, clog water treatment plants, and catch fire when ignition sources are present
- Form products that linger in the environment for many years

The “Yes” notation after the following five biodiesel refining product categories reflect their incorporation within the scope of the federal EPA SPCC rule:

- Raw product waste fryer oil or soybean oil – *Yes*
- Methanol – *No*
- Glycerol by-product – *No*
- Biodiesel (B-XX to B-100) – *Yes*

**Region V EPA Contact for SPCC inquiries:** [Dr. Barbara Carr](#), (312) 353-8200

### III. SITE CONSIDERATIONS

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#### GOOD NEIGHBOR AND COMMUNITY RELATIONS

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In a majority of cases, a biofuel facility will be sited in rural area. Much of rural Wisconsin is comprised of agriculture – a major economic engine in our state’s economy and a primary feedstock for biofuel production. It is important for new businesses to engage in positive communication with local entities to develop good neighbor relations. A biofuel production facility should be open to discussing the potential impacts of a plant on a community – both positive and negative.

#### LOCAL GOVERNMENT CONTACTS

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Biofuel facilities are subject to local government laws. Production facilities will need conditional use permits and building permits from their local government, county, municipality or township. Each local government will handle the process differently, which may affect the final site location for a plant. Planners for a facility should make contacts with the following local government entities:

- County/City/Township Office of Zoning, Planning and/or Building
- County/City Record of Deeds
- County/City Clerk
- County /City/Township Highway Commissioner or Road District
- Local Drainage District
- County/City Public Health Department
- County/City/Township Assessors
- County/City Emergency Services and Disaster Agency/Officer
- County/City Land and Water Conservation Department
- Local Chamber of Commerce

#### COMMUNITY RIGHT-TO-KNOW REGISTRATION OF HAZARDS

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The production of biodiesel relies on various chemicals such as methanol, sodium hydroxide, potassium hydroxide, ethyl acetate, sodium methylate and sulfuric acid. The Department of Military Affairs (DMA) - Emergency Management handles emergency planning and administration of the Community Right-to-Know Act. This Act requires chemical inventory reporting to county and local emergency response organizations. Contact your county government emergency management coordinator and local fire department for details. Information on community right-to-know and registration of hazards click [here](#).

**DMA contact for community right-to-know and hazards inquiries:** [Susan Knudson](#), (608) 242-3221

#### LOCAL NATURAL GAS/ALTERNATIVE FUEL AND ELECTRIC POWER SERVICES

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Early contact with local power companies is critical to avoid huge cost additions to the project later on. Not all locations in Wisconsin have adequate local connections to supply the needs of a new facility without significant upgrades (See Appendix D).

## TRANSPORTATION – TRUCKS AND RAIL

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Biofuel refining facilities depend upon transportation services. Trucks and railcars generally transport the inputs for these plants such as agriculture, forestry, chemicals and solid waste products to be converted into ethanol or biodiesel. Due the number trucks and railcars needed by these facilities, it is important to consider the location of roadways and rail access points into the production facility. If the refining facility is near a municipal airport, the height of the buildings and grain storage units should not exceed the flight path of approaching and departing aircraft. Facility planners will need to contact their local municipal airport or the Federal Aviation Administration (FAA) for height restrictions.

### Road Access

Depending upon the jurisdiction of the street, road, or state highway that your plant is located on, a driveway permit maybe required from the local municipality, county, or state transportation agency. Access issues include considerations for potential intersection improvements to facilitate safety of employees, and deliveries to and from the processing plant. Due to the weight and number of the trucks leaving and entering the facility, pavement conditions for both the intersection and access road may also have to be improved. Also, the access road or street must have adequate drainage for stormwater. In some situations, a storm water detention or retention pond may have to be constructed, often serving as means to control storm water for both the biofuel plant and roadway.



Source MC/DOT - Firehouse

During the construction of biofuel refineries, large or long structural building components and heavy processing equipment transported by a truck may require an oversize/overweight permit if the load is over 80,000 pounds and exceeds a total length of 65 feet (tractor and trailer combination). Inbound and outbound raw materials and finished products are limited to the 80,000 pound weight limit for trucks.



### Rail Access

When considering the use of rail service for a biofuel operation, it is important to contact Class 1 rail service providers, and regional or local railroads to determine their capacity and willingness to serve the facility through a rail spur. Railroad service providers have specific track, switch, and geometric requirements for the layout of a rail spur that meet their operational needs. The rail spur for a biofuel plant may crossover local, county or state highways which will require a rail crossing authorization from the Office of the Commissioner of Railroads (OCR). The OCR enforces regulations related to railway safety and investigates the safety of highway and rail crossings. More information on the OCR can be accessed by clicking [here](#).

**Contact for Federal Aviation Administration (FAA) for height restrictions:** (414) 486-2920  
**DOT contact for transportation inquiries:** [Dennis Leong](#), 608-266-9910

## FEEDSTOCK AVAILABILITY AND SUSTAINABILITY

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As the industry continues to grow, it will be important for businesses to evaluate the site location based on available feedstocks. Consideration should be given to proximity of other biofuel facilities, to reduce competition for feedstock (Appendices B, C and D). Do not assume that locations with access to feedstocks will be ideal. Facilities are encouraged to communicate with potential feedstock suppliers to

outline feedstock requirements and volume. Other considerations are feedstock prices, competition from other businesses, sufficient availability and handling, proximity, seasonality and collection. The state recommends evaluation of a site and feedstock availability through completion of a site specific feasibility study.

## IV. DESIGN, CONSTRUCTION & INSPECTION OF FACILITIES

Biodiesel production involves flammable and combustible liquids, hazardous chemicals, and a chemical process. Commercial biodiesel production generally occurs in occupancies that have employees or are frequented by the public. Facilities such as this must comply with [Comm Chapter \(Ch.\) 60 – 65, Wis. Adm. Code](#) relating to Wisconsin Commercial Building Code (building construction, electrical, etc.), [Comm Ch. 14, Wis. Adm. Code](#) relating to Fire Prevention (general fire safety), and [Comm Ch. 10, Wis. Adm. Code](#) relating to Flammable and Combustible Liquids. The purpose of these codes is to protect the health, safety, and welfare of the public and employees by establishing minimum standards for the design, construction, maintenance, and inspection of public buildings and places of employment. Fire sources and “fire load” are a concern where flammable and combustible liquids are stored or used, especially in situations where hazardous chemicals are also stored and used. **Even if a biodiesel production facility is not frequented by the public certain building code and storage tank regulations still apply**

The information below will focus on the [Comm Ch. 10, Wis. Adm. Code](#) tank regulatory issues, but also include brief comment and references to other federal and state regulations that may apply. This information is not intended to summarize all local, state or federal regulations that may apply to a biodiesel refining facility.

### TANK STORAGE REGULATIONS

The scope and application of [Comm Ch. 10, Wis. Adm. Code](#) applies to aboveground tanks of 110 gallon capacity and greater and underground tanks 60 gallon capacity and greater. Intermediate Bulk Containers (IBCs) also fall under the scope of this code. Portable containers, such as barrels, are regulated under current fire codes. [Comm Ch. 10, Wis. Adm. Code](#) adopts various national standards. The [National Fire Protection Association \(NFPA\) Chapter 30](#) is the primary design and installation standard for tanks. The most common tank designs are referenced in [NFPA 30](#) from [Underwriters Laboratory \(UL\) 142](#) and [American Petroleum Institute \(API\) 650](#).

A process tank is an integral part of a frequent production process through which there is a steady, variable, recurring, or intermittent flow of materials during the operation of the process. The tank is utilized to carry out or control the heating, cooling, mixing, blending, separating, metering, or chemical action of materials. Process tanks are designed specifically for an application and are constructed to engineering and design standards by professional engineers. A process tank is considered a storage tank if the vessel is used as storage for a period exceeding 96 hours after the primary process is completed.



Flammable and combustible liquids are regulated under [Comm Ch. 10, Wis.](#)

[Adm. Code](#) by flash point, **not** by petroleum, vegetable or other origination. As the combustible liquids' flash point increases, the regulatory requirements become more relaxed. Biodiesel may originate from a vegetable or animal oil source. While these oils may have a flashpoint of 450°F or higher, biodiesel has a flashpoint around 266 °F, and is still within the Class IIIB range. Biodiesel blends will have lower flashpoints, typically within the Class II to IIIA range; this means that regulations are stricter.

### Flammable vs. Combustible vs. Hazardous Substances

The production of biodiesel involves both flammable liquids (i.e. methanol) and combustible liquids (i.e. biodiesel). A common misconception is that there is little fire risk involved in biodiesel production because primary ingredients are vegetable-based materials. This is not true. Fire risk assessment professionals address fire risk beyond the initial ease of ignition. Flash point is only one measure of the relative hazard of any flammable or combustible liquid. Miscibility, vapor pressure, and viscosity must also be considered.

**Methanol:** (CH<sub>3</sub>OH) - also referred to as methyl alcohol, is a Class I flammable liquid with a low flashpoint and can ignite from static charge as well as by flame or spark. Methanol burns without a visible flame which greatly reduces detection ability. Water is not an efficient extinguishing agent against a methanol fire.

**Methoxide:** (Na O-CH<sub>3</sub>) - Sodium Methoxide - Sodium Methylate is an organic salt, in pure form a white solid material. In biodiesel production, "methoxide" is a product of mixing methanol and sodium hydroxide yielding a solution of sodium methoxide in methanol and a significant amount of heat. Sodium Methoxide in methanol is a liquid that is highly toxic and explosive. Making sodium methoxide is the most dangerous step when making biodiesel.

**Biodiesel: (B100):** is a Class IIIB combustible liquid. It is not as easily ignited as the lower class liquids, Class IIIB fires burn with significantly higher BTUs and are difficult to extinguish.

The biodiesel refining process produces a byproduct that is referred to as glycerin or glycerol. Many people believe that glycerol does not have a flash point, however technical references indicate that glycerol has a flashpoint of 320° F and an auto ignition point of 739° F. The biodiesel refining byproduct is not pure glycerol because it also contains methanol. Methanol or methyl alcohol has a flash point of 52° F. The amount of methanol in the glycerol byproduct will vary with the refining process, but flammable and explosive methanol vapors emitted are an explosion and fire safety concern. The Commerce tank program has taken the position that tanks storing the glycerin byproduct must be listed and configured for a Class I flammable liquid, including venting to the outside. Commerce will recognize engineering that will provide control of the vapors for recovery processes, and this process must be in tank plan submittals. The containment requirement for a Class IIIB liquid applies.

### Overview of Tank Storage Regulations and Related Flammability Concerns

**Intermediate Bulk Containers (IBCs):** IBCs are designed for transportation, and with some exceptions, not for storage or dispensing. An IBC in a building raises different concerns than IBCs for transportation. Code does not allow IBCs in buildings that are connected to the incoming or outgoing mode of transportation. IBCs that are listed for Class I flammable liquid are the only type of IBC that methanol may be stored or shipped in.

