



**The BioBusiness Alliance  
of Minnesota**



# ***BioIndustrial Partnership of Minnesota***

**Legislative Briefing**

**January 29, 2011**



# ***The BioIndustrial Partnership of Minnesota***

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- **Collaboration to publish**
  - » “The Minnesota Roadmap: Recommendations for BioIndustrial Processing.”
  - » “Minnesota’s Forest Biomass Value Chain”
  - » Download from: [www.biobusinessalliance.org](http://www.biobusinessalliance.org)
- **Independent, industry led working group to sustain and grow Minnesota’s position as a global leader in the biofuels and biochemicals industry.**
- **Expected Outcomes**
  - » Education of business and community leaders.
  - » Identify assets and market MN to external partners.
  - » Policy development.



# ***Purpose of the Initiative***

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**Establish an environment where the Bio-Industrial industry can thrive in MN**

- Job creation
- Raise awareness - Brand Minnesota as BioIndustrial State
- Attract the right people and skills
- Develop appropriate policies - Great Plains Institute



# Core Team- Industry Dominated



Great Plains Institute



# *Industry and Foundation Sponsors*

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## Foundational Sponsors (\$10,000+)



**Blandin Foundation™**  
STRENGTHENING RURAL MINNESOTA



**MinnesotaCorn**  
GROWERS ASSOCIATION

## BioIndustrial Leader (\$5,000-\$9,999)

**Fredrikson**  
& BYRON, P.A.



**SOUTHWEST INITIATIVE  
FOUNDATION**

*A Rural Minnesota Community Foundation*

## Premier Sponsor: (\$1,000-\$4,999)

**amec**



CPAs & BUSINESS ADVISORS

**Boise,  
Inc.**

## Supporting Sponsor: (\$500-\$999)

**Kandiyohi County  
and City of Willmar**  
**EDC**

>supporting local business  
>assisting area entrepreneurs  
>recruiting targeted industry



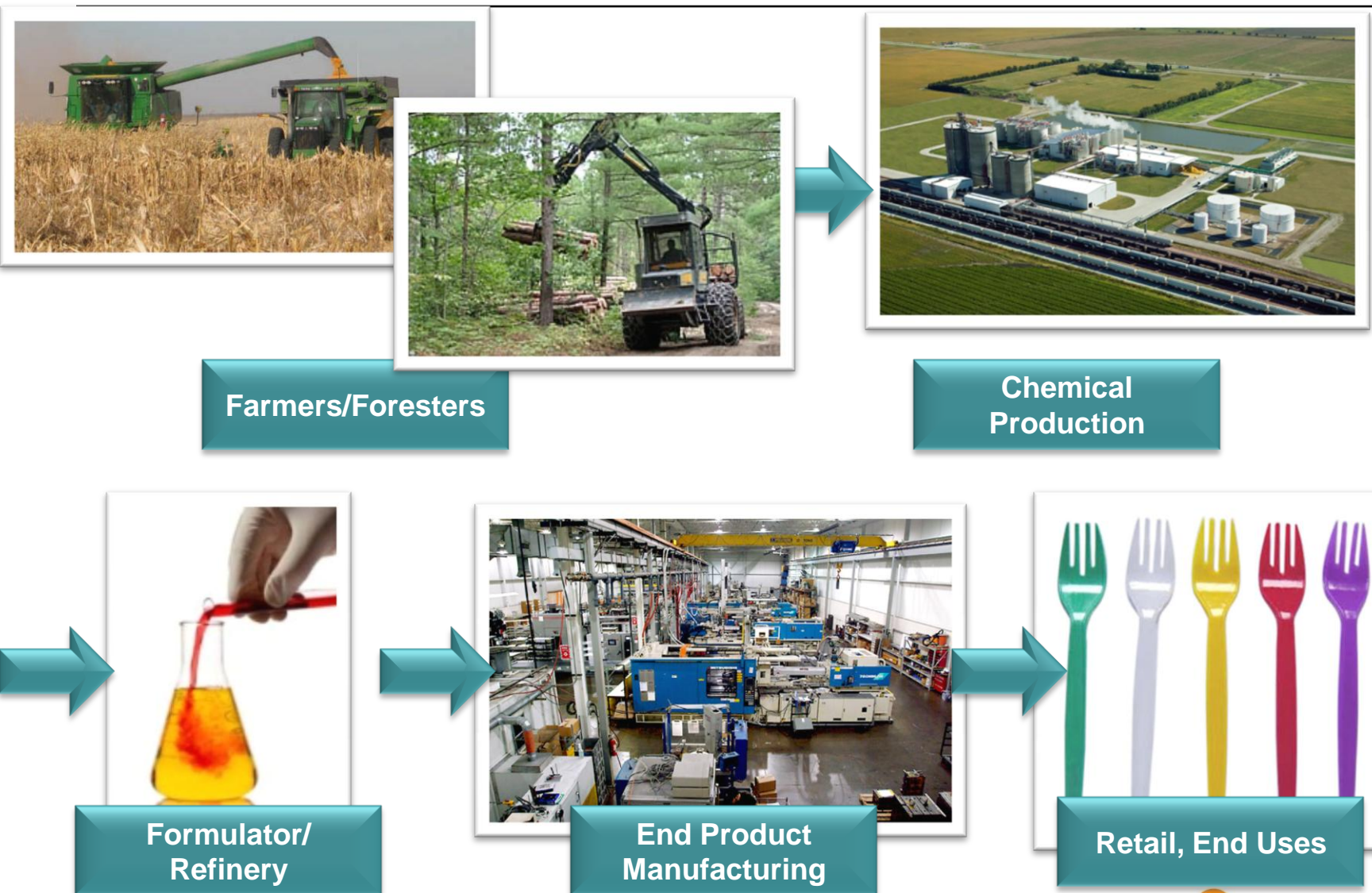
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# *Renewable Materials Value Chain Overview*



