



# Annual Report on Biodiesel

Bob Patton | Energy & Environment Supervisor

March 3, 2020



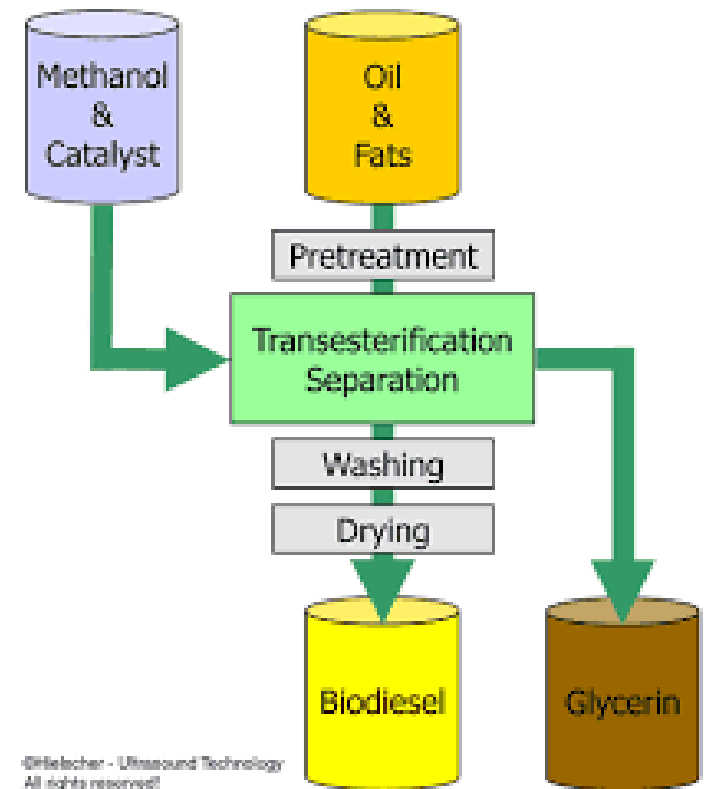
Presentation for the House Agriculture and Food Finance and Policy Division

# Diesel Fuel Basics

- Three different classes based on the ability of the fuel to flow (“viscosity” and “pour point”):
  - No. 2 diesel (#2): Standard diesel fuel
  - No. 1 (#1, a.k.a. kerosene): A lighter fuel often mixed with No. 2 diesel in winter months
  - No. 4 (#4): Heavy fuel not typically used in vehicles
- The current standard for diesel fuel (ASTM D975) includes up to 5% biodiesel

# What is Biodiesel?

“...a renewable, biodegradable, mono alkyl ester combustible fuel that is derived from agricultural and other plant oils or animal fats that meets American Society of Testing and Materials (ASTM) specification D6751-11b for Biodiesel Fuel (B100) Blend Stock for Distillate Fuels...”



# Timeline of Biodiesel Mandate

- 2002: Legislation requires use of biodiesel in Minnesota's diesel fuel supply at 2 percent level (B2)—the first state in the nation