Electrostatic charges are easily generated and accumulated on the plastic surfaces of IBCs when materials are moved along plastic parts such as bulk container walls, filling ducts, outlets, etc. Friction is the source of electrostatic charging during filling or emptying of an IBC. Alternatively, induction can cause charge separation resulting in charging of an IBC surface when it is moved closely to a charged body. This

effect occurs, for example, in warehouses or filling areas. Separated/generated charges, by friction or induction, will remain on the surface of an IBC until grounding. Electrostatic discharge (ESD) could lead to spark induced fire or explosion, when the charged IBC is grounded accidentally or bonded to equipment at a different electric potential.

**Stationary Storage Tanks:** A key regulatory requirement is that tanks must be compatible with the product stored and must be listed by an organization such as UL or Southwest Research Institute (SWRI). This encompasses both chemical and physical compatibility under normal use and fire exposure situations. In some situations, engineered controls such as fire sprinkler systems can be used to supplant material or design compatibility under fire exposure.

Class I flammable liquid tanks, such as for methanol, must be built to [UL 142](#) standards. A byproduct of biodiesel production is glycerol. The components of glycerol vary with the process and storage time; the consistency of the product varies from a liquid to semi-liquid. Commerce has taken the position that the glycerol tank must be built to [UL 142](#) standards for a Class I flammable liquid because glycerol may contain methanol and the byproduct will emit flammable methanol vapors. The level of methanol and vapors may vary, but glycerol tank explosions related to methanol have occurred. Safety First!

Storage tanks for biodiesel processing: Commerce requires that the tank be manufactured either to a national standard such as [UL 142](#), [UL 80](#), or [API 650](#), depending on the classification of the product stored; or the design be certified by a Wisconsin Certified Tank Installer or a Professional Engineer (PE) to provide equivalent or better construction integrity.

All aboveground tanks storing a Class I, II or IIIA liquid must have secondary containment in the form of a dike, remote impounding, or a double-wall tank. For tanks located inside a building, the room may be used as containment if a release from any tank or IBC will not move outside the room or to an ignition source. Tanks regulated by [Comm Ch. 10, Wis. Adm. Code](#) have tank-to-tank, property line, public-way, and building set-back requirements dependent upon the class of product stored and the size of the tank.

Prior to installation of the regulated tanks, the tank system must have the [Comm Ch. 10, Wis. Adm. Code](#) required plan approval. Submittal fees are in [Comm Ch. 2, Subchapter IV, Wis. Adm. Code](#). The tank system installation must also be supervised by a Wisconsin Certified Tank Installer or a PE.

**Tank Registration:** Tanks used for the storage of biodiesel or any of the products regulated under [Comm Ch. 10, Wis. Adm. Code](#) used in the production of the biodiesel, with the exception of the process tanks, must be registered with the Commerce.

**Most frequent regulatory noncompliance issues addressed by Bureau of Storage Tank inspectors:**

- Failure to submit plan for approval prior to installation of storage tanks and process system
- Failure to use a Wisconsin Certified Tank Installer or a PE to supervise the installation of storage tank systems.
- Use of plastic tanks for the storage of ethanol and B100 in a building without sprinklers.
- Glycerin byproduct tank not a [UL 142](#) listed or engineered system tank.
- Failure to provide appropriate secondary containment or diking for tank storage.

**Commerce contact for storage tank regulation inquiries:** [Sheldon Schall](#), (608) 266-0956

## WISCONSIN BUILDING CODES

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Flammable and combustible liquids are classified as hazardous materials by the 2000 International Building Code (IBC). IBC Section 414 - Hazardous Materials Requirements apply to biodiesel facilities. If the quantity of biodiesel production materials exceed those allowed by IBC Table 307.7(1), and are not resolved by control areas per IBC 414.2, then the building would be classified an Hazardous “H” occupancy by the IBC. For flammable and combustible liquids, an H-2 occupancy would apply where the materials are used in an open condition and an H-3 occupancy where used in a closed condition. The building would need to comply with the H occupancy requirements of the code plus the specific requirement of IBC 415 for hazardous occupancies.

The building code may require building setbacks, rated fire separations, fire sprinklers, special ventilation, explosion control, spill control, local emergency alarms, reduced exit distance, etc depending on building design. Electrical classification may be, Class I, Division I or Division II depending upon process and equipment locations.

Non-storage containers of hazardous materials are required to meet approved standards per International Fire Code (IFC), Section 2703.2.1.

Generally, state building plan approval prior to any building changes or operation would be required as follows:

- Any new, added, or altered F-1 or S-1 building of 25,000 cubic feet total volume.
- Any new, added, or altered H occupancy of any volume.
- Any change of occupancy classification for which the code has new requirements that require alterations for buildings of the above size.



Source: RPI Dept. of Public Safety

If the total building volume exceeds 50,000 cubic feet, plans must be prepared by a Wisconsin-licensed architect or engineer. State approval is required prior to obtaining local building permits. State plan approval will take a maximum of 15 business days after the submittal of all required materials.

**Commerce contact for building code inquiries:** [Tom Kasper](#), (608) 267-7586

## WISCONSIN FIRE CODES

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[Comm Ch. 14, Wis. Adm. Code](#) is the code that protects the public, employees, firefighters and property from the hazards of fire and explosion by establishing minimum standards for the use, operation, maintenance and inspection of buildings, structures and premises. While the storage tank and building codes address fire safety in initial design and construction, the fire code is the primary code for ongoing use and maintenance.

**Portable Containers:** Storing and dispensing flammable or combustible liquids from portable containers such as 55 gallon drums or barrels is regulated by the fire codes. [NFPA 1](#), [NFPA 30](#) and/or the IFC are the standards that generally apply to portable container storage and handling. Proper use and handling of portable containers is one of the inspection items that local fire departments focus on during their annual fire inspections. Specific questions relating to the proper storage of portable containers should be referred to the local fire department.

**Contact for fire code and portable container storage inquiries:** [Joe Hertel](#), (608) 266-5649

## V. Business Operation Considerations

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### WISCONSIN WEIGHTS AND MEASURES LICENSE

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If a biodiesel or ethanol facility has a vehicle scale, is performing service work on weighing or measuring devices, or has LPG meters, project developers will need to obtain licenses for each from the Department of Agriculture, Trade and Consumer Protection (DATCP) – Weights and Measures to ensure compliance and accuracy of the measuring devices for products coming in and out of the plant. Please click [here](#) for more information.

**DATCP contact for weights and measures inquiries:** [Judy Cardin](#), (608) 224-4945

### STATE BIOFUEL TAX REGULATIONS

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Ethanol and biodiesel are considered motor vehicle fuels for Wisconsin excise tax purposes. When this fuel moves within the terminal infrastructure, it is necessary that producers become licensed as suppliers. You must obtain a motor vehicle fuel tax license from the Department of Revenue if you want to act as a "supplier" or "restricted supplier" of motor vehicle fuel in Wisconsin [[Sections 73.03\(50\)](#) and [78.09, Wis. Stats.](#)]. Suppliers are required to file monthly tax reports with the DOR and pay any appropriate Motor Vehicle Fuel Tax and Petroleum Inspection Fees.

However, some untaxed non-petroleum products are often blended with taxed motor vehicle fuel after the terminal or refinery rack. Included in these untaxed ("below-the-rack") products are recycled vegetable oil which is included on the same form used for reporting taxes on biodiesel products.

Biodiesel is subject to the Wisconsin Motor Fuel Tax and/or Petroleum Inspection Fee by the company who blends the biodiesel with highway diesel or by the company who places the biodiesel directly into the supply tank of a licensed motor vehicle. The tax is reported on the DOR [Form MF-017 – Blenders Fuel Report and Registration](#).

Persons who want a fuel license must hold a Business Tax Registration (BTR) Certificate [[sec. 73.03\(50\), Wis. Stats.](#)]. The BTR certificate and fuel license are issued by the Registration Unit of the Department of Revenue, in Madison. **There is no charge for the fuel license.** However, there is a one-time \$20 charge for the BTR certificate. The certificate is renewable every two years for \$10.

Generally when alternate fuel is purchased for off-road use, the alternate fuel tax is not charged. However, if you have paid the fuel tax on alternate fuel used for off-road purposes, you can obtain a refund of the tax paid by sending a letter to the Department explaining the circumstances and enclosing the invoice showing your name, the name of the supplier, the date you purchased the alternate fuel, the number of gallons purchased, and the amount of the Wisconsin alternate fuel tax paid.

**More Information:** [Motor Fuel Taxes](#), [Petroleum Inspection Fees](#), [Alternate Fuel Tax](#), [Fuel Tax Forms](#)

**DOR Contact for tax related inquiries:** [Charles Zwettler](#), 608-261-8985  
[Registration Unit](#), (608) 261-6435 or (608) 266-2776  
[Excise Tax Section](#), (608) 266-3223 or (608) 266-0064

## FEDERAL BIOFUEL TAX REGULATIONS

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### Product Registration with the Internal Revenue Service (IRS)

Facilities must comply with the following federal tax provisions:

- Blend alcohol with gasoline, diesel fuel, or kerosene to produce an alcohol fuel mixture outside the bulk transfer terminal system must pay the gasoline tax on the volume of alcohol in the mixture - [Form 720](#). You also must be registered with the IRS as a blender - [Form 637](#).
- Blend biodiesel with undyed diesel fuel to produce a biodiesel mixture outside the bulk transfer terminal system must pay the diesel fuel tax on the volume of biodiesel in the mixture - [Form 720](#). You also must be registered with the IRS as a blender - [Form 637](#).
- Producers and importers of straight alcohol or straight biodiesel must be registered with the IRS - [Form 637](#).



More Information on IRS Forms:

[Form 637: Application for Registration \(For Certain Excise Tax Activities\)](#)

[Form 720: Quarterly Federal Excise Tax Return](#)

[Form 720X: Amended Quarterly Federal Excise Tax Return](#)

More information on federal biofuel tax regulations: [Fuel Tax Credits and Refunds](#)

You may receive help with IRS letters or resolve tax account issues by phone toll free at 1-800-829-1040 (individuals) or 1-800-829-4933 (businesses). Otherwise contact the offices below.

City	Street Address	Telephone
Appleton	1901B East Capitol Dr.	(920) 738-5699
Eau Claire	2403 Folsom St.	(715) 836-8750
Green Bay	1920 Libal St.	(920) 433-1913
LaCrosse	425 State St.	(608) 785-0246
Madison	545 Zor Shrine Pl.	(608) 829-5827
Milwaukee	211 W. Wisconsin Ave.	(414) 231-2100
Rothschild	10208 Park Plaza	(715) 241-7077

### Special Occupations Tax

If ethanol/distilled spirits are produced or used, businesses must register with the U.S. Bureau of Alcohol Tobacco and Firearms (BATF) in accordance with [27 CFR Part 1--Basic Permit Requirements](#) under the [Federal Alcohol Administration Act Subpart 24.4](#).

## FEDERAL BIOFUEL REGISTRATION

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### Manufacturer or Importer Registration

The Clean Air Act provides EPA with the authority to regulate fuels and fuel additives in order to reduce the risk to public health from exposure to emissions. Regulations require that each manufacturer or importer of gasoline, diesel fuel (including biodiesel), or a fuel additive have its product registered by EPA prior to its introduction into commerce. Registration involves providing a chemical description of the product and certain technical, marketing, and health-effects information. In certain cases, health-effects testing are required for a product to maintain its registration or before a new product can be registered. EPA uses this information to identify products whose emissions may pose an unreasonable risk to public health, warranting further investigation and/or regulation. Click [here](#) for more information on EPA biodiesel or ethanol manufacturer information.

