



**MIDSTREAM**METHANOL

## **Biodiesel Focused Methanol Production**

**Biodiesel Board Annual Meeting  
Des Moines  
September 2018**



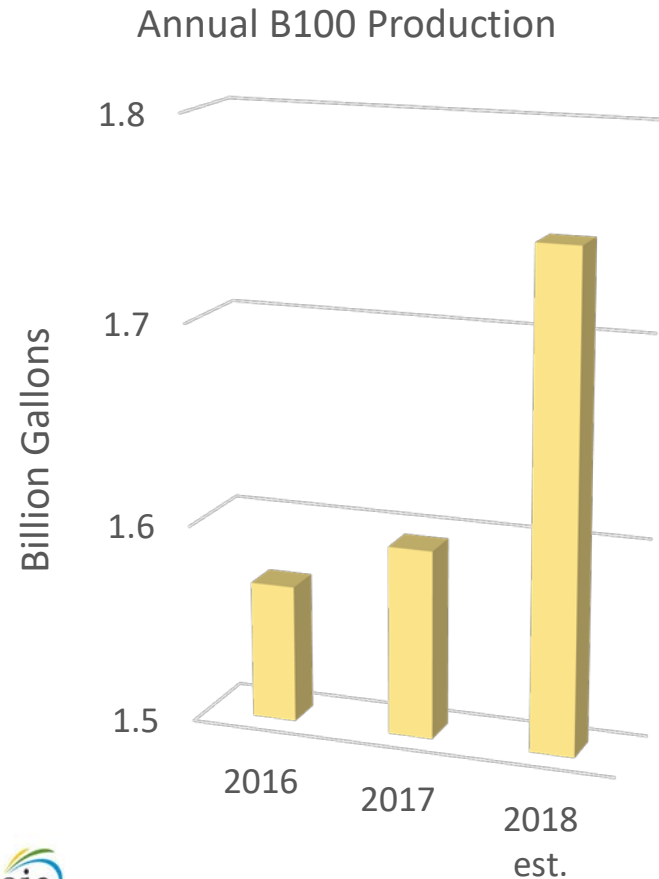
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## BIODIESEL HAS A BRIGHT FUTURE

- America wants biofuels
- Iowa is the place to be for new fuel opportunities
- Mandate for biodiesel in place until 2032
- If subsidy disappears, biodiesel fuel requirement continues
- WORST CASE – Retain \$0.12/gal transportation advantage over gulf coast to eastern market
- Biodiesel growth is promising





