

# California Biodiesel Alliance



Funding Request for AB118 ARFVTP

# Introduction

- California Biodiesel Alliance (CBA)
  - Not-for-profit trade association
  - Promoting high quality, renewable biodiesel use and production in California
  - California producers, feedstock providers, marketers and other stakeholders
- California Biodiesel Industry
  - Potential to expand in-state production to meet California's 2020 goals and 2050 vision

# 2011 IEPR Benefits Section

Table 1 – Projected 2020 Alternative Fuels Benefits (average of low & high case scenarios)

Fuel Type	Petro Reduct	GHG	Air Quality	Total	% of $\Sigma$ Results	% of Funding
Biodiesel*	25%	35%	44%	104%	34.7%	4.8%
Electric Vehicles	24%	20%	40%	84%	28.0%	36.6%
Biogas	19%	28%	4%	50%	16.8%	20.7%
Natural Gas Vehicles	24%	10%	5%	38%	12.8%	18.4%
Fuel Cell Vehicles	4%	3%	8%	14%	4.8%	13.3%
Ethanol	5%	5%	-1%	9%	3.0%	6.1%
	100%	100%	100%	300%		

Based on CEC's own calculations...

Biodiesel provides 34.7% of results

More than all other modalities

Yet only receives 4.8% of funding

# Cost Benefit Analysis

**Table 2: IEPR Cost Benefit Analysis**

Budget Expenditures ending 9/2011 =		\$198.40	(all \$ in millions)		
Fuel Type	% of Results <sup>1</sup>	% of funds <sup>1</sup>	Budget	\$/% of Results	Ratio
Biodiesel	34.7%	4.8%	\$9.52	\$0.27	1.0
Electric Vehicles	28.0%	36.6%	\$72.61	\$2.59	9.4
Biogas	16.8%	20.7%	\$41.07	\$2.44	8.9
NG Vehicles	12.8%	18.4%	\$36.51	\$2.85	10.4
Fuel Cell Vehicles	4.8%	13.3%	\$26.39	\$5.50	20.0
Ethanol	3.0%	6.1%	\$12.10	\$4.03	14.7
	100%	100%	\$198.40	\$1.98	7.2

1. Data from Table 1

Other programs 9 – 20x more expensive than biodiesel in achieving same goals

# Biodiesel Benefits

- ✓ Lowest cost, commercially available, low carbon fuel on the market today
- ✓ Produced from diverse low impact feedstocks
  - ✓ grown in California
  - ✓ create in-state jobs
- ✓ All OEM's support the use of B5
  - no NOx increase in new diesels

# Achieving ARFVTP Goals with Biodiesel

- Biodiesel is grossly under-funded compared to its potential to meet program goals:
  - ✓ Petroleum displacement
  - ✓ GHG reduction
  - ✓ Air quality improvement
  - ✓ Job creation
- CEC should re-examine analyses required under AB109
  - ✧ Funding inconsistencies
  - ✧ ARFVTP allocation process seriously flawed
- Objective, metric-based approach developed
  - ✓ Transparent to all

# California Biodiesel Industry

- 8 functioning plants in California
  - 46 Mgpy capacity
  - 150 good paying jobs
  - 26 Mgpy projected in 2012 (~1% statewide)
- CBA Member Survey: Industry expansion requirements
  1. Grants & loan guarantees to expand/increase in-state ULCI production
  2. Develop plentiful & inexpensive low ILUC feedstocks
  3. Grants & loan guarantees for new blending/storage at petroleum distributors & terminal racks
- To date – inadequate ARFVTP funding support for biodiesel industry – which provides greatest return on taxpayer dollars

# Ultra-Low Carbon Biodiesel

- ULCI signifies CI <20 gCO<sub>2</sub>e/MJ
  - Existing, approved pathways under LCFS (5.9 – 18.44)
  - Room for inclusion of new technology and feedstock pathways
  - Not a defined legislative or regulatory standard
  - Objective used for comparison of approaches to facilitate LCFS compliance
- 2012 – 66% of CA-production was ULCI biodiesel
  - UCO / YG / DDG corn oil
    - Petroleum diesel CI = 94.71
    - 83 – 94% GHG reduction
  - 200 Mgy (5%) can be absorbed at blends compatible with existing vehicles and retail infrastructure
  - 2011 – RFS2 = 1 Billion gallons (2013 = 1.28B gallons)
  - CARB: “OPs have requirements under RFS2 & LCFS”
    - Incentive to blend!