EPA contact for biodiesel or ethanol registration inquiries: [Jim Caldwell](#), (202) 343-9303

### Biodiesel Fuel Registration for Ultra Low Sulfur Diesel Refinery

Companies and facilities must register for the Reformulated Gasoline (RFG) and Anti-dumping program (40 CFR 80 Subparts D&E). Producers and importers of reformulated gasoline (RBOB or Reformulated Gasoline Blend stock for Oxygenate Blending), conventional gasoline, or applicable blend stocks must fill out and submit these forms to EPA. For more information on this regulation please click [here](#).

EPA Contact for registration inquiries: [John Weihrauch](#)

## LICENSING FACILITIES FOR FEED PRODUCTS

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### State Feed License

Facilities should become familiar with the Wisconsin Feed Law, [Chapter 94.72, Wis. Stats](#) and the Wisconsin Feed Rule, [ATCP 42, Wis. Adm. Code](#). An annual license is required for any person who manufactures or distributes commercial feed in Wisconsin (i.e. dried distillers grains). A person or business distributing feed products from another Wisconsin licensed company is exempt from the rule. Your company is required to complete and submit annual tonnage reports, and pay fees of 25 cents per ton of feed distributed in Wisconsin during the previous calendar year.



Source: Badger State Ethanol

DATCP contact for commercial feed registration information:

Technical Information - [Eric Nelson](#), (608) 224-4539 or [Patricia Kandziora](#), (608) 224- 4542

Licensing - [Patricia Roelofs](#), (608) 224-4537

### Federal Feed License

The U.S. Department of Agriculture (USDA): Animal and Plant Health Inspection Service (APHIS) requires registration of byproducts for use as animal feed, meal, or as human-grade protein supplement, glycerol in cosmetics or pharmaceuticals, etc. For more information of USDA feed licensing click [here](#).

USDA Contact for feed registration information: [APHIS](#), (301) 734-7833

## MOTOR FUEL QUALITY REGULATIONS

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As biofuels become more integrated into the petroleum market, it will be vital to ensure that commercial biofuel is of high quality. State and national programs have been implemented to ensure quality biofuels in the market.

### State Fuel Quality, ASTM Standards and Testing

The Department of Commerce Petroleum Products and Tanks Bureau has motor fuel and petroleum product quality assurance responsibilities within [Comm 48, Wis. Adm. Code](#). While the code is titled “Petroleum Products,” it covers heating and motor fuels regardless of the source. The current language adopts the existing American Society for Testing Materials (ASTM) standard. According to [Comm 48, Wis. Adm. Code](#), biodiesel fuel meeting the requirements specified in [ASTM D6751](#) may be added to diesel fuel meeting the requirements specified in [ASTM D975](#). Ethanol is held to the [ASTM D4806](#) standard. [Comm 48, Wis. Adm. Code](#) will adopt more recent editions of ASTM standards as they become available on specifications for fuel oils, aviation gasoline, diesel fuel, kerosene, automobile gasoline, unleaded aviation gasoline and biodiesel. The ASTM Standards for aviation turbine fuel, denatured ethanol (used for gasoline blending), and E85 will be added as [Comm 48, Wis. Adm. Code](#). Click [here](#) for more information.

**Commerce contact for fuel quality inquiries:** Madison Headquarters, (608) 266-7874

The Department of Commerce is responsible for fuel quality inspections; the Department of Agriculture, Trade and Consumer Protection (DATCP) is responsible for measurement accuracy at all distribution points through their Weights and Measures Program. Click [here](#) for more information on the Weights and Measures program.

**DATCP contact for measurement accuracy inquiries:** [Judy Cardin](#), (608) 224-4945

### National BQ-9000 Biodiesel Quality Program



The National Biodiesel Accreditation Program is a cooperative, voluntary program for the accreditation of producers and marketers of biodiesel fuel called BQ-9000. Assuring compliance with [ASTM D6751](#) is one of the goals of the BQ-9000. This program includes accreditation of producers, and certification of marketers - following a successful formal review and audit of the capacity and commitment of an applicant to produce or market biodiesel fuel that complies with [ASTM D6751](#). The program is a unique combination of the ASTM standard for biodiesel, and a quality systems program that includes storage, sampling, testing, blending, shipping, distribution, and fuel management practices. The Wisconsin Department of Commerce will accept this accreditation and certification as adequate assurance of meeting the requirements specified in [ASTM D6751](#). For more information on the BQ-9000 program click [here](#).

**Contact for BQ-9000 Accreditation inquiries:**  
[BQ-9000 Program Headquarters](#), (573) 635-3893

## VI. Appendices

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### Appendix A: Definitions

**Biodiesel:** a fuel that is comprised of monoalkyl esters of long chain fatty acids derived from vegetable oils or animal fats. (Wis. Stat. 168.14(2m)(a)) Biodiesel (B100) is a class IIIB combustible liquid.

**Class I / Flammable Liquid:** Any liquid that has a closed-cup flash point below 100°F. Flammable liquids are classified as Class I as follows: *Class I Liquid* — any liquid that has a closed-cup flash point below 100°F and a Reid vapor pressure not exceeding 40 psi at 100°F, as determined by ASTM D 323, Reid Method. Class I liquids are further classified as: *Class IA Liquids* — those liquids that have flash points below 73°F and boiling points below 100°F; *Class IB liquids* — those liquids that have flash points below 73°F and boiling points at or above 100°F; *Class IC liquids* — those liquids that have flash points at or above 73°F, but below 100°F.

**Class II & III / Combustible Liquid:** Any liquid that has a closed-cup flash point at or above 100°F. Combustible liquids are classified as Class II or Class III as follows: *Class II Liquid* — any liquid that has a flash point at or above 100°F and below 140°F; *Class IIIA* — any liquid that has a flash point at or above 140°F, but below 200°F; *Class IIIB* — any liquid that has a flash point at or above 200°F.

**Glycerin:** The major byproduct of biodiesel production, also known as glycerol. It is a colorless, odorless, hygroscopic, and sweet tasting viscous liquid. Glycerin has three hydrophilic alcohol hydroxyl groups (-OH) that are responsible for its solubility in water.

**Greenfield Site:** Land on which no urban development has previously taken place; usually understood to be on the periphery of an existing built-up area.

**High Capacity Property:** One property on which a high capacity well system exists or is to be constructed. NR 812.07(52), Wisconsin Administrative Code

**High Capacity Well System:** One or more wells, drill holes, or mine shafts to be used to withdraw water for any purpose on one property if the total pumping or flowing capacity of all wells, drill holes, or mine shafts on one property is 70 or more gallons per minute based on the pump curve at the lowest system pressure setting, or based on the flow rate. Section NR 812.07(53) Wisconsin Administrative Code

**High Capacity Well:** A well constructed on a high capacity property. (Section NR 812.07(51) Wisconsin Administrative Code)

**Methanol:** CH<sub>3</sub>OH - A volatile colorless alcohol used as a fuel, solvent, and to make methoxide in biodiesel production.

**Methoxide:** NaO-CH<sub>3</sub> Sodium Methoxide - is an organic salt, in pure form a white solid material. In biodiesel production, "methoxide" is the product of mixing methanol and sodium hydroxide yielding a solution of sodium methoxide in methanol and a significant amount of heat.

**Motor fuel:** A flammable or combustible liquid which is used in the operation of an internal combustion engine, and which is regulated by either the product specifications in Administrative Code. 48.500 subch. [II](#) or the labeling requirements in [s. Comm 48.580](#).

**One Property:** All contiguous land controlled by one owner, lessee, or any other person having a possessory interest. Lands under single ownership bisected by highways or railroad right-of-ways are considered contiguous. (Section NR 812.07(68), Wisconsin Administrative Code)

**Petroleum products, products of petroleum and products:** Gasoline, gasoline/alcohol-ether blends, aviation gasoline, automotive gasoline, kerosene, fuel oil, burner fuel and diesel fuel.

**Wastewater:** Water that carries wastes from homes, businesses, and industries; a mixture of water and dissolved or suspended solids

**Sodium Hydroxide:** NaOH, lye, caustic soda. A metallic base, strongly alkaline and extremely corrosive. Mixing with fluids usually causes heat, and can create enough heat to ignite flammables (such as methanol). A main reactant in biodiesel production.

## Appendix B: List of Links in Guideline Document

Online Access to guideline document: <http://power.wisconsin.gov>.

### CONSIDERING THE ENVIRONMENT

- DNR Permit Primer: <http://www.dnr.state.wi.us/permitprimer/>
- DNR State Service Center Offices: <http://dnr.wi.gov/org/caer/cs/ServiceCenter/locations.htm>

### Water Regulations

- Chapter 30 Wis. Stats.- Navigable Water, harbors and Navigation:  
<http://nxt.legis.state.wi.us/nxt/gateway.dll?f=templates&fn=default.htm&vid=WI:Default&d=stats&id=Ch.%2030>
- Waterways and Wetlands: <http://dnr.wi.gov/org/water/fhp/waterway/>
- Drinking & Ground Water
  - Safe Drinking Water Act: <http://www.epa.gov/safewater/sdwa/index.html>
  - High Capacity well application - Form 3300-256:  
<http://dnr.wi.gov/org/water/dwg/Forms/3300256.pdf>
  - Chapter NR 812 Wis. Adm. Code - Well Construction and Pump Installation:  
<http://www.legis.state.wi.us/rsb/code/nr/nr812.pdf>
  - Capacity Development Approval - Form 3300-246:  
<http://dnr.wi.gov/org/water/dwg/CapDev/3300246.pdf>
  - Chapter NR 809, Subchapter VIII, Wis. Adm. Code – Safe Drinking Water:  
<http://nxt.legis.state.wi.us/nxt/gateway.dll?f=templates&fn=default.htm&vid=WI:Default&d=code&jd=ch.%20nr%20809>
  - Section NR 809.931, Wis. Adm. Code - Safe Drinking Water:  
<http://nxt.legis.state.wi.us/nxt/gateway.dll?f=templates&fn=default.htm&vid=WI:Default&d=code&jd=ch.%20nr%20809>
- Wastewater
  - Wisconsin Pollutant Discharge Elimination System (WPDES) Permit:  
<http://www.dnr.state.wi.us/org/water/permits/wpdes.htm>
  - Industrial and Municipal Wastewater General Discharge Permits:  
<http://www.dnr.state.wi.us/org/water/wm/ww/gpindex/gpinfo.htm>
  - Types of WPDES Wastewater Permits:  
<http://dnr.wi.gov/org/water/wm/WW/PMTTYPES.HTM>
- Stormwater
  - Notice of Intent (NOI) Storm Water Discharges Associated With Land Disturbing Construction Activities General Permit - Form 3400-161:  
<http://www.dnr.state.wi.us/org/water/wm/nps/pdf/stormwater/3400161.pdf>
  - A Stormwater Pollution Prevention Plan (SWPPP) - Form 3400-167:  
<http://www.dnr.state.wi.us/org/water/wm/nps/pdf/stormwater/3400167SWPPPsummary.pdf>
  - A NOI – Industrial Stormwater discharge general permit -Form 3400-163:  
<http://dnr.wi.gov/org/water/wm/nps/pdf/stormwater/3400163industrialNOI.doc>
  - Annual facility site compliance inspection report - Form 3400-176:  
<http://dnr.wi.gov/org/water/wm/nps/pdf/stormwater/3400176.pdf>
  - Quarterly visual monitoring - Form 3400-176A:  
<http://dnr.wi.gov/org/water/wm/nps/pdf/stormwater/3400176a.pdf>
  - DNR Stormwater Program: <http://www.dnr.state.wi.us/org/water/wm/nps/stormwater.htm>
  - Safety and Buildings Soil Erosion Control/Stormwater Program:  
<http://commerce.wi.gov/SB/SB-SoilErosionControlProgram.html>