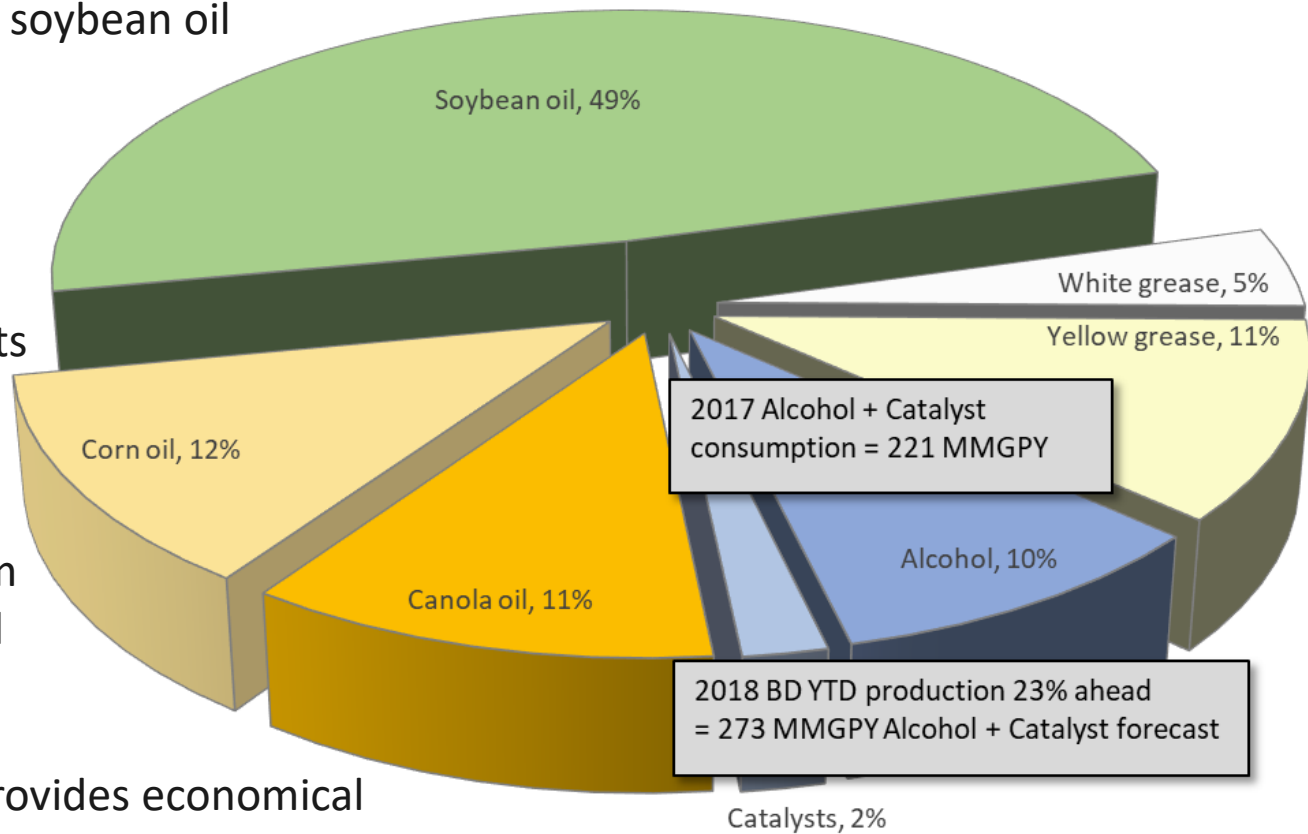
## BIODIESEL FEEDSTOCKS

Biodiesel production uses 25% of domestic soybean oil production

Biodiesel is important to the Midwest benefiting both corn and soybean farmers

Biodiesel boosts the corn oil market -- an important revenue stream for the ethanol industry

