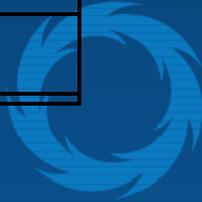


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blue sun®

AB 118 Investment Plan Staff Workshop – Biofuels

Monday, September 14, 2009

 goBlueSun.com





“California’s biofuel markets are not functional in meeting State policy goals for the in-state production and sales of low carbon intensity biofuels”



California requires a biodiesel infrastructure that provides:

- Quality Product
- Service & Support
- Enabling Technology



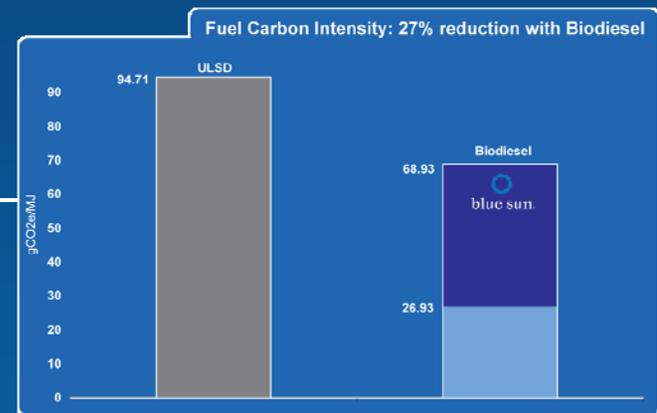


- Biodiesel
- Blue Sun
- Upstream
- Midstream
- Downstream
- Other issues



■ Biodiesel...

- Can be used in existing infrastructure and engines without modification
- Is available in large volumes now
- Has a lower carbon intensity
 - 68.93 gCO₂e/MJ preliminary for biodiesel vs. 94.71 for ULSD
- Reduces other harmful emissions such as CO, NO_x*, SO₂, particulate matter (DPM), and hydrocarbons
- Meets CEC Program Objectives
 1. GHG reduction
 2. Petroleum reduction
 3. Alternative fuel use
 4. In-state biofuels use
 5. In-state biofuels production



BLUE SUN FUSION EMISSION BENEFITS
Compared to conventional diesel

	Blue Sun Fusion
Carbon Monoxide	-24%
Hydrocarbons	-29%
Particulates	-18%
Nitrogen Oxides	-4%





- Blue Sun additionally...
 - Selects and processes feedstock oils to assure the Blue Sun B100 specification is met
 - Includes DTX™ additive with biodiesel to reduce emissions, increase performance and maintain fuel quality
 - Ratio blends DTX, B100 and ULSD to create an accurate blend, assuring fuel quality
 - Trains and supports downstream fuel distributors and end users to guarantee the quality of the fuel



- Production
 - Out of state B100 will be required while in-state capacity is being developed



■ Terminals

- More than 50 large petroleum product terminals in California
- Each requires a retrofit to enable biodiesel blending
 - Storage tanks, rack, electrical etc.
 - Blue Sun utilizes ratio blending to meet highest-quality specs and end user requirements for performance and emissions
- Cost - \$3M per terminal, \$150M total



Terminals
(retail bound)



Per Retrofit



Total





- Distribution
 - End-users require a quality fuel able to meet their needs
 - California must have the infrastructure to provide fuel to meet emissions requirements and end user performance needs
 - Fuel distributors must maintain the delivery system including tank cleaning to ensure product quality
 - This requires that fuel marketers manage and train distributors
- Retail
 - Nearly 10,000 retail sites in California
 - ~30-40% of sites carry diesel
 - \$3,000 per site for customer point-of-purchase, informational materials, etc.
 - Up to \$40,000 per site for installation of double-walled underground storage tank (UST)





- VDECs
 - Verified Diesel Emissions Control Strategy
 - Test process very expensive
 - CEC can:
 - Provide assistance with appropriate state boards to approve biodiesel as a VDEC
- Continued support of biodiesel blend testing
 - In engines, in storage tanks, etc.





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