### Air Regulations

- Air Permits: <http://dnr.wi.gov/org/aw/air/permits.html>
- Chapters NR 406, Wis. Adm. Code – Construction permits: <http://www.legis.state.wi.us/rsb/code/nr/nr406.pdf>
- Chapter NR 407, Wis. Adm. Code – Operation permits: <http://nxt.legis.state.wi.us/nxt/gateway.dll?f=templates&fn=default.htm&vid=WI:Default&d=code&jd=ch.%20nr%20407>
- Chapter NR 405, Wis. Adm. Code – Prevention of Significant Deterioration: <http://www.legis.state.wi.us/rsb/code/nr/nr405.pdf>
- Indirect Source Overview: <http://www.dnr.state.wi.us/org/aw/air/modeling/indirect.htm>
- Stationary Source Overview: [http://www.dnr.state.wi.us/org/aw/air/modeling/stationary\\_source.htm](http://www.dnr.state.wi.us/org/aw/air/modeling/stationary_source.htm)
- Air Permit Program's Permitting Process: <http://www.dnr.state.wi.us/org/aw/air/permits/>
- General Overview of Construction Permit Process (flowchart): <http://www.dnr.state.wi.us/org/aw/air/permitting/downloads/process.pdf>
- EPA Technology Transfer Network Clearinghouse for Inventories and Emissions Factors: <http://www.epa.gov/ttn/chief/ap42/>

### Solid Waste Disposal

- Highlights of Wisconsin Recycling: <http://dnr.wi.gov/org/aw/wm/recycle/>

### Hazardous Waste

- Chapter NR 661, Wis. Adm. Code- Hazardous Waste Identification and Listing: <http://www.legis.state.wi.us/rsb/code/nr/nr661.pdf>
- Section NR 661.02, Wis. Adm. Code- Definition of Solid Waste: <http://www.legis.state.wi.us/rsb/code/nr/nr661.pdf>
- Section NR 661.01(3)(h), Wis. Adm. Code: <http://nxt.legis.state.wi.us/nxt/gateway.dll?f=templates&fn=default.htm&vid=WI:Default&d=code&jd=ch.%20nr%20661>
- Chapter NR 673, Wis. Adm. Code– Universal Waste Management Standards: <http://www.legis.state.wi.us/rsb/code/nr/nr673.pdf>
- Chapter NR 679, Wis. Adm. Code – Used Oil Management Standards: <http://nxt.legis.state.wi.us/nxt/gateway.dll?f=templates&fn=default.htm&vid=WI:Default&d=code&jd=ch%20nr%20679%20%20%20%20>

### Spill Prevention, Reporting, and Cleanup

- Chapter NR 706, Wis. Adm. Code – Hazardous Substance Discharge Notification and Source Confirmation Requirements: <http://www.legis.state.wi.us/rsb/code/nr/nr706.pdf>
- Chapters NR 700 -726, Wis. Adm. Code
- Federal Reportable Quantities: <http://www.epa.gov/ceppo/pubs/title3.pdf>
- <http://nxt.legis.state.wi.us/nxt/gateway.dll?f=templates&fn=default.htm&vid=WI:Default&d=code&jd=ch%20nr%20700>
- Subchapter II, Section 292.11, Wis. Stats – Remedial Action: <http://nxt.legis.state.wi.us/nxt/gateway.dll?f=templates&fn=default.htm&vid=WI:Default&d=stats&jd=292.11>
- Chapter NR 445 Wis. Adm. Code – Control of Hazardous Pollutants: <http://www.legis.state.wi.us/rsb/code/nr/nr445.pdf>
- The DNR's Spills Program: <http://www.dnr.state.wi.us/org/aw/rr/spills/index.htm>

## **SITE CONSIDERATIONS**

### Community Right-to-Know and Registration of Hazards:

- Wisconsin Emergency Management:  
<http://emergencymanagement.wi.gov/subcategory.asp?linksubcatid=39&locid=18>

#### Transportation – Trucks and Rail

- Office of the Commissioner of Railroads (OCR): <http://ocr.wi.gov/>

#### **DESIGN, CONSTRUCTION & INSPECTION OF FACILITIES**

- Comm Chapter (Ch.) 60 – 65, Wis. Adm. Code - Commercial Building Code:  
<http://www.legis.state.wi.us/rsb/code/comm/comm060.html>
- Comm Ch. 14, Wis. Adm. Code - Fire Prevention:  
<http://www.legis.state.wi.us/rsb/code/comm/comm014.html>
- Comm Ch. 10, Wis. Adm. Code - Flammable and Combustible Liquids:  
<http://www.legis.state.wi.us/rsb/code/comm/comm010.html>

#### Tank Storage Regulations

- Comm Ch. 10, Wis. Adm. Code - Flammable and Combustible Liquids:  
<http://www.legis.state.wi.us/rsb/code/comm/comm010.html>
- National Fire Protection Association (NFPA) Chapter 30– Flammable and Combustible Liquids Code: <http://www.nfpa.org/aboutthecodes/AboutTheCodes.asp?DocNum=30&cookie%5Ftest=1>
- Underwriters Laboratory (UL) 142 – Steel Aboveground Tanks for Flammable and Combustible Liquids: <http://ulstandardsinfont.ul.com/scopes/0142.html>
- UL 80- Steel Tanks for Oil-Burner Fuel:  
<http://ulstandardsinfont.ul.com/scopes/scopes.asp?fn=0080.html>
- Comm Ch. 2, Subchapter IV, Wis. Adm. Code – Fee Schedule:  
<http://nxt.legis.state.wi.us/nxt/gateway.dll?f=templates&fn=default.htm&vid=WI:Default&d=code&jd=ch.%20Comm%202>

#### Wisconsin Fire Codes

- Comm Ch. 14, Wis. Adm. Code - Fire Prevention:  
<http://www.legis.state.wi.us/rsb/code/comm/comm014.html>
- NFPA 1- Uniform Fire Codes-  
<http://www.nfpa.org/aboutthecodes/AboutTheCodes.asp?DocNum=1&cookie%5Ftest=1>
- NFPA Chapter 30– Flammable and Combustible Liquids Code:  
<http://www.nfpa.org/aboutthecodes/AboutTheCodes.asp?DocNum=30&cookie%5Ftest=1>

#### **BUSINESS OPERATION CONSIDERATIONS**

##### Wisconsin Weights and Measures License:

[http://www.datcp.state.wi.us/cp/consumerinfo/cp/weights\\_measures/weights\\_measures.jsp](http://www.datcp.state.wi.us/cp/consumerinfo/cp/weights_measures/weights_measures.jsp)

##### State Biofuel Tax Regulations

- Sections 73.03(50) Wis. Stats. – Business Registration:  
<http://nxt.legis.state.wi.us/nxt/gateway.dll?f=templates&fn=default.htm&vid=WI:Default&d=stats&jd=73.03>
- Section 78.09, Wis. Stats.- Supplier and Export Licenses:  
<http://nxt.legis.state.wi.us/nxt/gateway.dll?f=templates&fn=default.htm&vid=WI:Default&d=stats&jd=78.09>
- Form MF-017 – Blenders Fuel Report and Registration: <http://www.revenue.wi.gov/forms/excise/mf-017f.pdf>
- Motor Fuel Taxes: <http://www.revenue.wi.gov/faqs/ise/mofuel.html>
- Petroleum Inspection Fees: <http://www.revenue.wi.gov/faqs/ise/piffee.html>
- Alternate Fuel Tax: <http://www.revenue.wi.gov/faqs/ise/altfuel.html>

- Fuel Tax Forms: <http://www.revenue.wi.gov/forms/excise/index-f.html>

#### Federal Biofuel Tax Regulations

- Product Registration with the Internal Revenue Service (IRS)
  - Form 637: Application for Registration (For Certain Excise Tax Activities): <http://www.revenue.wi.gov/forms/excise/index-f.html>
  - Form 720: Quarterly Federal Excise Tax Return: <http://www.irs.gov/pub/irs-pdf/f720.pdf>
  - Form 720X: Amended Quarterly Federal Excise Tax Return: <http://www.irs.gov/pub/irs-pdf/f720x.pdf>
  - Fuel Tax Credits and Refunds: <http://www.irs.gov/publications/p510/ch02.html>
- Special Occupations Tax
  - [http://www.wineinstitute.org/industry/fedlaw/table\\_of\\_contents.html#part01](http://www.wineinstitute.org/industry/fedlaw/table_of_contents.html#part01)
  - Federal Alcohol Administration Act Subpart 24.4.: [http://www.wineinstitute.org/industry/fedlaw/table\\_of\\_contents.html](http://www.wineinstitute.org/industry/fedlaw/table_of_contents.html)

#### Federal Biofuel Registration

- EPA Manufacturer or Importer Registration: <http://www.epa.gov/otaq/regs/fuels/ffarsfrms.htm>
- Biodiesel Fuel Registration for Ultra Low Sulfur Diesel Refinery: <http://www.epa.gov/otaq/regs/fuels/rfgforms.htm>

#### Licensing Facilities for Feed Products

- State Feed License
  - Chapter 94.72, Wis. Stats – Commercial Feed: <http://www.legis.state.wi.us/statutes/Stat0094.pdf>
  - ATCP 42, Wis. Adm. Code – Commercial Feed: <http://www.legis.state.wi.us/rsb/code/atcp/atcp042.pdf>
- Federal Feed License
  - USDA APHIS Feed Licensing: <http://www.aphis.usda.gov/>