Biodiesel provides economical product diversification for the Midwest



Source: U.S. Energy Information Administration

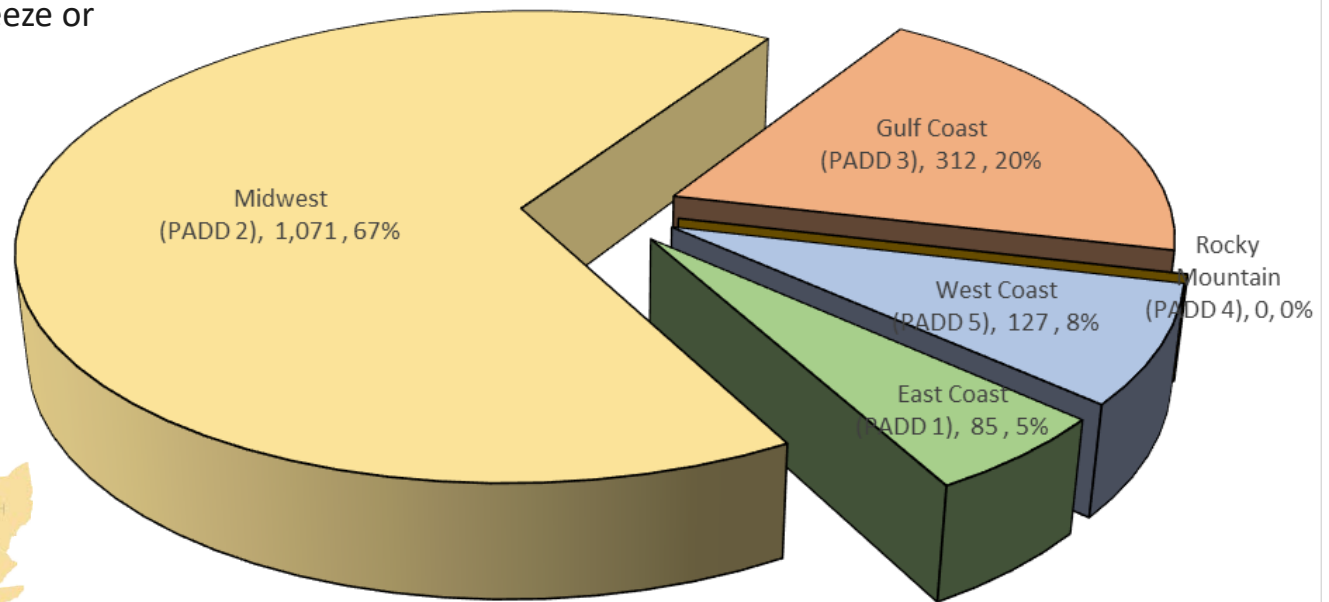


## U.S. BIODIESEL PRODUCTION BY REGION

Methanol reacts with vegetable oil to create Biodiesel which has more convenient and diesel-like properties

- Better injector atomization – less carbon formation
- Less tendency to freeze or thicken
- More blendable

- Methanol is a critical co-feedstock (12% by vol) for biodiesel production
- Forecast 2018 Midwestern Biodiesel production will create a regional methanol demand of 160 MMGPY
- Biodiesel producers in the Midwest incur a shipping and credit cost of about \$0.30/gal methanol

