

# Diversification of Biofuels Facilities

## Panel

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Involved in sale of both large MN biodiesel plants - MnSP and SoyMor (Now REG)

The limited number of speakers available for the panel may be balanced (or caused) by the significant number of diversification projects in implementation, planning, or consideration. To provide an overview of these projects, the following list has been generated for the MnRER participants. All information in this list has been publicly released and sources of the information are included. The list may not include all projects (either under development or under consideration) and it should be understood that projects in various stages of consideration without any public disclosure are not included here. No endorsement of any products or processes is implied by inclusion in this document.

## Corn Fractionation

[http://www.crowniron.com/technologies/corn\\_fractionation.cfm](http://www.crowniron.com/technologies/corn_fractionation.cfm)  
<http://www.dakotagold.org/about/bfrac.asp>

## Corn Oil Separation

<http://uswaterservices.wordpress.com/2011/06/09/us-water-services-corn-oil-extraction-product-line/>  
[http://www.icminc.com/news/release/?press\\_release=50](http://www.icminc.com/news/release/?press_release=50)

## Pennycress and camelina oils for biodiesel production

<http://www.sartec.com/pdf/pressrelease10-05-11.pdf>

## Small scale or on-farm biofuel production

<http://www.mda.state.mn.us/en/news/releases/2012/nr-2012-02-29-grants.aspx>  
<http://advancedbiofuelsusa.info/category/biorefineries/small-scale-biorefineries>

## Enzymatic process for biodiesel production

[http://www.license.umn.edu/Products/Biosynthesis-of-Biodiesel-without-Glycerin-By-Product\\_Z07163.aspx](http://www.license.umn.edu/Products/Biosynthesis-of-Biodiesel-without-Glycerin-By-Product_Z07163.aspx)  
<http://70centsagallon.com/solutions/enzymatic-biodiesel/>

## Isobutanol in Luverne

<http://www.gevo.com/our-business/commercialization-strategy/>

## Biobutanol in Lambertton

[http://www.highwaterethanol.com/documents/2011\\_butamax.pdf](http://www.highwaterethanol.com/documents/2011_butamax.pdf)

### **Regenerative Thermal Oxidizers**

<http://biofuelschat.com/topics/ethanol-plant-saves-700000-dollars-yearly-energy-efficiency-upgrades>

[http://www.epa.gov/chp/documents/voc\\_destruction\\_white\\_paper.pdf](http://www.epa.gov/chp/documents/voc_destruction_white_paper.pdf)

### **Water Discharge and Reuse Improvements**

<http://www.cornplusethanol.com/>

<http://www.uswaterservices.com/downloads/US%20Water%20Services%20Winter%20Newsletter%202011,%20email.pdf>

### **Green Hydrocarbons**

<http://ethanolproducer.com/articles/8636/engineering-study-looks-at-ethanol-plus-bolt-on-green-diesel>

[http://www1.umn.edu/news/features/2011/UR\\_CONTENT\\_330496.html](http://www1.umn.edu/news/features/2011/UR_CONTENT_330496.html)

### **Questions for MnRER Panel on Diversification of Biofuels Facilities**

- 1) What new technology are you most excited about implementing at new or existing biofuels plants?
- 2) Are federal and state incentives essential to the development of new or improved biofuels facilities (diverse in feedstock, product, process, or improved efficiency)?
- 3) At the present time, do you see greater opportunities in new production facilities for new technology or “retrofits” and “add-ons” to existing biofuels facilities?
- 4) Can you share examples of “regulatory restrictions” that have inappropriately delayed or stopped the implementation of new technologies for biofuels production?
- 5) Have you observed important differences between States in the receptivity to new biofuels technology?
- 6) What is the “Next Big Thing” in biofuels (algae production for oil or biomass production, cellulosic ethanol, energy beets, gasification of biomass, none of the above)?