

**From:** [Atul Deshmane](#)  
**To:** [Energy - Docket Optical System](#)  
**Cc:** [Bailey.Stephania@Energy](mailto:Bailey.Stephania@Energy)  
**Subject:** Re: Comments Regarding Draft CEC IEPR  
**Date:** Saturday, November 29, 2014 3:33:21 PM

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CEC Staff:

I am the president of Whole Energy Fuels Corp of Washington State. We have a subsidiary named Whole Energy Pacifica LLC. These companies employ 3 individuals in California and we have 1 active project funded by the CEC PIER program to test a new gas scrubbing technology. We also led the commissioning of a facility that transports via pipeline about 40,000 diesel gallon equivalents per day of renewable natural gas into California. The customers of that gas are IGI British( Petroleum's natural gas division) and Clean Energy. Whole Energy markets millions of gallons of biodiesel each year from low carbon intensity feed stock. We work closely with all the producers in the state and are members of the California Biodiesel Alliance (CBA). We are planning to join the Bioenergy Association of California(BAC) support the statements of both organizations.

The areas where we believe additional attention is needed are:

1. An emphasis on co-products and co-generation from bioenergy - Bioenergy can achieve greater energy efficiency and economic benefit if co-products are produced. The CEC's funding criteria do not place enough value on the development of co-products or co-generation in its solicitations to date.
2. Off-road customers and applications for biofuels - There are many potential users of biofuels for off-road applications. These end users have requirements that are more easy to meet particularly in the case of fuels made from municipal waste.
3. A consideration of Energy Return On Energy Invested (EROEI) - This figure of merit evaluates which energy product provides the greatest energy surplus. CEC should try to fund projects that have the greatest EROEI. This is because our society depends upon have a large net energy surplus. Many emerging energy sources like tar sands oil have a low EROEI. Methodologies for evaluating EROEI for projects have been developed.
4. A consideration of water consumption - In our opinion water consumption per unit of energy is a simpler and more critical concern in California than indirect land use. However no methodology exists to compare the various energy production methods based on their water consumption. A methodology for energy return on water invested should be developed and then used by CEC to guide projects in California.

We appreciate the opportunity to comment on the Draft IEPR for the CEC. Please let me know if I should provide more clarification on the comments above. Thank you.

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Regards, Atul

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