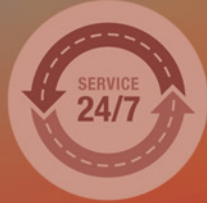




Logistics Management



Dedicated Contract Carriage



Warehouse Management



Bulk Transportation



Custom-Built Transportation



Carrier Management



Kitting and Subassembly



Brokerage Services

RUAN

Biodiesel Effectiveness in Class 8 (Heavy Truck) Fleet Application

FHWA Talking Freight Webinar

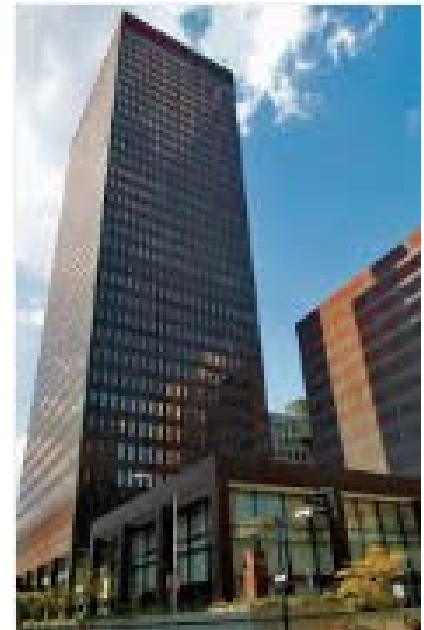
Ruan Transport Corporation
Steve Larsen 5/15/19

Topics Covered

- + Ruan Overview
- + Ruan Sustainability Initiatives
- + Ruan Biodiesel and Renewable Diesel
 - Historical Usage
 - Factors Considered when Choosing Biodiesel
 - Benefits Realized
 - Other Considerations
 - Policy Initiatives

Ruan Introduction

- + Founded 1932 by John Ruan, Headquartered in Des Moines, IA
- + Primary business offerings
 - Dedicated Contract Transportation
 - Supply Chain Solutions
 - Warehouse Management
 - Integrated Solutions
- + National footprint with 300+ Operations
- + Operates ~4,000 Class 8 tractors / 9,000 trailers
- + Sustainability
 - Multiple time Excellence Award recipient – EPA Smartway Partner
 - Member of Dept of Energy 'National Clean Fleets Partnership'
 - Heavy Duty Trucking 'Top 50 Green Fleets' award winner
 - Named annually to Food Logistics' 'Top Green Provider' list
 - Named annually to Inbound Logistics' 'Green Supply Chain Partner' list
 - Joining 'B20 (Biodiesel) Club', Iowa Chapter
 - Business for Social Responsibility (BSR) 'Sustainable Fuel Buyer Principles' signatory



Ruan Sustainability Initiatives - General

+ Industry outreach / collaboration

- Industry group memberships, Advanced Clean Transportation (ACT) Expo presentations
- Knowledge and best practice sharing – industry calls, webinars, presentations, panel discussions
- Provide support for clean fuel policies to legislators

+ Fuel economy initiatives

- Modernizing fleet (average age of fleet = 2.8 years)
- Aerodynamic packages, low rolling resistance tires, lightweight and fuel efficient spec'ing
- Driver training and Electronic Logging Device (ELD) reporting

+ Ruan has been a heavy user of alternative fuels

- Natural Gas
 - Compressed Natural Gas and Renewable Natural Gas (digested from cattle manure)
 - Over 90 million miles run on natural gas power
- Electric
 - Trucks on order and involved in ongoing discussions
- Biodiesel
- Renewable diesel

Ruan Biodiesel and Renewable Diesel Usage

+ Biodiesel

- Purchased approximately 132M gallons between 2013 - 2018
- Truck Stops
 - Over prior years, Ruan has been purchasing biodiesel from truck stops roughly based on incentives by State (i.e. IL, MN, etc.)
 - As biodiesel has gained traction over recent years (in part due to stable standards, blenders' credits and State incentives), Ruan's truck stop biodiesel blend percentage has increased to nearly B20 levels (20% biodiesel blend) during most warm weather periods.
- Ruan bulk fuel tanks
 - Ruan operates 15 bulk diesel tanks
 - B20 year-round for warm weather sites, with moderation in Winter for other sites

