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PropelTM
Fueling Change.

California Energy Commission

Transportation Committee Workshop on Transportation Fuel
Infrastructure Issues

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Renewable Diesel

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What is it?

Renewable Diesel for this discussion is:

- Diesel replacement made via Fischer-Tropsch or hydroprocessing process
- Thermo-chemically produced from waste animal greases, plant oils, biomass, natural gas
- A paraffinic hydrocarbon
- Not biodiesel

		Renewable Diesel (R100)	Implications
Product Properties	◆ Storage Stability ¹	months / years	Simpler handling
	◆ Cloud point	20 to -29° C	Flexible
	◆ Copper strip corrosion	No. 1	Steel compatible
	◆ Hygroscopic	No	Simpler handling than biodiesel
	◆ Cetane	75 plus	Upgrades diesel
	◆ Energy content	98% of ULSD	Better mileage than biodiesel
	◆ NOx emissions	0% to -25%	No impact or benefit on non-attainment areas
Product Properties versus Petroleum Diesel	◆ Particulate matter	-96%	Cleaner fuel

Note: (1) includes auto-oxidation by air, thermal decomposition by heat, and hydrolysis by water

Renewable Diesel's potential

- Outstanding properties:
 - Environmental benefits across all metrics
- Creates optionality:
 - No equipment, storage or maintenance investment
 - Capture benefits immediately
- Out-of-state supply at present but in-state projects being planned
- Bulk-handling key to acceptable economics

Today's Hurdles to Implementation

- US EPA approval for > R20 Blends:
 - Requests submitted 1Q; Approval timeline?
- No CA approval for underground storage:
 - Not specifically ASTM D975, but meets all specifications
 - Latitude for State judgment?
- Lack of bulk storage infrastructure:
 - Potential for CEC grant support?
- Lack of test data to support benefits:
 - Key opportunity for public/private partnership

Challenging Process to Gain Clarity and Approval

- Can it be used legally in vehicles on-road?
- At what blend levels?
- Does it have a pathway?
- Can it be stored underground?
- Can existing dispensing equipment be used?
- What fuel specification is applicable?
- What quality reporting is required?
- What production / import reporting is required?
- What tax collection and reporting laws apply?
- Can I get any of this confirmed in writing?

How can you help?

- Help remove the hurdles and encourage demand:
 - Have single point of coordination accountable to clear implementation hurdles for new fuels
 - Create agency coalition to design and fund testing
 - Enable the market to build demand to support local production:
 - Move at pace
 - Provide support for storage and handling investment