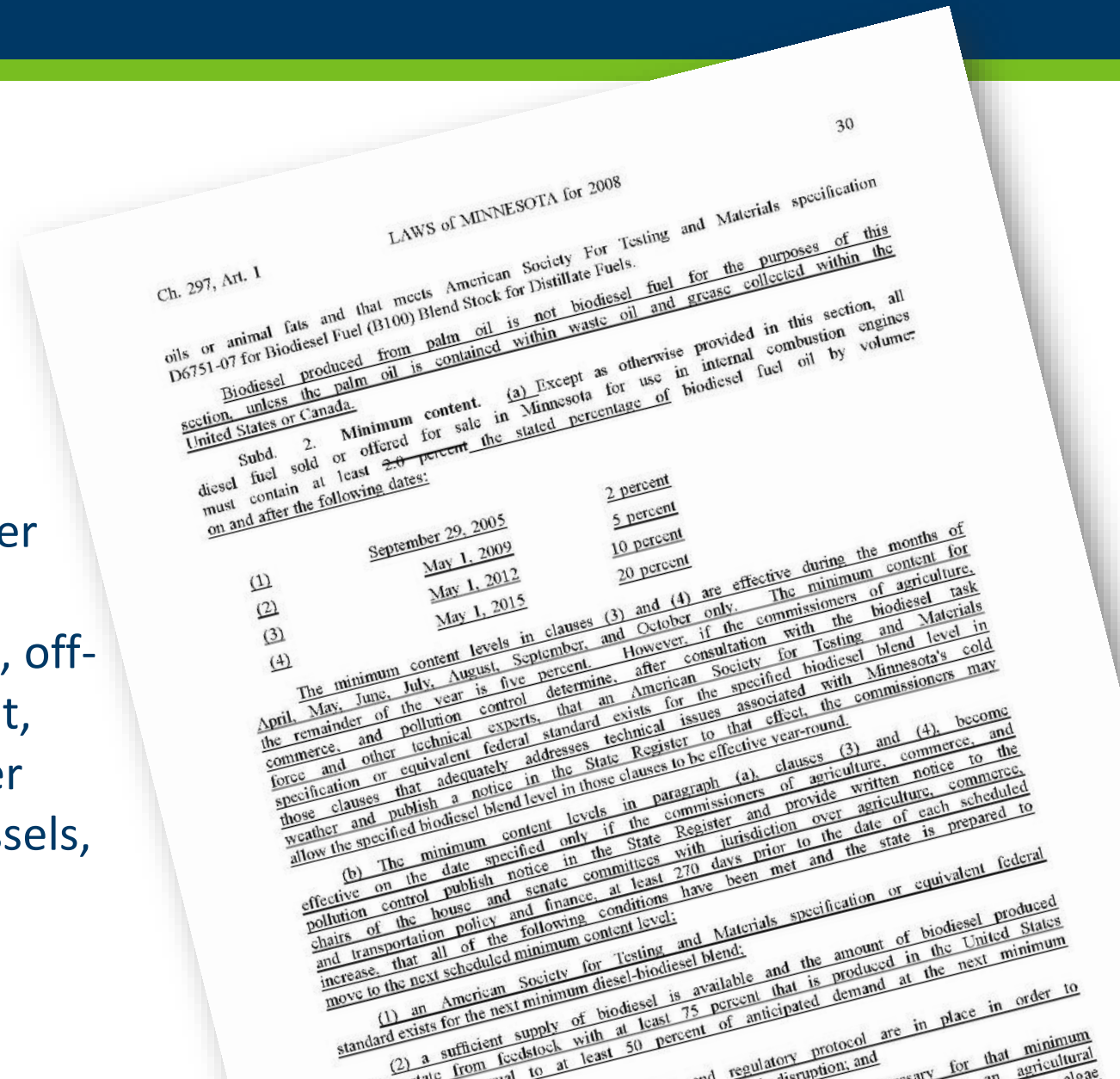
# Timeline of Biodiesel Mandate

- 2002: Legislation requires use of biodiesel in Minnesota's diesel fuel supply at 2 percent level (B2)—the first state in the nation
- Sept. 29, 2005: B2 mandate implemented

