



Biodiesel Benefits



Ken Mitchell, Ph.D.
Senior Climate Change Advisor
U.S. EPA; Atlanta, Georgia

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Benefits of Biodiesel

❖ Biodiesel has multiple benefits

- Increased Safety and Energy Security
- Environmental Benefits





Providing Safety Benefits

- ❖ Low toxicity, so less damage than petroleum diesel if spilled or otherwise released to the environment
 - Biodegrades about four times faster than petroleum diesel

- ❖ Less combustible
 - Flashpoint for biodiesel is higher than 200°F, compared with about 125°F for petroleum diesel

- ❖ Safer to handle, store, and transport





Increasing Energy Security

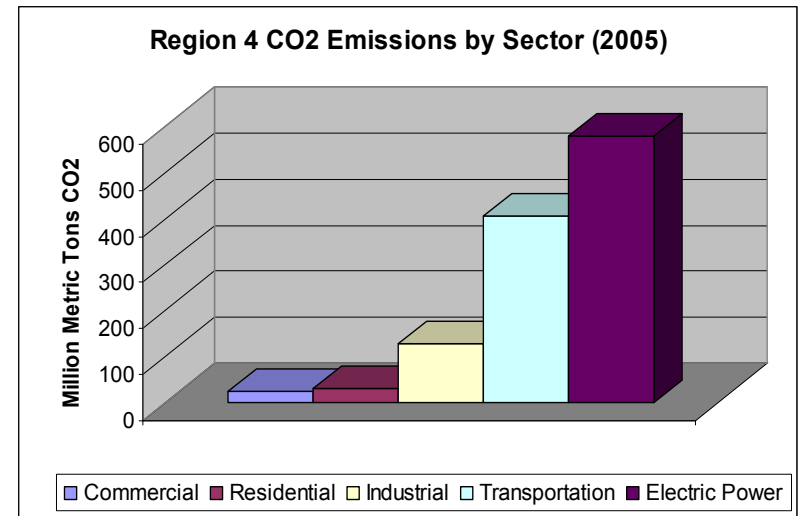
- ❖ **We import more than 60% of our petroleum**
 - Two-thirds used to fuel vehicles (gasoline and diesel)
- ❖ **Demand for petroleum imports is increasing**
- ❖ **With much of the worldwide petroleum reserves located in politically volatile countries, the U.S is vulnerable to supply disruptions**
- ❖ **As an alternative to diesel, it can help reduce U.S. dependence on foreign oil**





Environmental Benefits

- ❖ **Greenhouse gas (GHG) estimated emission reductions; for example**
 - B100 produced from soybean oil estimated to reduce lifecycle CO2 emissions by 78% compared to petroleum diesel
 - Effect is linear with blending level -- so a B5 blend reduces life cycle CO2 emissions by 3.8%
- ❖ **The proposed RFS2 standard requires 50% GHG lifecycle reduction over 2005 petroleum baseline**



Lifecycle GHG emissions include production and transport of the feedstock; land use change; production, distribution, and blending of the renewable fuel; and end use of the renewable fuel.



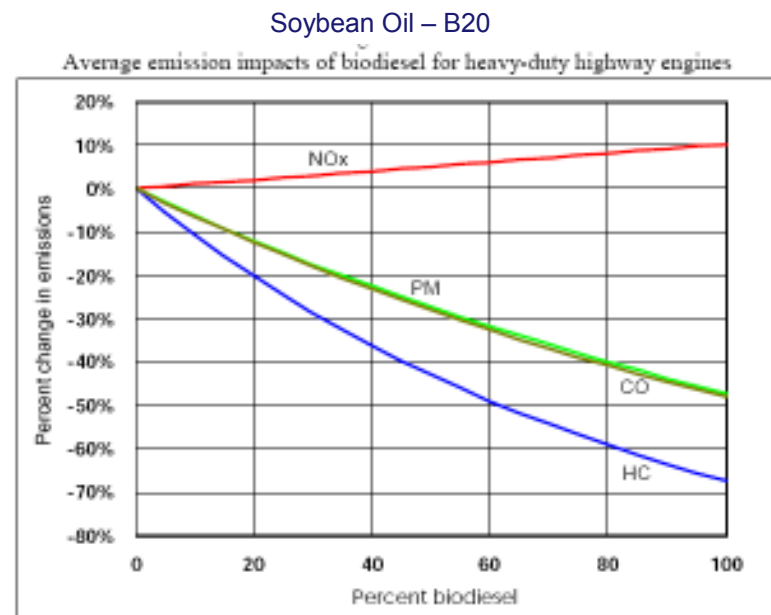
Environmental Benefits

❖ Other Air Pollutants -- in general, reduces

- Particulate matter
- Carbon monoxide
- Hydrocarbons

❖ NOx increases slightly

❖ Benefits may vary by biodiesel type, engine type, percent biodiesel, and source petroleum





Environmental Benefits

- ❖ EPA's Report to Congress on combined sewer overflows (CSOs) and sanitary sewer overflows (SSOs) identified that fats/oils/grease (FOG) from restaurants, homes, and industrial discharges are the most common cause (47%) of reported blockages
- ❖ Controlling FOG discharges will help treatment plants prevent blockages
- ❖ Helps avoid public health and water quality problems





Questions?

Ken Mitchell, Ph.D.
Senior Climate Change Advisor
U.S. EPA; Atlanta, Georgia
404-562-9065
mitchell.ken@epa.gov

www.epa.gov/CLIMATECHANGE

www.epa.gov/OMS/RENEWABLEFUELS