*Enriching Minnesota's Future through the Biosciences*



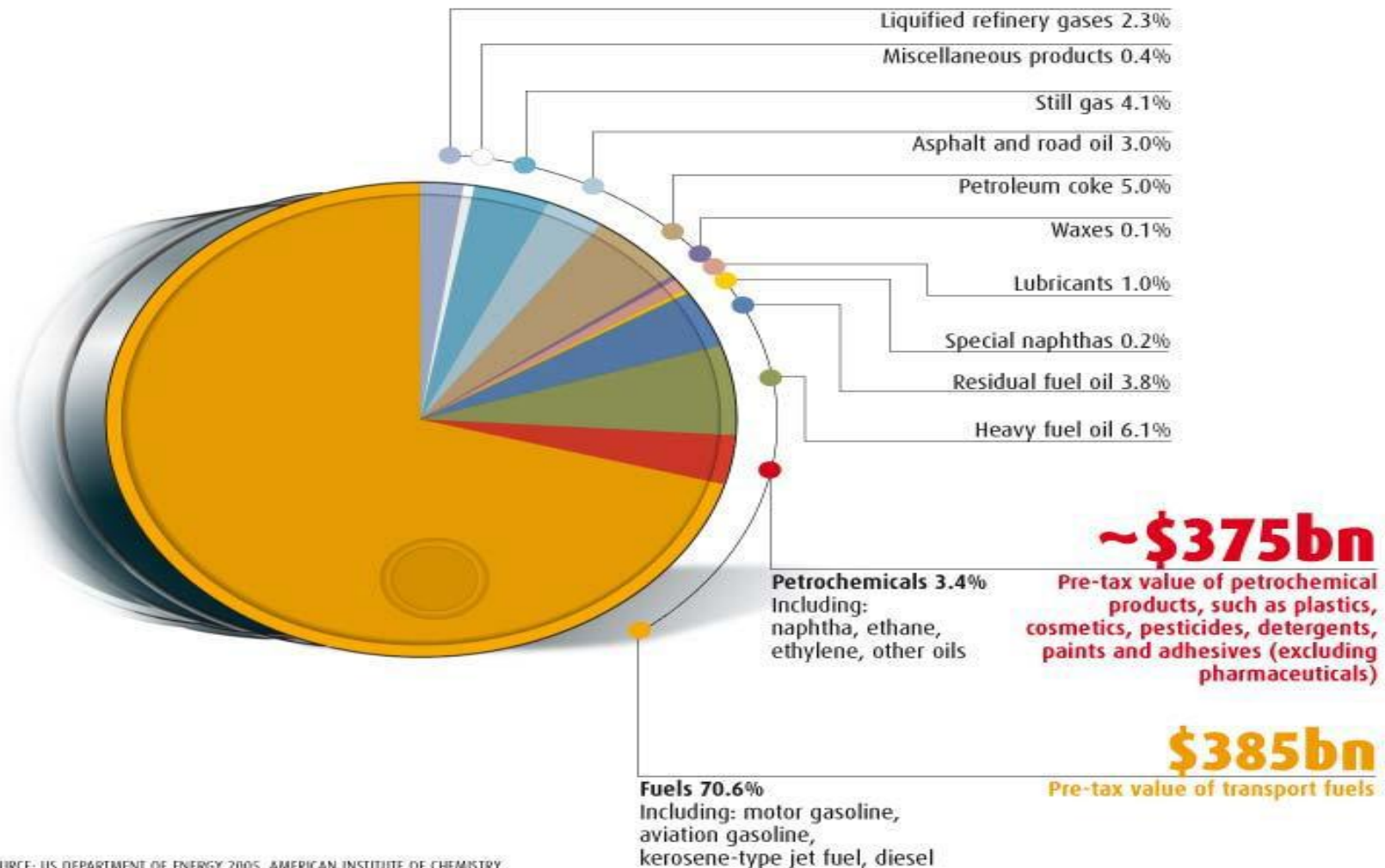
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# *Biofuels becoming biochemicals companies.*