# Minnesota's Biodiesel Mandate (2008 Legislation)

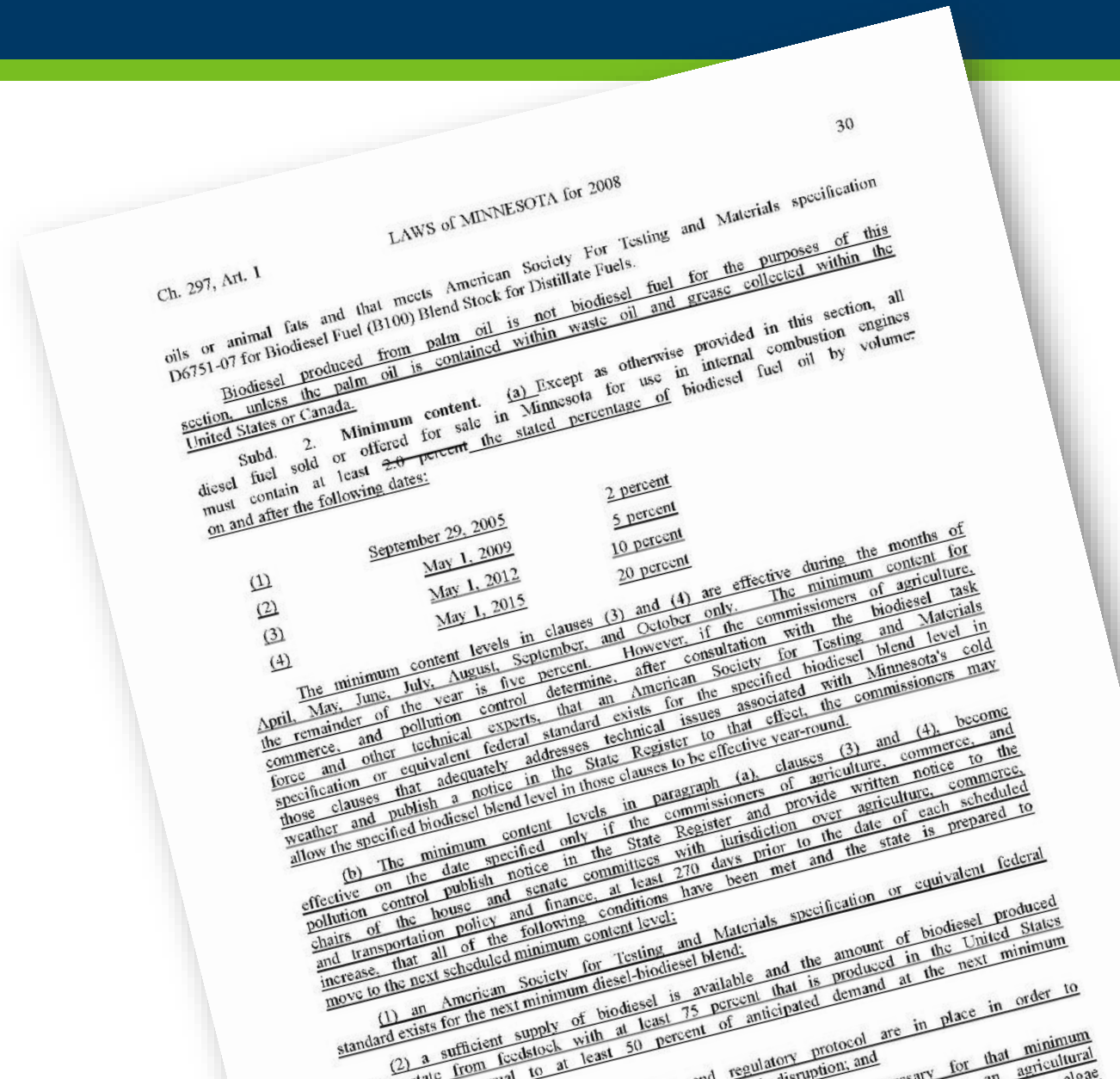
Specified Date	Minimum Content
Sept. 29, 2005	2%
May 1, 2009	5%
May 1, 2012	10%
May 1, 2015	20%

- B10 & B20 effective April through September
- Revert to 5% October through March
- Exceptions: #1 Diesel, railroad locomotives, off-road taconite and copper mining equipment, heating equipment motors at nuclear power plants, logging equipment, Coast Guard vessels, etc.