#### Motor Fuel Quality Regulations

- State Fuel Quality, ASTM Standards and Testing
  - Comm 48, Wis. Adm. Code – Petroleum Products: <http://nxt.legis.state.wi.us/nxt/gateway.dll?f=templates&fn=default.htm&vid=WI:Default&d=cod e&jd=ch.%20comm%2048>
  - ASTM D6751- Standard Specification for Biodiesel Fuel Blend Stock (B100) for Middle Distillate Fuels: [http://www.astm.org/cgi-bin/SoftCart.exe/DATABASE.CART/REDLINE\\_PAGES/D6751.htm?L+mystore+tkqr8077+1172509804](http://www.astm.org/cgi-bin/SoftCart.exe/DATABASE.CART/REDLINE_PAGES/D6751.htm?L+mystore+tkqr8077+1172509804)
  - ASTM D975 – Standard Specification for Diesel Fuel Oils: [http://www.astm.org/cgi-bin/SoftCart.exe/DATABASE.CART/REDLINE\\_PAGES/D975.htm?L+mystore+tkqr8077+1172509786](http://www.astm.org/cgi-bin/SoftCart.exe/DATABASE.CART/REDLINE_PAGES/D975.htm?L+mystore+tkqr8077+1172509786)
  - ASTM D4806 - Standard Specification for Denatured Fuel Ethanol for Blending with Gasoline for Use as Automotive Spark-Ignition Engine Fuel: [http://www.astm.org/cgi-bin/SoftCart.exe/DATABASE.CART/REDLINE\\_PAGES/D4806.htm?L+mystore+tkqr8077+1172509798](http://www.astm.org/cgi-bin/SoftCart.exe/DATABASE.CART/REDLINE_PAGES/D4806.htm?L+mystore+tkqr8077+1172509798)
  - Commerce Bureau of Petroleum Products and Tanks: <http://commerce.wi.gov/ER/ER-BST-RPS-Contact-Information.html>
  - DATCP Weights and Measures Program: [http://www.datcp.state.wi.us/cp/consumerinfo/cp/weights\\_measures/weights\\_measures.jsp](http://www.datcp.state.wi.us/cp/consumerinfo/cp/weights_measures/weights_measures.jsp)
- National BQ-9000 Biodiesel Quality Program: <http://www.bq-9000.org/>

## Appendix C: Checklist for Building a Biofuels Refining Facility in WI

✓	Item	DNR	Commerce	Other
<b>Site Considerations</b>				
	Initiate Community Relations			✓Local
	Contact Local / County Government Offices			✓Local
	Contact Local Utility			✓Local
	Investigate Water / Sewage Options			✓Local
	Evaluate Transportation Infrastructure			✓DOT
	Evaluate Feedstock Availability & Sustainability			✓Local
<b>Permits &amp; Regulations</b>				
<b>Water</b>				
	Wetland delineation if near Greenfield Site	✓		
	Water regulation and zoning permit if near waterway	✓		
	Submit a high capacity well application (ethanol only)	✓		
	Submit Plans & Specs for Non-Pressurized Storage Vessels (ethanol only)	✓		
	Obtain WI Pollutant Discharge Elimination permit	✓		
	Submit Notice of Intent for Storm Water Discharge Associated with Construction	✓		
	Contact Erosion Control/Storm water Program		✓	
	Submit Notice of Intent for Industrial Storm Water Discharge	✓		
<b>Air</b>				
	Apply for Air Pollution Control Construction & Operation permit	✓		
<b>WI Environmental Policy Act (WEPA)</b>				
	Determine if Environmental Assessment or Impact Review is needed	✓		
<b>Waste Disposal/Hazardous Materials</b>				
	License: Collection & Transportation Waste Carriers	✓		
	Coordinate Disposal of Hazardous Waste	✓		✓Local
	Submit Spill Prevention, Control, & Countermeasures Plan	✓		✓EPA
	Register Hazards			✓Local, DMA
<b>Design, Construction &amp; Inspection of Facilities</b>				
	Submit Tank System Plan		✓	
	Register Storage Tanks		✓	
	Register Petroleum Products		✓	
	Submit Fire Code Plan		✓	
	Obtain Rail Crossing Authorization			✓PSC

<b>Business Compliance</b>				
	Register as Manufacturer of Biofuel			✓EPA
	Register as Manufacturer of Biofuel			✓IRS
	<i>Ethanol</i> - Register for Special Occupations Tax			✓BATF
	Obtain Business Tax Registration Certificate			✓DOR
	Apply for Biofuel Blenders Fuel Report			✓DOR
	Obtain License to Sell Feed Products			✓DATCP/USDA
	Obtain License for Vehicle Scale or LPG Meter			✓DATCP
	Develop Plan to Produce Quality Fuel		✓	
<b>Funding/Incentives</b>				
	Alcohol and Biodiesel Fuel Mixture Tax Credit			✓IRS
	Small Producer Biodiesel & Ethanol Tax Credit			✓IRS
	Alternate Fuel Refueling Property Tax Credit			✓IRS
	Rural Dev. Business & Industry Program			✓USDA
	Commerce Business Development		✓	
	DATCP Grant Programs			✓DATCP
	DOT Grant Programs			✓DOT
	Local Resources			✓Local

Acronym Key:

BATF – Federal Bureau of Alcohol, Tobacco and Firearms

Commerce – WI Department of Commerce

DATCP – WI Department of Agriculture, Trade and Consumer Protection

DNR – WI Department of Natural Resources

DMA – WI Department of Military Affairs

DOR – WI Department of Revenue

DOT – WI Department of Transportation

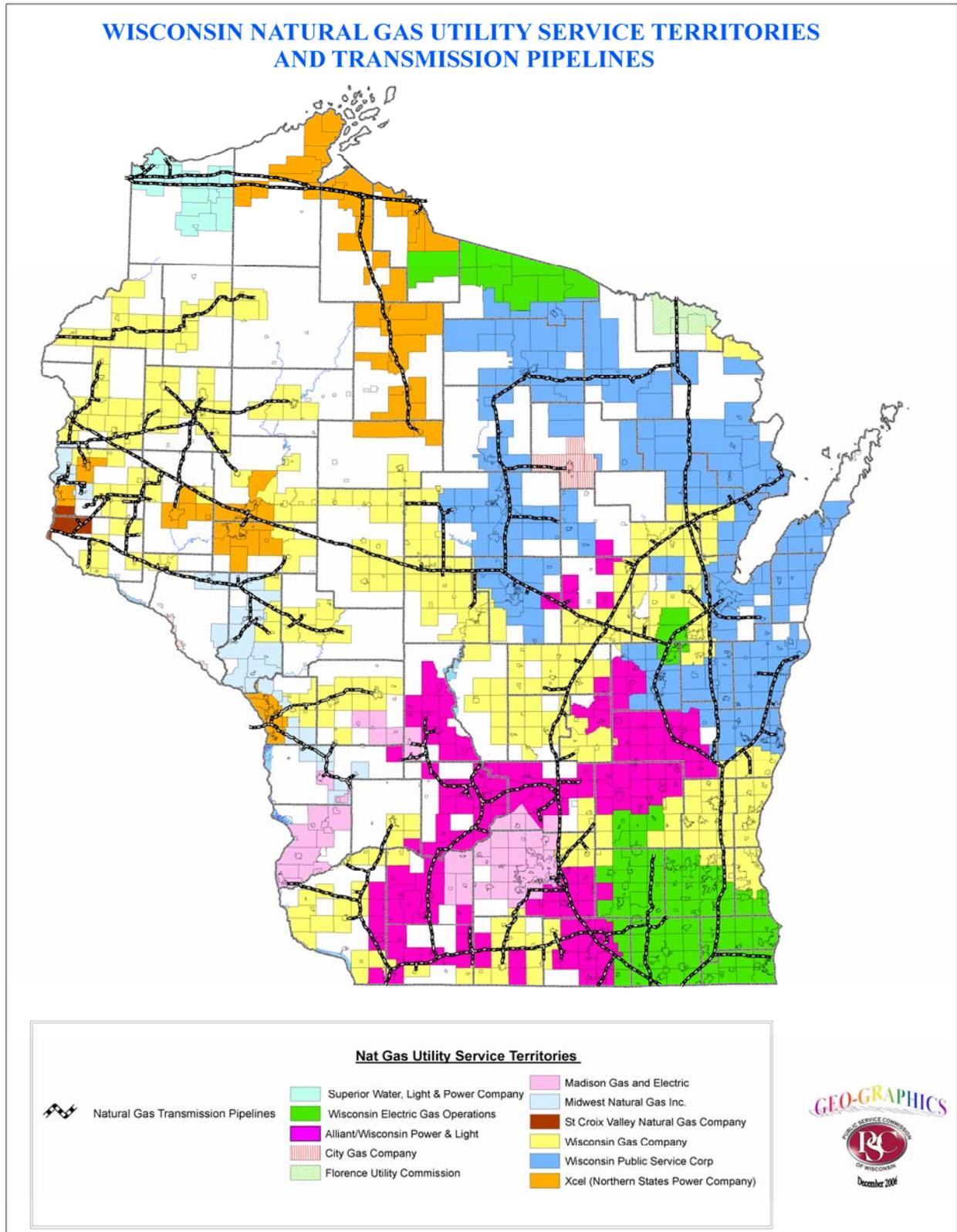
EPA – Federal Environmental Protection Agency