# ULCI Biodiesel – Helps Meet LCFS and AB118 Goals

- Potential to substantially increase low impact feedstocks to meet higher demand – creating ULCI biodiesel & jobs!
- CA production of ULCI biodiesel should be increased to meet mid-term and long-term goals of LCFS and AB118
  - Availability of current ULCI feedstock types
  - Ongoing development of new ULCI feedstock such as Algae
  - Tremendous GHG/CI reduction & Petroleum displacement benefits

# Comparison to Other Fuels & Technologies

- 50% of funding goes to FCVs & EVs
- What metrics used to justify this investment level?
  - Petroleum displacement, GHG reduction, air quality benefits
- Any evidence funding was/is effective on cost/benefit basis?
- Can metrics be shared with advisory committee and public so we can all work toward same goals?

# CA ULCI B5 vs. FCVs & EVs

- FCVs & Evs displace 425 gallons of petro fuel/year
  - Very optimistic assumption of 10,000 units/yr in CA
  - ✓ **B5 = 470,588 FCVs or EVs on CA roads**
    - ✓ **47 years for FCVs & EVs to achieve B5 equivalence**
- Hypothetical 53,000 FCVs by 2017
  - \$65M for 68 H2 stations
  - Toyota's first FCV in 2015
  - Other OEMs say 10 years before marketable
  - ✓ **B5 = 10x that displacement of petroleum & GHGs**
    - ✓ **Immediate solution**
    - ✓ **Produced in-state now**
    - ✓ **Should be expanded to create immediate benefits**

# CA ULCI B5 : NGVs

- Average petro reduction/heavy-duty NGV = 7000 gallons
- GHG reduction in heavy-duty NGVs = -1% – 16% per mile driven
- ✓ **B5 = 28,571 heavy-duty NGVs on CA roads**
  - ✓ **GHG-reduction = 157,140 NGVs on CA roads**
  - ✓ **14+ years for NGVs to achieve B5 equivalence**

# 2012 CA Biodiesel Production

- 2012 California biodiesel production –
  - 26 million gallons:
    - = 61,000+ EVs or FCVs on CA roads
    - = 3700+ heavy-duty NGVs on CA roads

# Funding Recommendation

- In-state biodiesel production, feedstock & Infrastructure development projects receive \$24M
  - \$6.5M – Production expansion
    - Preference to ULCI production & CI-lowering techs and feedstocks
  - \$6M – Low Interest / Loan Guarantee programs for new in-state ULCI biodiesel production
  - \$4M - \$0.10/gallon in-state ULCI production incentive program
  - \$3.5M – Infrastructure development
    - \$1.75 – Large terminal racks
    - \$1.75 – Wholesale / jobber distribution sites
- 20% incremental re-allocation to biodiesel from other fuels/technologies funded above parity line
- Policy implementation where all PONs require a dollar/metric unit improvement analysis

# Conclusion

- ✓ Biodiesel – displaces 200 Mgy petro @ B5 near-term
  - ✓ Satisfies diesel LCFS GHG reduction targets through 2016
  - ✓ = ~500k EVs/FCVs on CA roads
  - ✓ or >28k heavy-duty NGVs on CA roads
  - ✓ Would take others decades to accomplish this
- ✓ Our energy & climate issues need multiple solutions
- ✓ Most effective solution for long-haul trucking is Biodiesel in near-, mid-, and long-term
  - ✓ Borne out when reviewing CEC data
- ✓ Objective, metric-guided approach for funding

# Biodiesel = Jobs

- Create **500** new production jobs
  - Not including ancillary employment
- Up to **10,000** new Agriculture jobs
  - Feedstock cultivation, harvesting, processing
  - Generated in **highest state unemployment areas**
  - New jobs growing new crops on under-utilized land