# Requirements to Move to B10 & B20 (2008 Legislation)

- MDA, Commerce, and MPCA Commissioners must determine:
  - An ASTM standard exists
  - MN production equals 50% or more demand
  - Adequate blending infrastructure & regulatory protocol
  - 5% supply from alternative feedstocks
- Must consult with Biodiesel Task Force
- Provide notice 270 days prior to increase



# “Off Ramps”

Conditions may be waived if:

- 50% MN requirement may be waived if:
  - Weather-related conditions render necessary feed stock unavailable
  - Commissioners find that the use of nontraditional feedstocks would be uneconomic under market conditions
- Commissioner of Commerce may temporarily suspend the mandate if there are issues with supply or quality
- Gov may issue executive order adjusting the mandate if it causes economic hardship to retailers





# Timeline of Biodiesel Mandate

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- May 1, 2009: B5 mandate implemented

# Timeline of Biodiesel Mandate

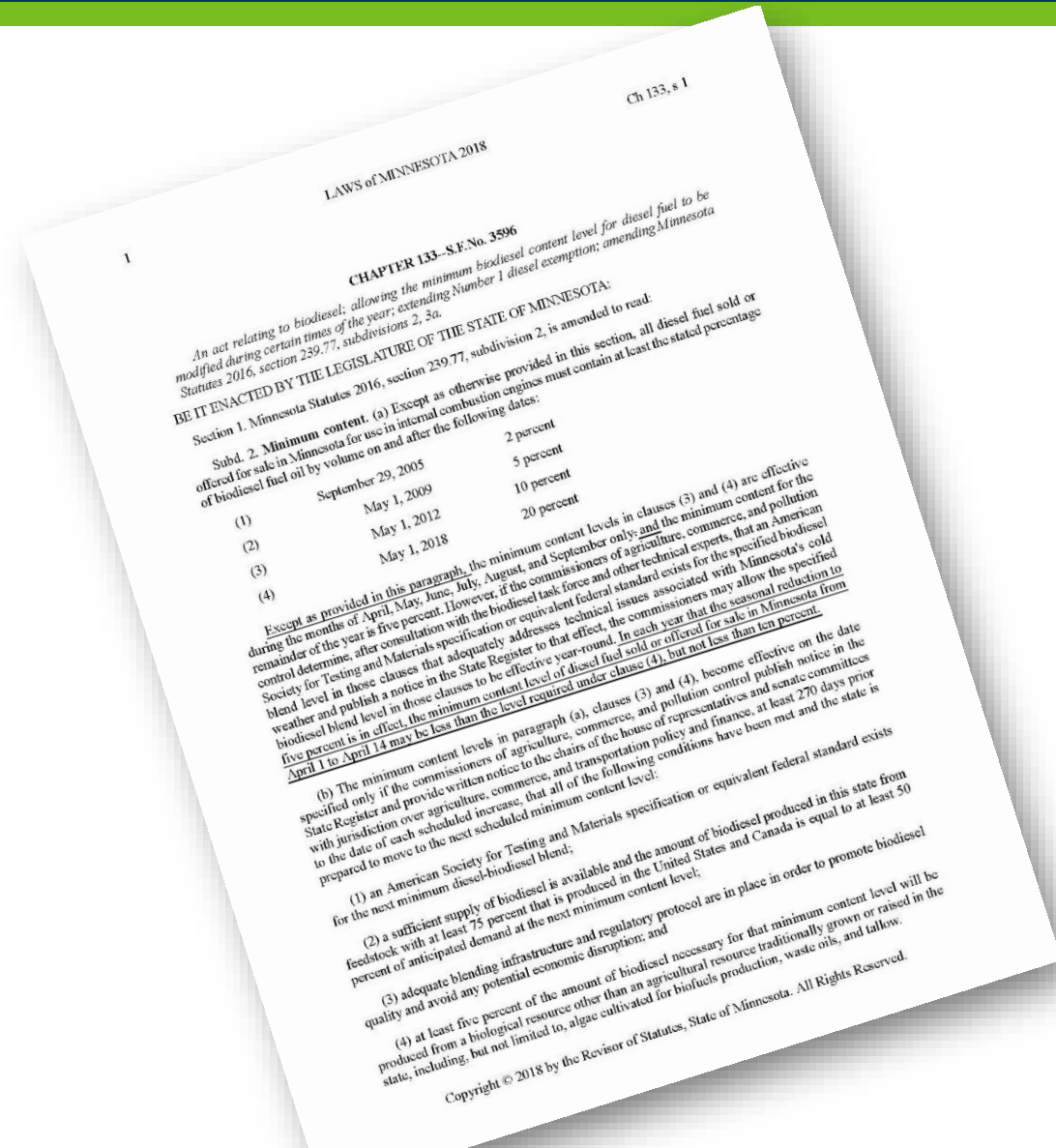
- 2002: Legislation requires use of biodiesel in Minnesota's diesel fuel supply at 2 percent level (B2)—the first state in the nation
- Sept. 29, 2005: B2 mandate implemented
- May 1, 2009: B5 mandate implemented
- July 1, 2014: B10 mandate implemented