IRS – Federal Internal Revenue Service

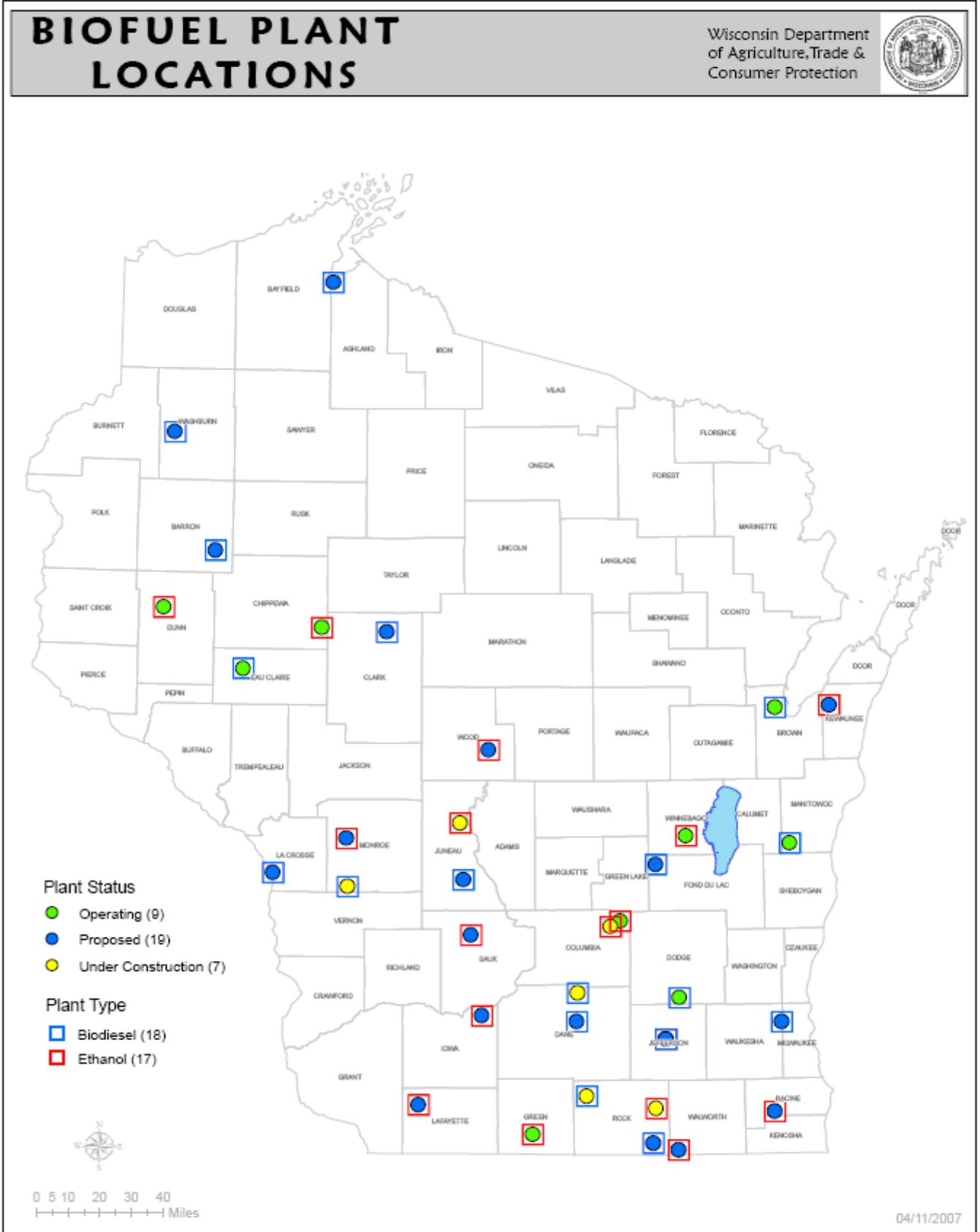
PSC – Public Service Commission

USDA – Federal Department of Agriculture

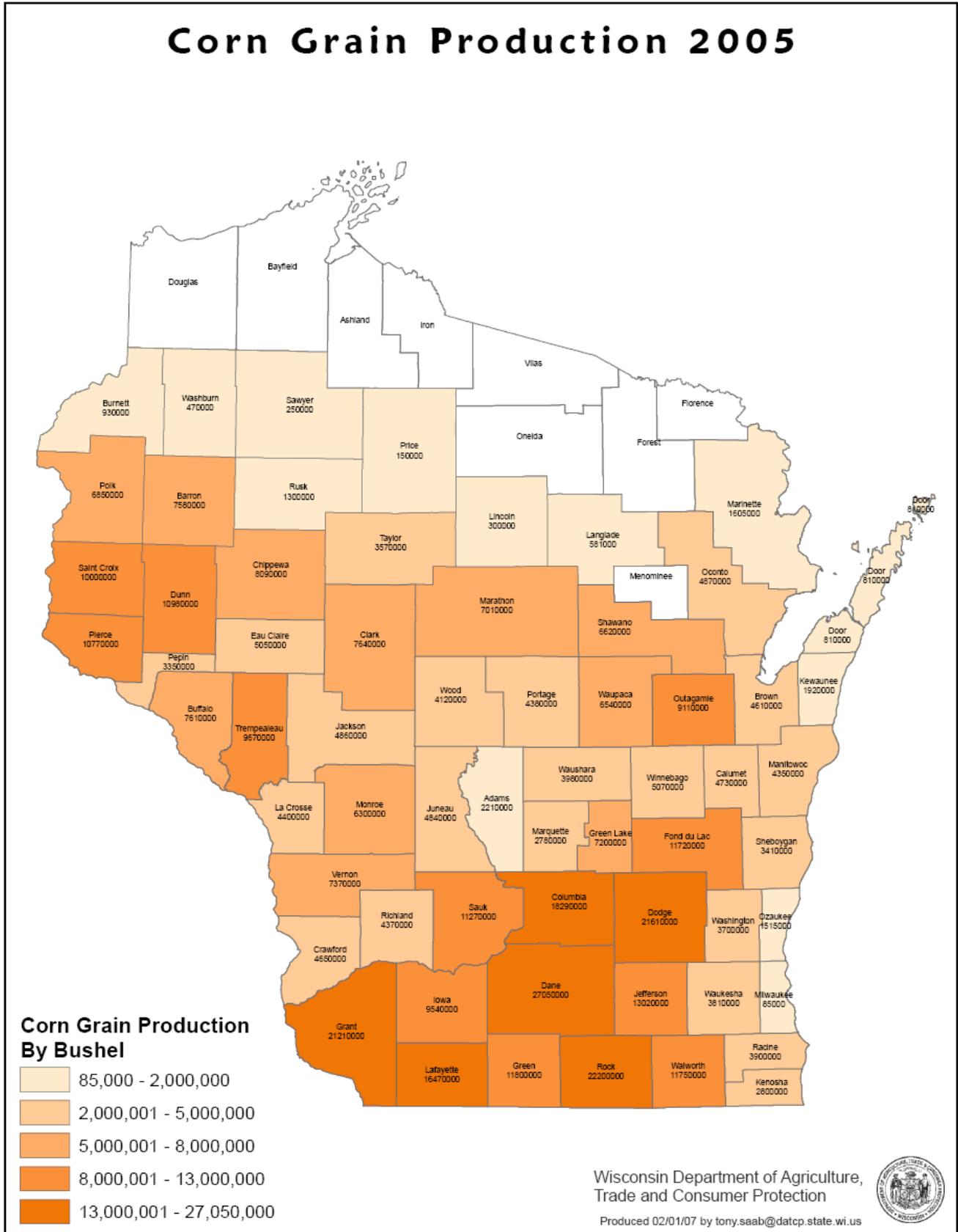
## Appendix D: Wisconsin Natural Gas Utility Service Territories



# Appendix E: Biofuel Plant Locations



## Appendix F: Corn Grain Production Map

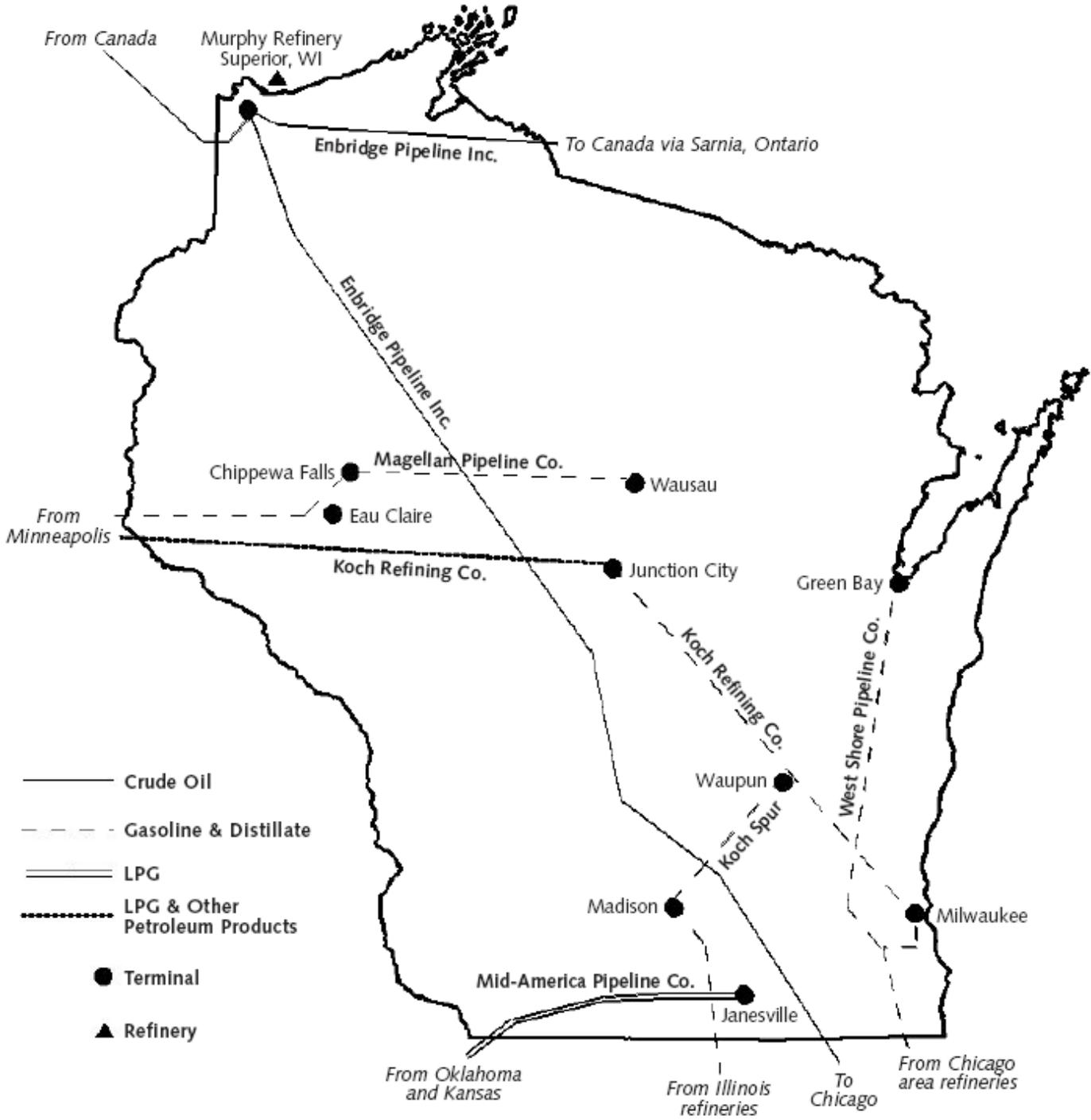




# Appendix H: Wisconsin Rail Map



## Appendix I: Wisconsin Petroleum Pipelines



Source: Wisconsin Department of Administration, Division of Energy.

## Appendix J: State Agency and Federal Agency Contacts

### **WI Office of Energy Independence**

17 West Main Street, Rm 429  
Madison, WI 53702

**Web:** <http://power.wisconsin.gov>

Contact: (608) 261-6609, [energy@wisconsin.gov](mailto:energy@wisconsin.gov)

### **WI Department of Agriculture, Trade and Consumer Protection**

2811 Agriculture Drive  
Madison, WI 53704

#### **Commercial Feed Licenses**

Web: [http://www.datcp.state.wi.us/arm/agriculture/animals/feed/com\\_feed.jsp](http://www.datcp.state.wi.us/arm/agriculture/animals/feed/com_feed.jsp)

#### *Technical Information*

Eric Nelson, (608) 224-4539, [eric.nelson@datcp.state.wi.us](mailto:eric.nelson@datcp.state.wi.us)  
Patricia Kandziora, (608) 224-4542, [patricia.kandziora@datcp.state.wi.us](mailto:patricia.kandziora@datcp.state.wi.us)

#### *Licensing*

Patricia Roelofs, (608) 224-4537, [patty.roelofs@datcp.state.wi.us](mailto:patty.roelofs@datcp.state.wi.us)

#### **Farm Center**

Roger Kasper, (608) 224-5054, [roger.kasper@datcp.state.wi.us](mailto:roger.kasper@datcp.state.wi.us)

#### **Weights and Measures Licenses**

Web: [http://www.datcp.state.wi.us/cp/consumerinfo/cp/weights\\_measures/weights\\_measures.jsp](http://www.datcp.state.wi.us/cp/consumerinfo/cp/weights_measures/weights_measures.jsp)

Judy Cardin, (608) 224-4945, [judy.cardin@datcp.state.wi.us](mailto:judy.cardin@datcp.state.wi.us)