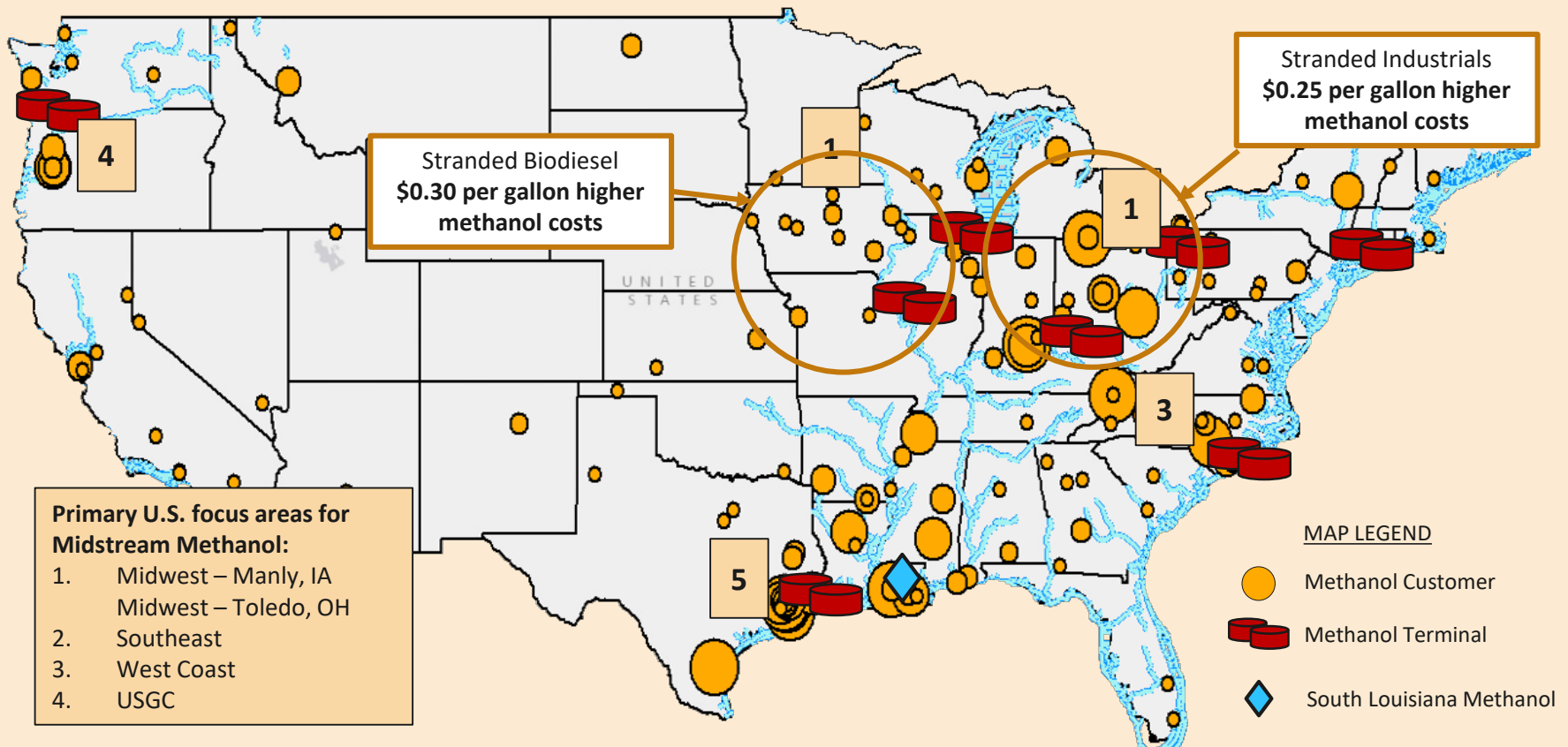


Source: U.S. Energy Information Administration



# U.S. METHANOL CONSUMERS

*Methanol consumption is concentrated in the Gulf Coast, Midwest, Southeast and West Coast. The Midwest consumes over 1 million MTPA, which is supplied from the Gulf Coast or overseas. Midstream Methanol will build reduced-scale plants to supply the Midwest by converting Midwestern produced natural gas into liquid methanol.*





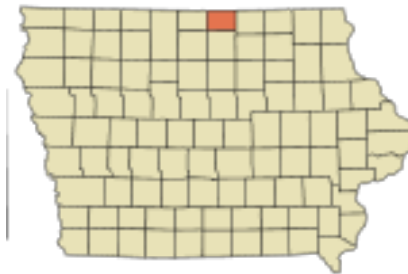
## THE MIDWESTERN ADVANTAGE

- Long-term natural gas price advantage over USGC
- \$65 to \$100+ per MT methanol price premium over the USGC
- Low-cost land, labor, natural gas & power
- Most comprehensive rail and logistics network in the United States
- Powerful combination of local political, technical and industrial support increases success of development
- 1 million MT of Midwest consumption each year, second behind the Gulf Coast, but is penalized by long distance logistics for methanol



## MANLY DEVELOPMENT OVERVIEW

- Manly, Iowa is an emerging biodiesel hub
- Midstream has a site optioned in Manly
- New Heaven Chemicals has recently placed a sodium methylate plant into commercial operation, with an expansion underway
- Sodium methylate is a catalyst that is consumed in the production of Biodiesel
- Sodium methylate is made mostly from methanol, consuming 9 lbs of methanol for every 10 lb of methylate production