# Timeline of Biodiesel Mandate

- 2002: Legislation requires use of biodiesel in Minnesota's diesel fuel supply at 2 percent level (B2)—the first state in the nation
- Sept. 29, 2005: B2 mandate implemented
- May 1, 2009: B5 mandate implemented
- July 1, 2014: B10 mandate implemented
- May 1, 2018: B20 Mandate implemented

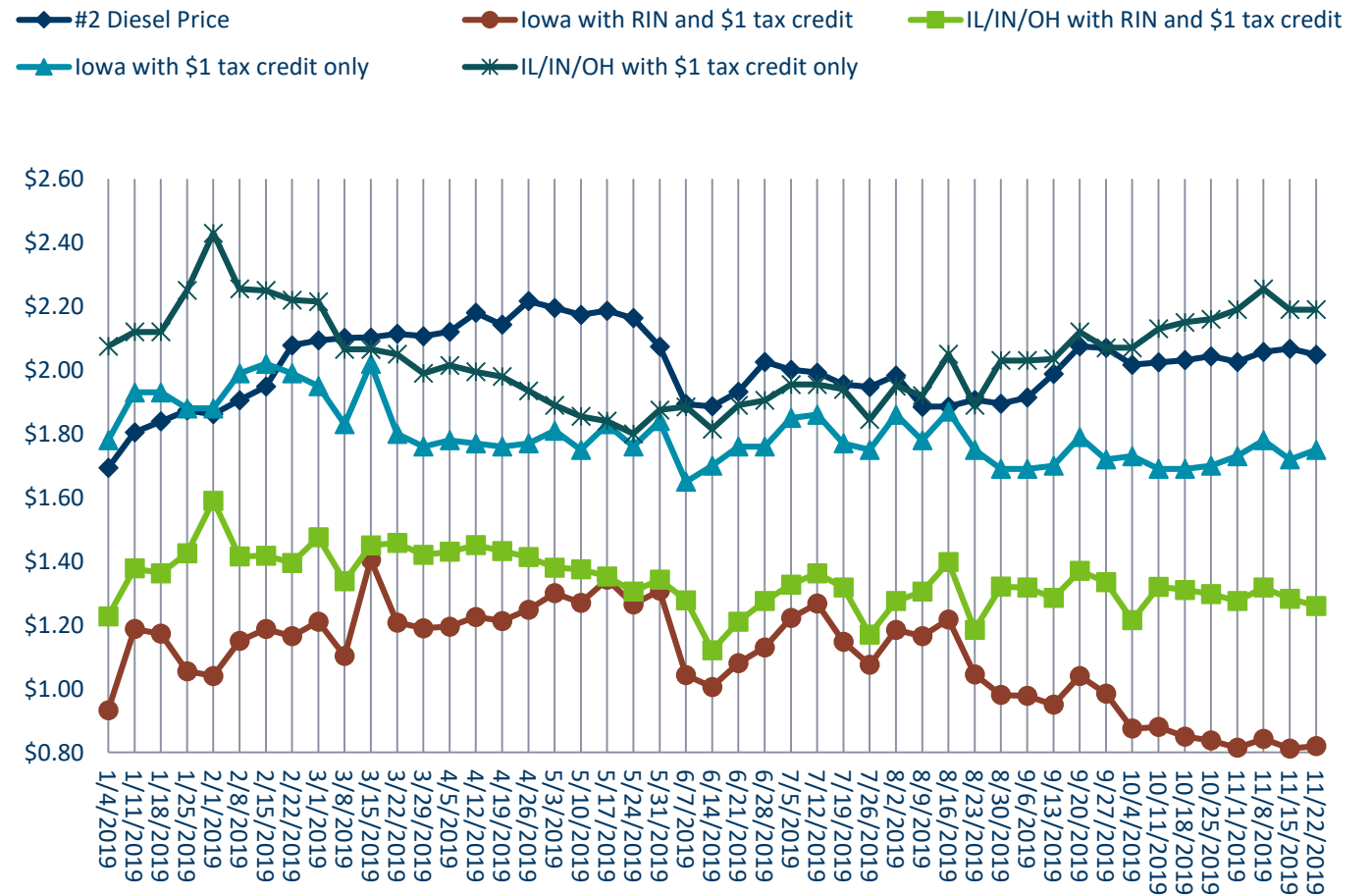
# 2018 Legislation

- Designated April 1 through 14 as a B10 ramp-up