### **WI Department of Commerce**

201 West Washington Avenue  
Madison, WI 53703

#### **Buildings Code**

Tom Kasper, (608) 267-7586, [bldgtech@commerce.wi.gov](mailto:bldgtech@commerce.wi.gov)

#### **Fuel Quality**

Madison Headquarter, (608) 266-7874

#### **Funding Opportunities**

Cheryl Gain, 608-261-7721, [Cheryl.Gain@wisconsin.gov](mailto:Cheryl.Gain@wisconsin.gov)

#### **Storage Tanks**

Web: <http://commerce.wi.gov/ER/ER-BST-RPS-Contact-Information.html>

Sheldon Schall, (608) 266-0956, [sschall@commerce.state.wi.us](mailto:sschall@commerce.state.wi.us)

#### **Portable Container Storage and Fire Code**

Joe Hertel, (608) 266-5649, [jhertel@commerce.state.wi.us](mailto:jhertel@commerce.state.wi.us)

## Commerce cont...

### **Soil Erosion Control/Stormwater Program**

Web: <http://commerce.wi.gov/SB/SB-SoilErosionControlProgram.html>

#### *Erosion Control*

Brian Ferris, (608) 785-9335, [Brian.Ferris@wisconsin.gov](mailto:Brian.Ferris@wisconsin.gov)

#### *Stormwater Projects*

Brad Johnson, (920) 492-5605, [Brad.Johnson@wisconsin.gov](mailto:Brad.Johnson@wisconsin.gov)

## **WI Department of Military Affairs**

2400 Wright Street  
Madison WI 53707

### **Community Right to Know and Hazards Registration**

William Clare, (608) 242-3220, [william.clare@dma.state.wi.us](mailto:william.clare@dma.state.wi.us)

## **WI Department of Natural Resources**

101 South Webster St.  
Madison, WI 53707

**Permit Primer:** <http://www.dnr.state.wi.us/permitprimer/>

**DNR Service Centers:** <http://dnr.wi.gov/org/caer/cs/ServiceCenter/locations.htm>

### **Air Permitting Contacts**

#### *Biodiesel*

Susan Lindem, (608) 273-5606, [susan.lindem@wisconsin.gov](mailto:susan.lindem@wisconsin.gov)

Michael Ross, (608) 785-9973, [michael.ross@wisconsin.gov](mailto:michael.ross@wisconsin.gov)

#### *Ethanol*

Don Faith III, (608) 267-3135, [Don.FaithIII@wisconsin.gov](mailto:Don.FaithIII@wisconsin.gov)

### **Capacity Development Coordinator**

Michelle Schneider, (608) 266-8470, [michelle.schneider@wisconsin.gov](mailto:michelle.schneider@wisconsin.gov)

### **Drinking Water and Ground Water**

George Mickelson, (608) 267-7652, [george.mickelson@wisconsin.gov](mailto:george.mickelson@wisconsin.gov)

Mark Putra, (608) 267-7649, [mark.putra@wisconsin.gov](mailto:mark.putra@wisconsin.gov)

### **Environmental Assessment**

Russ Anderson, (608) (608) 275-3467, [russell.anderson@dnr.state.wi.us](mailto:russell.anderson@dnr.state.wi.us)

### **Hazardous Waste**

Jill Schoen, (715) 839-2788, [Jill.schoen@wisconsin.gov](mailto:Jill.schoen@wisconsin.gov)

### **Solid Waste**

Len Polczynski, (920) 662-5170, [leonard.polczynski@wisconsin.gov](mailto:leonard.polczynski@wisconsin.gov)

### **Spill Prevention and Reporting**

24 Hour Spill Reporting Hotline 1-800-943-0003

**DNR cont...**

*Northeast Regional Spill Coordinator*

Jason Moeller, (920) 662-5492, [Jason.Moeller@wisconsin.gov](mailto:Jason.Moeller@wisconsin.gov)

*Northern Regional Spill Coordinator*

John Sager, (715) 365-8959, [John.Sager@wisconsin.gov](mailto:John.Sager@wisconsin.gov)

*Southeast Regional Spill Coordinator*

Scott Ferguson, (414) 263-8685, [Scott.Ferguson@wisconsin.gov](mailto:Scott.Ferguson@wisconsin.gov)

*South Central Regional Spill Coordinator*

Ted Amman, (608) 275-3332, [Theodore.Amman@wisconsin.gov](mailto:Theodore.Amman@wisconsin.gov)

*West Central Regional Spill Coordinator*

Thomas Kendzierski, (715) 839-1604, [Thomas.Kendzierski@wisconsin.gov](mailto:Thomas.Kendzierski@wisconsin.gov)

*Statewide Spill Team Leader*

Roxanne Chronert, (920) 662-5488, [Roxanne.Chronert@wisconsin.gov](mailto:Roxanne.Chronert@wisconsin.gov)

**WI Department of Revenue**

2135 Rimrock Road  
Madison, WI 53713

Web:

<http://www.revenue.wi.gov/faqs/ise/mofuel.html>

<http://www.revenue.wi.gov/faqs/ise/pifee.html>

<http://www.revenue.wi.gov/faqs/ise/altfuel.html>

Forms:

<http://www.revenue.wi.gov/forms/excise/index-f.html>

**Excise Tax Section**

Charles Zwettler, (608) 261-8985, [czwettle@dor.state.wi.us](mailto:czwettle@dor.state.wi.us)

(608) 266-3223 or (608) 266-0064, [excise@dor.state.wi.us](mailto:excise@dor.state.wi.us)

**Registration Unit**

(608) 261-6435 or (608) 266-2776, [sales10@dor.state.wi.us](mailto:sales10@dor.state.wi.us)

**WI Department of Transportation**

4802 Sheboygan Ave.  
Madison, WI 53707

Dennis Leong

608-266-9910

[dennis.leong@dot.state.wi.us](mailto:dennis.leong@dot.state.wi.us)

**Office of the Commissioner of Railroads**

610 N. Whitney Way room 110  
Madison WI 53708

Rodney Kreunen, (608) 261-8221, [rodney.kreunen@psc.state.wi.us](mailto:rodney.kreunen@psc.state.wi.us)

**OCR cont...**

Web: <http://ocr.wi.gov>

**WI Public Service Commission**

610 North Whitney Way. P.O. Box 7854  
Madison, Wisconsin 53707-7854

Lisa Stefanik, (608) 266-1125, [Lisa.Stefanik@psc.state.wi.us](mailto:Lisa.Stefanik@psc.state.wi.us)

**US Environmental Protection Agency**

77 W. Jackson Blvd.  
Chicago, IL 60604

**SPCC Regulations**

Dr. Barbara Carr, (312) 353-8200, [Carr.Barbara@epamail.epa.gov](mailto:Carr.Barbara@epamail.epa.gov)

**Fuel Manufacturer Registration**

Web: <http://www.epa.gov/otaq/regs/fuels/rfgforms.htm>

John Weihrauch, [weihrauch.john@epa.gov](mailto:weihrauch.john@epa.gov)

**Federal Aviation Administration**

**Facility Height Requirements**

(414) 486-2920

**US Department of Agriculture**

**Rural Development Program**

Regional contacts: <http://www.rurdev.usda.gov/wi/contact/rdoffices.htm>

Web: <http://www.rurdev.usda.gov/wi/programs/rbs/biguard.htm>

**Stevens Point State Office**

(715)345-7615, [RD.StateOffice@wi.usda.gov](mailto:RD.StateOffice@wi.usda.gov)

*Rural Development*

Kelley Oehler, 715-345-7615 , ext 141, [Kelley.Oehler@wi.usda.gov](mailto:Kelley.Oehler@wi.usda.gov)

*Value Added Producer Grant*

Barbara Brewster, (715) 345-7610 , [barbara.brewster@wi.usda.gov](mailto:barbara.brewster@wi.usda.gov)

## Appendix K: Incentives, Funding and Additional Resources for Biofuels Refining Facilities

### STATE OF WISCONSIN FUNDING AND INCENTIVE PROGRAMS

#### Wisconsin Department of Commerce

Commerce offers an array of business financing programs as well as funds for improving public facilities for economic development. For capital expansion projects demonstrating economic impact in Wisconsin, business finance options include tax credits that can be used to offset Wisconsin corporate income tax, industrial revenue bonds, customized labor training, and development loans based on Wisconsin job creation. Commerce also has funding programs for new technology development. Commerce typically participates as a “gap” financier – filling the gap in an overall project budget that includes one or more funding sources. All Commerce funding programs are accessed through Area Development Managers who cover different regions in Wisconsin. Please contact your Area Development Manager to discuss which Commerce programs may be applicable for your project. For a directory, visit the Commerce website at <http://commerce.wi.gov> and search for Area Development Manager.



Commerce contact for funding opportunities:  
Cheryl Gain, 608-261-7721, [Cheryl.Gain@wisconsin.gov](mailto:Cheryl.Gain@wisconsin.gov)

#### Wisconsin Department of Transportation



Below are brief descriptions and links to the Wisconsin Department of Transportation's (WisDOT) programs to build transportation infrastructure. All of these programs have provided assistance to some of the ethanol plant already constructed in Wisconsin.

##### **Freight Railroad Infrastructure Improvement Program**

(<http://www.dot.wisconsin.gov/localgov/aid/friip.htm>): WisDOT awards Freight Rail Infrastructure Improvement Program (FRIIP) **loans** to private industries, railroads, and local governments. FRIIP loans are used to improve rail

infrastructure and to construct new rail-served facilities - with the overall goal to boost economic development and jobs, and increase utilization of rail service.

**Freight Railroad Preservation Program** (<http://www.dot.wisconsin.gov/localgov/aid/frpp.htm>): the Freight Rail Preservation Program (FRPP) provides grants to local units of government, industries, and railroads for the purpose of preserving essential rail lines and rehabilitating them following purchase. FRPP grants can cover up to 100% of the cost of acquiring land and 80% of the costs of acquiring track and other improvements associated with abandoned rail lines in an effort to continue freight service or preserve the opportunity for future rail service. Also, the program can cover 80% of the cost for rehabilitating rail facilities such as tracks or bridges on publicly-owned rail lines.

**Transportation Economic Assistance Program** (<http://www.dot.wisconsin.gov/localgov/aid/tea.htm>):

The Transportation Economic Assistance Program (TEA) provides grants to local units of government for transportation related projects. The grants are made on the basis of job creation or retention.

DOT contact for funding opportunities:

Dennis Leong, 608-266-9910, [dennis.leong@dot.state.wi.us](mailto:dennis.leong@dot.state.wi.us)

## Wisconsin Department of Agriculture, Trade and Consumer Protection (DATCP)



### Agricultural Development and Diversification Grant Program

The Agricultural Development and Diversification Grant Program invites proposals for projects that are likely to stimulate Wisconsin's agricultural economy through the development and exploration of new value-added products, new markets, or new technologies in agriculture. ADD grants are awarded competitively each year.