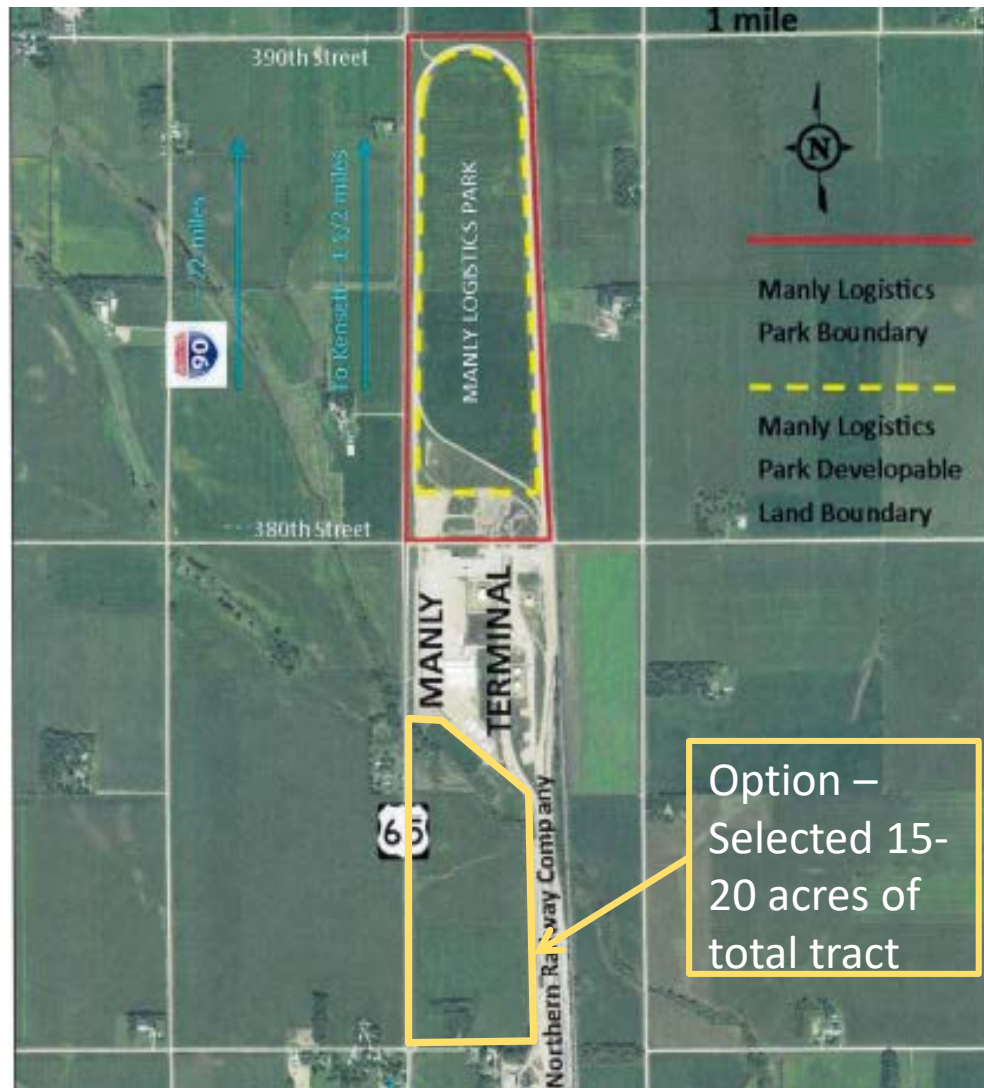


## MANLY OPTIONED TRACT

Midstream holds option on site near Manly Logistics Park

- Proactive Port of Manly
- Excellent rail and highway access
- Nearby natural gas supply
- Local methanol consumption can take a majority of output
- A one-day round trip by truck can reach demand of many times the remainder of output

Site will produce 30 MMGPY with a three years required for engineering and construction





## TOLEDO DEVELOPMENT OVERVIEW

- Toledo is an established petrochemicals hub
- Midstream has a site optioned from the port of Toledo
- Excellent truck, rail, and barge access
- Two large, local methanol consumers
- Supportive local community
- Access to many stranded methanol consumers





# TOLEDO OPTIONED TRACT

Site Specifics	
Location	Toledo, OH
Acreage	15+ Acres, includes coverage for buildings and construction laydown area
Option/Sublease	Finalizing 6-yr option for 40-year sublease. Signing expected Q3 2017
Natural Gas Pipelines	<ul style="list-style-type: none"> <li>8" line 1/2 mile from site @ 500 psi</li> <li>8" line ~2 miles from site @ 350 psi</li> </ul>
Rail Access	<ul style="list-style-type: none"> <li>Direct access to Class I Rail</li> <li>Rail loading infrastructure under construction</li> <li>Terminal services company receives rail cars at gate</li> </ul>
Power Infrastructure	Multiple high voltage transmission lines within 0.5 miles
Water	Ample low-cost public water available
Highway Access	Located in Ohio DOT designated heavy haul network
EPA	City of Toledo Division of Environmental Services acts as contractual agent for Ohio and U.S. EPA
Permitting	3-6 Month permitting timeline for minor source
Industrial Neighbors	<ul style="list-style-type: none"> <li>2 Large consumers within 5 miles of site</li> <li>Site is in near proximity to BP Husky Toledo Refinery</li> <li>Strong local support of petrochemical industry</li> </ul>
Govt. Incentives	Preliminary incentive package in-hand
Docks	Maumee R. and Lake Erie, 26'-6" draft for St. Lawrence Seaway, available daily use and roll-on roll-off docks
Terminal Services	Rail switching and rail/truck loading - negotiations with existing on-site terminaling company underway
Storage	Storage tanks to be constructed and operated by adjacent terminaling company.





**MIDSTREAM**METHANOL

We are talking to potential anchor investors and  
offtake customers

Our interest in networking today is to seek your  
advice and input as we take our next steps  
forward