time, with the 20% minimum blending requirement in No. 2 diesel beginning on April 15
- Removed sunset date from exception for No. 1 diesel



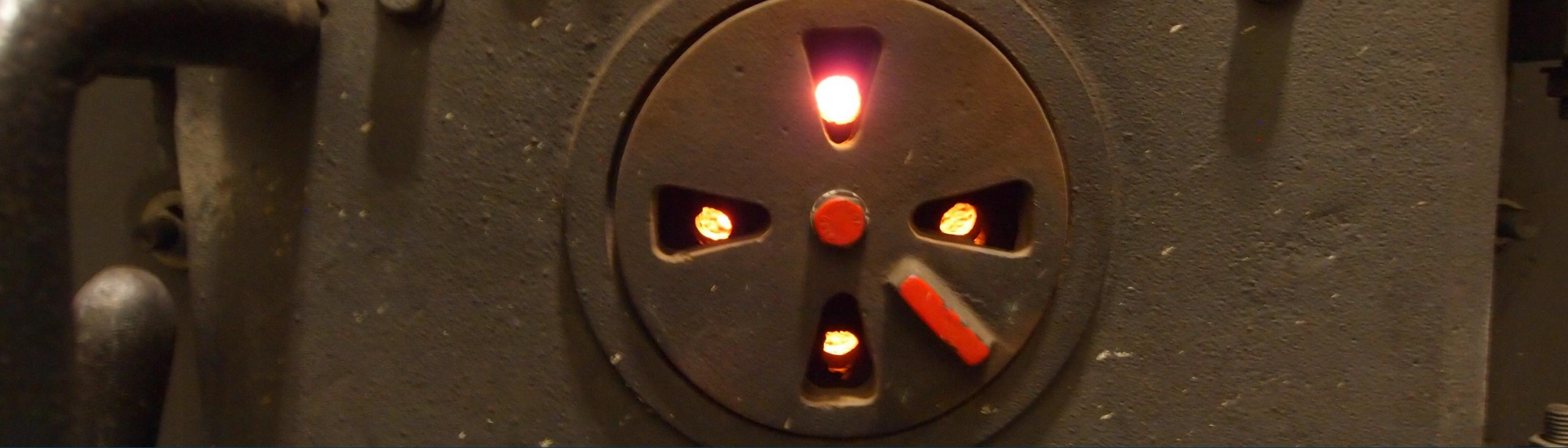
# Blended Diesel Price Factors

- Many factors
- Among them, federal policies:
  - Renewable Fuel Standard
    - Renewable Volume Obligations (RVOs)
    - Renewable Identification Numbers (RINs)
  - Biodiesel Blenders Tax Credit (\$1 per gallon)