**DATCP Contact for ADD Grant inquiries:** Mike Bandli, (608) 224-5136,

[mike.bandli@datcp.state.wi.us](mailto:mike.bandli@datcp.state.wi.us)

Web: <http://www.datcp.state.wi.us/mktg/business/marketing/val-add/add/index.jsp>

**Got Moola – Business Development:** *Got Moola* is a resource was assembled by the Wisconsin Department of Agriculture, Trade, and Consumer Protection (DATCP), Division of Agri-Business as a tool to help small businesses develop and grow their value-added business using money, information, and technical assistance from outside their organization. This resource lists other programs, angel investors, venture capital groups that can help to advance an ethanol or biodiesel project.

**DATCP Contact for business development inquiries:** Carl Rainey, (608) 224-5139,

[carl.rainey@datcp.state.wi.us](mailto:carl.rainey@datcp.state.wi.us)

Web:

[http://www.datcp.state.wi.us/mktg/business/business\\_resources/pdf/Wisconsin\\_Business\\_Resources.pdf](http://www.datcp.state.wi.us/mktg/business/business_resources/pdf/Wisconsin_Business_Resources.pdf)

## FEDERAL FUNDING AND INCENTIVE PROGRAMS

### Federal Ethanol and Biodiesel Tax Credits

**Small Producer Biodiesel and Ethanol Credit:** If you are an eligible small ethanol producer, you qualify for a credit on up to 15 million gallons of your qualified ethanol fuel production for any tax year. This additional alcohol fuel credit is 10 cents for each gallon. You are an eligible small ethanol producer if, at all times during the tax year, you have an annual productive capacity of not more than 60 million gallons of any type of alcohol, including alcohol not eligible for the credit. You take the alcohol fuel credit by completing Form 6478.



If you are an eligible small agri-biodiesel producer, you qualify for a credit on up to 15 million gallons of your qualified agri-biodiesel production for any tax year. This additional biodiesel fuel credit is 10 cents for each gallon. You are an eligible small agri-biodiesel producer if, at all times during the tax year, you have an annual productive capacity of not more than 60 million gallons of any type of agri-biodiesel, including biodiesel not eligible for the credit. You take the biodiesel fuel credit by completing Form 8864.

**Ethanol and Biodiesel Mixtures:** A facility may be eligible for federal fuel tax credits claimable on federal income tax returns. It also covers fuel tax refunds that may be claimed during the year. Two new credits against any fuel tax liability reported on Form 720:

- The alcohol fuel mixture credit is 51 cents per gallon of ethanol (60 cents per gallon for alcohol other than ethanol).
- The biodiesel mixture credit is 50 cents per gallon of biodiesel (\$1.00 per gallon of agri-biodiesel).
- Producers and importers must first take the alcohol fuel mixture credit and biodiesel mixture credit on Schedule C (Form 720) against any fuel tax liability. A payment is allowed for any excess credit and may be taken as a credit on Schedule C (Form 720), as a refund on Schedule 3 (Form 8849), or as an income tax credit on Forms 4136, 6478, or 8864 as applicable. Only one claim may be made for any particular amount of alcohol or biodiesel.

**Alternate Fuel Refueling Property Tax Credit:** You may be able to claim this credit if you place qualified alternative fuel vehicle refueling property in service for business or personal use after 2005. This includes certain property used to store or dispense a clean-burning fuel. Under the provision, a clean fuel is any fuel that consists of at least 85% ethanol, natural gas, compressed natural gas, liquefied natural gas, liquefied petroleum gas, or hydrogen and any mixture of diesel fuel and biodiesel containing at least 20% biodiesel. This is effective through December 31, 2010

IRS Forms needed:

[Form 720: Quarterly Federal Excise Tax Return \(http://www.irs.gov/pub/irs-pdf/f720.pdf\)](http://www.irs.gov/pub/irs-pdf/f720.pdf)

[Form 720X: Amended Quarterly Federal Excise Tax Return \(http://www.irs.gov/pub/irs-pdf/f720x.pdf\)](http://www.irs.gov/pub/irs-pdf/f720x.pdf)

[Form 4136: Credit for Federal Tax Paid on Fuels \(http://www.irs.gov/pub/irs-pdf/f4136.pdf\)](http://www.irs.gov/pub/irs-pdf/f4136.pdf)

[Form 6478: Credit for Alcohol Used as Fuel \(http://www.irs.gov/pub/irs-pdf/f6478.pdf\)](http://www.irs.gov/pub/irs-pdf/f6478.pdf)

[Form 8849: Claim for Refund of Excise Taxes \(http://www.irs.gov/pub/irs-pdf/f8849.pdf\)](http://www.irs.gov/pub/irs-pdf/f8849.pdf)

[Form 8864: Biodiesel Fuels Credit \(http://www.irs.gov/pub/irs-pdf/f8864.pdf\)](http://www.irs.gov/pub/irs-pdf/f8864.pdf)

[Form 8911, Alternative Fuel Vehicle Refueling Property Credit \(http://www.irs.gov/pub/irs-pdf/f8911.pdf\)](http://www.irs.gov/pub/irs-pdf/f8911.pdf)

Contact for tax incentive inquires:

Web: <http://www.biodiesel.org/news/taxincentive/>

National Biodiesel Board, (800) 841-5849, [info@biodiesel.org](mailto:info@biodiesel.org)

## US Department of Agriculture Programs



**Rural Development - Renewable Energy & Energy Efficiency Program:** Funding for the Installation of energy efficient equipment and improvements to a facility, building, or process or that reduces energy consumption and purchase and installation of a system that produces or produces and delivers usable energy derived from wind, solar, biomass, geothermal, or hydrogen derived from these sources. Rural development program also distributes loans to businesses which save or create jobs in rural areas (under 50,000 in population). Borrowers may be an individual, partnership, cooperative, for-profit or non-profit corporation, Indian Tribe, or public body.

**Value-Added Producer Grants (VAPG):** Grants may be used for planning activities and for working capital for marketing value-added agricultural products and for farm-based renewable energy. Eligible applicants are independent producers, farmer and rancher cooperatives, agricultural producer groups, and majority-controlled producer-based business ventures. For more information about the program, contact your State Rural Development Office to obtain additional information and assistance.

USDA Contact for rural development and VAPG program inquiries:  
Specific to region: <http://www.rurdev.usda.gov/wi/contact/rdooffices.htm>  
Web: <http://www.rurdev.usda.gov/wi/programs/rbs/biguardtd.htm> or  
<http://www.rurdev.usda.gov/rbs/coops/vadg.htm>  
Stevens Point State Office, (715)345-7615 , [RD.StateOffice@wi.usda.gov](mailto:RD.StateOffice@wi.usda.gov)  
Kelley Oehler, 715-345-7615 , ext 141, [Kelley.Oehler@wi.usda.gov](mailto:Kelley.Oehler@wi.usda.gov)  
Barbara Brewster, (715) 345-7610 [barbara.brewster@wi.usda.gov](mailto:barbara.brewster@wi.usda.gov)

## **LOCAL RESOURCES**

Local organizations are equipped to assist potential biofuels plants move their projects forward successfully. Issues that local groups can assist with include but are not limited to land use, water quality, natural resource protection, local government interaction, economic development and developing leadership in the community. Below is a list of organizations and resources available to potential biofuels facilities developers.

### **County and Local Economic Development Organizations**

Local organizations have the resources and ability to assist businesses to move projects forward. Assistance can be provided by looking up your local county and economic development offices at: <http://www.commerce.state.wi.us/MT/MT-CountyLEDO.html>

### **Farm Bureau**

There are 61 county Farm Bureaus in Wisconsin covering 66 counties, organized and run by farmers to provide local representation and promotion. Search for local farm bureaus: <http://www.wfbf.com/county/>

### **University of Wisconsin Extension Service**

UW-Extension extends the knowledge and resources of the University of Wisconsin to people where they live and work. Additional information is available at: <http://www.uwex.edu/ces/cnred/>. For county Community, Natural Resource and Economic Development agent/educator search at <http://www.uwex.edu/ces/cty/> or  
Contact: Robin Shepard, (608) 262-1748, [robin.shepard@ces.uwex.edu](mailto:robin.shepard@ces.uwex.edu)

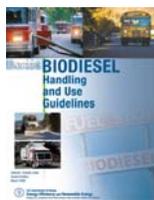
### **Wisconsin Counties Association**

Wisconsin's counties have a strong network of resources for economic development activities, allowing them to promote and maintain their economic vitality. Counties house services such as county economic development corporations to regional planning commissions. Directory of contacts in specific counties located at: [http://www.wicounties.org/WS\\_County\\_Directory.asp](http://www.wicounties.org/WS_County_Directory.asp)

### **Wisconsin Technical College System**

Wisconsin's Technical Colleges are producing graduates who fill critical positions in our. According to the U.S. Bureau of Labor Statistics, most jobs over the next decade will require the kind of occupational training provided by Wisconsin's Technical Colleges. Faculties are encouraged to work with Technical Colleges to collaborate in workforce development. More information located at: <http://www.witechcolleges.com/>

## PUBLICATIONS



March 2006

### **[Biodiesel Handling and Use Guidelines](http://www.oregon.gov/ENERGY/RENEW/Biomass/docs/BiodieselHandlingGuide.pdf)**

(<http://www.oregon.gov/ENERGY/RENEW/Biomass/docs/BiodieselHandlingGuide.pdf>):

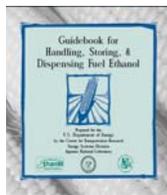
This document is a guide for those who blend, distribute, and use biodiesel and biodiesel blends. It is intended to help fleets and individual users, blenders, distributors, and those involved in related activities understand procedures for handling and using biodiesel fuels. Published by the [US Department of Energy- Energy Efficiency and Renewable Energy](#),



### **[Building a Successful Biodiesel Business](http://biodieselbasics.com/catalog/product_info.php?products_id=30&osCsid=b571444505b1cb53ff79a52b9bc7e934)**

([http://biodieselbasics.com/catalog/product\\_info.php?products\\_id=30&osCsid=b571444505b1cb53ff79a52b9bc7e934](http://biodieselbasics.com/catalog/product_info.php?products_id=30&osCsid=b571444505b1cb53ff79a52b9bc7e934)):

Chapters include specifics on biodiesel specifications, test methods, and engine requirements. The book also gives suggestions to increase profitability of biodiesel production by controlling costs, building efficient plants, understanding industry new developments, and maintaining a consistent feedstock supply. Authors Jon Van Gerpen, Davis Clements, Rudy Pruszko, Brent Shanks, and Gerhard Knothe.



### **[Guidebook for Handling, Storing and Dispensing, Fuel Ethanol](http://www.oregon.gov/ENERGY/RENEW/Biomass/docs/EthanolHandlingGuide.pdf)**

(<http://www.oregon.gov/ENERGY/RENEW/Biomass/docs/EthanolHandlingGuide.pdf>):

This guidebook is intended as firsthand information for fuel distributors and retailers who have not had any experience or formal training with ethanol fuels. The first three chapters contain information about government regulations, ethanol-fueled vehicles, and fuel standards, which may also be useful to fleet managers and ethanol fuel users. The rest of the handbook addresses material recommendations, parts and equipment, and handling and delivery of ethanol fuel. Published by the US Department of Energy by the Center for Transportation research Energy Systems Division at the Argonne National Laboratory.