## OIL BARREL BREAKDOWN

Despite consuming a small fraction of US oil compared with fuel, petrochemical products are worth more



SOURCE: US DEPARTMENT OF ENERGY 2005, AMERICAN INSTITUTE OF CHEMISTRY

Source: Peter Keeling. Center For Biorenewable Chemicals

# *Minnesota Biobased Materials Family Tree*

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**2009 - 2011**

**BioAmber**

Est. 2009  
Plymouth

**Reluceo**

Est. 2009  
Golden Valley

**XL Terra**

Est. 2009  
Golden Valley

**2005 - 2009**

**Draths**

Est. 2005, 20 emp.  
Okemos, Michigan

**Segetis**

Est. 2006, 30 emp.  
Golden Valley

**Pine River  
Petrochemicals**

Est. ~2009.

**Gevo**

Est. 2009, 50 emp.  
Luverne, MN and CO

**Green Harvest  
Technologies**

Est. 2007, 1 emp.  
Bloomington

**1997 - 2004**

**Cargill BioH**

Est. 2003, 35 emp.  
Plymouth

**Natureworks**

est. 1997, ~100 emp.  
Minnetonka

**Elevance**

Est. 2004, 45 emp.  
Chicago, IL

**Cargill  
Industrial Oils**

Minnetonka

**1980s - 1990s**

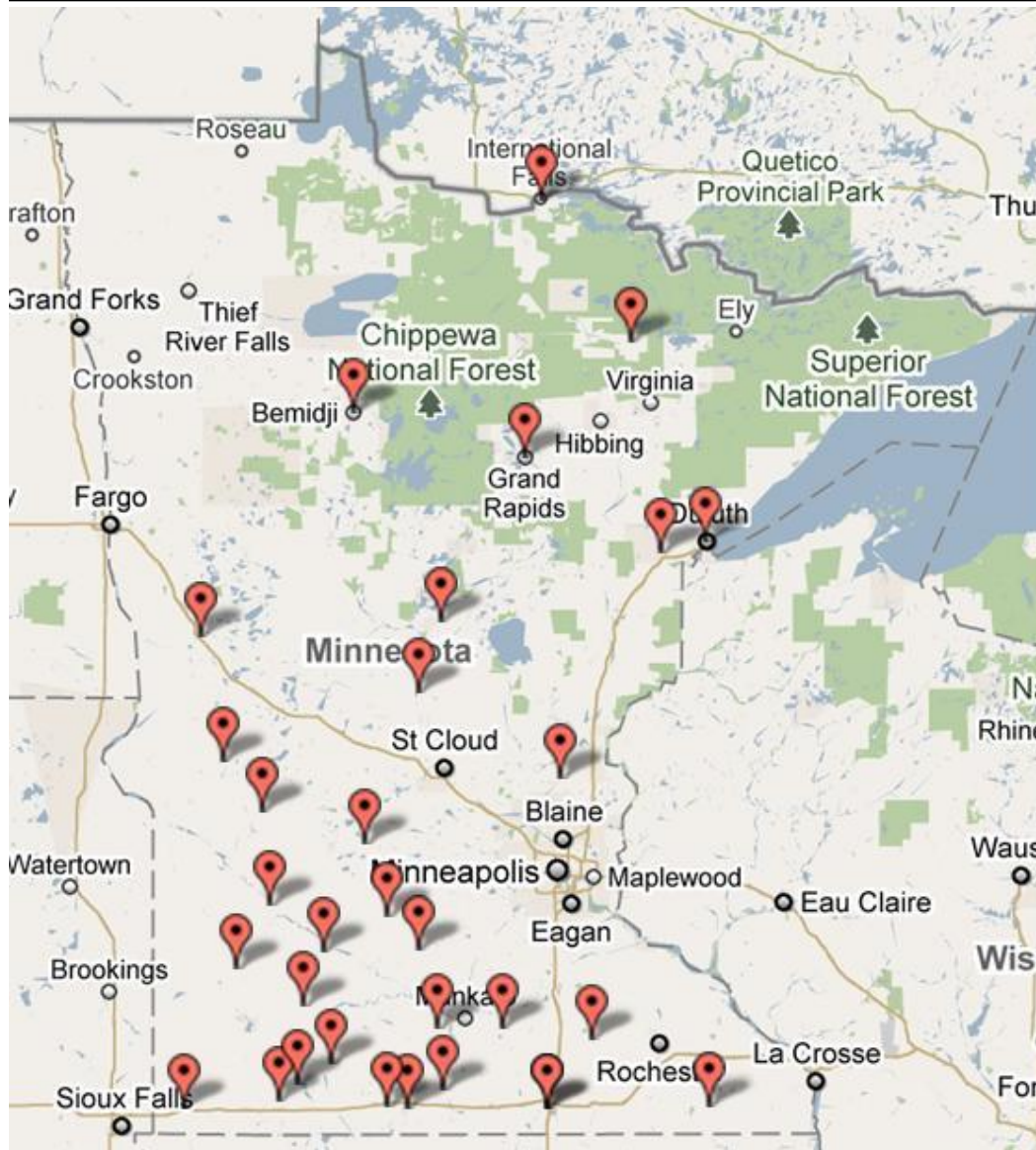
**Cargill Resins**

Minnetonka

 **Currently not located in Minnesota**



# *Existing Biorefineries across Minnesota*



- **Strength in forestry and agriculture resources**
- **Leveraged to value added opportunities**

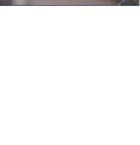




# ***BioIndustrial Poised for Rapid Growth***

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- **RFS2: 21 billion gallons of advanced biofuels by 2022**
- **Global biochemicals industry: \$585 billion by 2030**
  - » Up to 17% of global chemicals market
- **5 billion pounds of biochemicals by ~2015**
  - » 200 million pounds today.
- **13 IPO's announced or completed since December 2009**
- **Green chemistry sector lead Minnesota for VC investments for Q2 2011**
  - » Financial markets are supporting the industry





# *Why Minnesota?*

Assets to Leverage

**Growing cluster of bioindustrial companies in the metro**



**Large agriculture and forest products industry across MN**

- Significant biofuels infrastructure



**Knowledge Clusters**

- Agriculture and forestry science
- Materials science and chemical engineering



**Suite of service providers that understand the industry**

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Partnership of Minnesota**





# ***Example Strategic Needs- Biorefineries***

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- **Develop industry-led efforts to connect entities along the value chain**
- **Develop full spectrum funding for bioindustrial processing**
- **Develop partnerships to improve the regulatory environment**
- **Expand university partnerships to enhance commercialization**





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of Minnesota**



**Thank You!**

**Dale Wahlstrom, President and CEO**

**LifeScience Alley and the Biobusiness Alliance of Minnesota**

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