+ Renewable diesel

- Purchased approximately 1.4M gallons in the past 12 months
- Exclusively used in California – related to Low Carbon Fuel Standard (LCFS) credits
- Blended at 80% Renewable diesel and 20% Biodiesel (to help with lubricity)

Ruan Decision to Utilize Biodiesel – Factors Considered

- + Adopted 'ASTM International' standards have resulted in predictable quality
- + Manufacturers have supported or allowed* B20 for our tractor fleet
 - Assurance that there would be no impact on OEM warranty coverage
 - We encourage manufacturers to state full support for biodiesel blends up to B20
- + Cleaner emissions: 20% CO₂ reduction vs. #2 Diesel (Source: Energy Information Administration)
- + Ready to deploy now
 - Other technologies are years away, but biodiesel is a nearly effortless option now
- + Works with existing Class-8 tractor technology
 - Requires no changes to specs / no additional components or capital costs
- + No new infrastructure required
- + Reduces costs – improved further by blenders' credit and other incentives
- + Maintenance considerations
 - Ruan has not seen changes in fuel-related maintenance issues with biodiesel use

The most practical, cost effective and ready-to-use of all alternative fuels is Biodiesel.

Ruan Decision to Utilize Biodiesel – Benefits Realized

+ Cleaner emissions

- CO₂ reductions just from Ruan's purchases with REG over the last 1½ years = 4,358 metric tons.
 - 4,358 metric tons of CO₂ reduction on approximately 20% of Ruan's bulk fuel purchases.
- Annual Ruan CO₂ reduction estimates from Biodiesel and Renewable diesel
 - Bulk ~ 19,000 metric tons/year
 - Truck stop ~ 100,000 metric tons/year
 - **Total ~119,000 metric tons/year**
- Good corporate citizen / Customer relations / Public relations
- **R80/B20** reductions vs. ULSD: CO₂ 25%+, PM 40%+ and NOx 10% (source REG)

+ Reduced costs

- Ruan has seen fuel cost improvements using biodiesel blends
 - State incentives
 - Blenders' Credit impacts
- R80/B20 can be cost competitive to B20 or to #2 diesel in CA. Other States likely require some 'Low Carbon Fuel Standard' types of programs to reach cost competitiveness.

Ruan Decision to Utilize Biodiesel – Other Considerations

- + Good bulk diesel tank maintenance is important
- + Blending method
 - Purchase pre-blended B20 (or other blends)
 - Maintain separate tanks for neat biodiesel and #2 diesel, along with blending hardware
- + Consider tapering blends in cold weather based on facts
 - Consistent fuel testing for cloud point
 - Treating with normal 'Winter treatment' can help with usage of biodiesel further into Winter season
- + Domestic production / energy security
- + Raw input costs decoupled from typical energy markets
 - Many of the feedstocks used in biodiesel production do not trade in sync with petroleum components

Biodiesel – Policy Changes

It is often a challenge to implement incentives that successfully pair maximum environmental benefits with attractiveness of business adoption.

- + Biodiesel incentives result in nearly certain 100% effectiveness.
 - Truck stop chains will adopt, resulting in ‘indirect adoption’ for nearly every fleet in the nation.
 - Bulk pricing for biodiesel is more attractive, and causes no extra effort for fleets.
- + Encourage support for the ‘Tax Extenders’ package including the Blenders’ Credit
 - Fleets can plan much more effectively if this were to be signed proactively and for multiple years instead of retroactively for one year at a time
- + State initiatives such as reduced IFTA (Fuel tax) rates on biodiesel
 - Encourage easier ways to account for biodiesel gallons or allow truck stop blending policy statement to be used in support of IFTA rebate filings
- + LCFS-type initiatives in other States – to bring fully renewable diesel to many more markets. This is the cleanest fuel that has no operational or capital hurdles.
- + Exploring biodiesel blend levels beyond B20



Please reach out with questions:

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