# Minnesota Production Capacity

Plant / Location	Feedstock	2019 Permitted Production Capacity (mgy)
Ever Cat Fuels / Isanti	Alternative feedstocks (e.g., recycled oils)	3.1
Minnesota Soybean Processors / Brewster	Soybeans	40.5
Renewable Energy Group (REG) / Albert Lea	Distiller's corn oil, used cooking oil, other alternative feedstocks	44.0
		Total 87.6



# Bioincentive Program

(Minn. Stat. §§ 41A.15-.19)

Bob Patton | Energy & Environment Section Supervisor

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Production incentive payments to encourage commercial-scale production of:

- **Advanced biofuel**

Lifecycle greenhouse gas emissions are at least 50 percent less than gasoline

- **Renewable chemicals**

Chemicals produced from agricultural biomass, forestry materials, or the organic portion of solid waste

- **Biomass thermal energy**

Thermal energy produced from biomass combustion, gasification, or aerobic digestion



# Requirements

Production facilities must:

- begin producing biofuels, renewable chemicals, or biomass thermal energy before June 30, 2025,
- meet quarterly minimum production levels,
- use renewable biomass from agricultural or forestry sources, or the organic portion of solid waste ,
- source 80 percent of renewable biomass from Minnesota, and
- harvest agricultural and forestry cellulosic biomass (i.e., fibrous material, such as wood or plant stalks) in ways that do not harm natural resources or the environment.

# Payment Amounts

Production Type	Reimbursement Rate	Per
Advanced Biofuel: Cellulosic	\$2.11	MMBtu
Advanced Biofuel: From sugar etc.	\$1.05	MMBtu
Renewable Chemical: Cellulosic	\$0.06	Pounds
Renewable Chemical: From sugar etc.	\$0.03	Pounds
Biomass Thermal	\$5.00	MMBtu

# Maximums per Production Type

<b>Production Type</b>	<b>Maximum</b>		<b>Max compensation</b>
Advanced Biofuel: Cellulosic	17,100,000	MMBtu	\$36,000,630
Advanced Biofuel: From sugar etc.	17,100,000	MMBtu	\$18,006,300
Renewable Chemical: Cellulosic	599,999,999	Pounds	\$36,000,000
Renewable Chemical: From sugar etc.	599,999,999	Pounds	\$18,000,000
Biomass Thermal	150,000	MMBtu	\$ 750,000

# Maximums per Facility

<b>Production Type</b>	<b>Maximum</b>		<b>Max compensation</b>
Advanced Biofuel: Cellulosic	2,850,000	MMBtu	\$6,000,105
Advanced Biofuel: From sugar etc.	2,850,000	MMBtu	\$3,001,050
Renewable Chemical: Cellulosic	99,999,999	Pounds	\$6,000,000
Renewable Chemical: From sugar etc.	99,999,999	Pounds	\$3,000,000
Biomass Thermal	30,000	MMBtu	\$150,000

# Appropriations

Biennium	Year 1	Year 2
2016-2017	\$500,000	\$1,500,000
2018-2019	\$1,500,000	\$1,500,000
2020-2021	\$2,500,000	\$2,500,000

# Claims and Amounts Paid

<b>Fiscal Year</b>	<b>Amount Claimed</b>	<b>Amount Paid</b>
FY17	\$29,599	\$29,599
FY18	\$114,980	\$114,980
FY19	\$1,526,890	\$1,500,000
FY20 to date	\$3,568,947	\$2,500,000

# Thank you!

**Bob Patton**

*Bob.Patton@state.mn.us*

651-201-6226