



## CLEANTECHADVOCATES

October 31, 2013

VIA ELECTRONIC POSTING

Comment List: 2013-sp-update-ws

Mr. David Mallory  
California Air Resources Board  
1001 I Street  
Sacramento, CA 95814

Subject: New technology for biosynthetic motor oils and industrial lubricants will provide significant reductions in greenhouse gas (GHG) emissions in the transportation and waste sectors

Congratulations on your many achievements to reach the goals of AB 32, and thank you for the opportunity to comment on the draft update of the AB 32 Scoping Plan.

We are taking this opportunity to introduce a new technology that will provide significant GHG reductions in the transportation and waste sectors, as well as provide other benefits to the economy, environment, and public health.

California has taken significant steps and led the nation in policies to reduce GHG emissions in the transportation sector through clean car standards, low-carbon fuels, land use planning policies, and including fuels in the cap and trade program. The transportation sector is the largest contributor to GHG emissions in the state, accounting for approximately 38% of statewide emissions in 2011 and projected to be 35 percent in 2020.

Technology now exists to supply a high-performance, bio-based, biodegradable blend of lubricating oil for use as a base oil in gasoline and diesel engines in passenger cars, light-duty trucks, and vans. A recent Life Cycle Analysis shows this new technology offers an 83% to 88% reduction in GHG emissions as compared to similar petroleum based synthetic oils. These biosynthetic lubricating oils have performance qualities similar to or superior than other synthetic lubricants, with added environmental and public health benefits

The 2008 Scoping Plan acknowledges that ARB is pursuing ways to reduce engine load via lower friction oil as a component of vehicle efficiency measures. Independent testing not only shows biosynthetic motor oils to be among the highest-rated products for protecting engines and machinery, thereby likely improving fuel efficiency, but they are also bio-based, biodegradable, non-toxic and do not bio-accumulate in marine organisms.

Motor oils and lubricants formulated with biosynthetic base oils can be recycled and re-refined just like petroleum. Used motor oil that is recycled and re-refined into motor oil can benefit from this new technology by blending the recycled oil with high-performance, bio-based, biodegradable products that have greater environmental and public health benefits. This technology also could be applied for use in greases, gear oils, cooling fluids, metal working fluids, hydraulic fluids, marine lubricants used in heavy equipment, heavy duty vehicles, agricultural equipment, vessels, amusement parks, elevators, and other similar industrial and business applications.

The draft updated Scoping Plan makes a policy statement that meeting the State's GHG and waste reduction goals need to be addressed with the understanding that California must take full ownership for the wastes generated within its borders and that shipping of waste, even recyclable products, out of state, is not a viable, long-term, environmentally appropriate waste management practice for California.

According to the Department of Toxic Substance Control, the potential zinc, cadmium, and lead emissions from used oil-derived fuels from California are on the order of emissions from all of California's major stationary sources combined. Because the combustion of untreated used oil as fuel occurs primarily outside of California, the impacts may not be directly damaging to California. However, California's global environmental footprint can be significantly decreased.

Used motor oil is the largest volume of hazardous waste generated in California. Californians buy approximately 150 million gallons of motor oil every year, generating over 90 million gallons of used oil. The remaining 60 million gallons are lost in use, either burned in the combustion chamber or dripped onto streets and parking lots. However, only about 76 million gallons are actually collected, and only 10-12 million gallons are actually re-refined into motor oil. Most of the used oil is shipped out of state and burned as fuel, producing GHG emissions. An estimated 14-16 million gallons are illegally dumped, ending up in our rivers, streams, and lakes, degrading our drinking water supplies, and adding to storm water and coastal pollution.

The State Petroleum Reduction Plan (PRC Sec. 25722.8), calls for the reduction of the state fleet's consumption of petroleum products and identifies the use of re-refined motor oil or synthetic motor oil as a way to reduce petroleum consumption and save money through less engine wear and extended intervals between oil changes.

The benefits of longer intervals between oil changes, the reduced consumption of lubricating oil over the life of the vehicle, and the reduction in GHG emissions make biosynthetic lubricating oil a cost-effective alternative for vehicles in the state fleet. It

will help the state fleet meet the goals in state law and its reduction plan, while helping the state meet the overall goals of AB 32.

The draft updated Scoping Plan expresses state policy to identify and encourage implementation of agricultural GHG emission reduction management practices that provide co-benefits to air and water quality. The US Department of Agriculture's Bio-Preferred Program, which imposes a procurement standard for federal agencies and federal contractors for the purchase of bio-based products, recently added a program requiring a minimum 25% bio-content for motor oils. Numerous companies in California, large and small, are investing in this new technology; however, production facilities are not yet available in California.

In conclusion, we recommend the following to be added to the draft Scoping Plan:

- Include this technological advancement as a pathway for GHG emission reductions in the transportation and waste sectors.
- Explore the myriad opportunities to deploy this new technology in the industrial and agricultural sectors and in public transportation and goods movement.
- Develop incentives such as bio-content standards for motor oil in order to encourage the use of biodegradable motor oil, using the USDA program as a basis for the standard.
- Use a portion of cap and trade auction revenues to stimulate market demand for this new, environmentally friendly technology through the development of a rebate program or other mechanisms.
- Add the State Petroleum Reduction Plan to the list of "State Plans that Will Assist the State in Meeting its GHG Goals". Any plan updates should acknowledge the benefits of this new technology to reduce GHG emissions.
- Under "Key Recommended Actions for Transportation, Land Use, Fuels, and Infrastructure, Funding and Market Transitions" add "and lubricant" to the recommendation "Support development of large-scale renewable and low carbon fuel and lubricant production facilities".

Thank you again for the opportunity to comment on this important effort to update the AB 32 Scoping Plan.

Sincerely,

Linda S. Adams, Senior Advisor  
Clean Tech Advocates