Philip Erro, Board Member
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Fresno, CA

July 14, 2008

Support of AB32 Scoping Plan

1) I am Philip Erro, a Fresno native and an agricultural board member of the San Joaquin Valley Clean Energy Organization. Created by the California Partnership for the San Joaquin Valley, the San Joaquin Valley Clean Energy Organization operates as a regional hub for communication and resource leveraging to increase the adoption of energy efficiency and renewable energy technologies in the San Joaquin Valley.

2) For over 30 years California has implemented energy conservation, energy efficiency and renewable energy initiatives, resulting in economic growth without increasing per capita energy consumption. California Energy Commission buy-down incentives enabled the purchase of solar photovoltaic systems for my residence and almond orchard, which has shifted over 65% of my power usage to solar electricity. Compared to a Tier 3 diesel engine, my solar PV-fueled electric drip-irrigation booster pump (60 HP/45 kW) avoids emitting 983 lbs of NOx and 48 lbs of PM per year. To see a video of my farm solar PV system, click on this link:
http://video.google.com/videoplay?docid=4778719701042748742&q=Phil+Erro&ei=u4l6SKenKpjOqwO83rSYCw My solar photovoltaic-powered water pump can be replicated tens of thousands of times throughout California. Post-AB32 venture capital investments in solar photovoltaic, concentrated solar, and biomass-to-fuel technologies in California will clearly yield cleaner air, a reduction in carbon emissions, and vibrant economic growth.

3) The Air Resources Board's emphasis on energy efficiency and water efficiency is crucial to California agriculture. I whole heartily support the ARB Scoping Plan goals of reducing California's electricity consumption by 32,000 GWh and natural gas usage by 800 million therms by 2020. I believe that reducing our per capita consumption of water by 20% by 2020 is imperative, given the population growth projected for the next 12 years. In the agricultural sector, water efficiency and water system energy efficiency are essential for sustainability. Pumping water to irrigate crops consumes eighty percent of the electricity California farms use. Minimizing the amount of water needed to irrigate starts with building soil carbon to attain moisture retention. When sufficient soil carbon sustains abundant micro-organisms, moisture remains in crop root zones and maximizes the amount of irrigation water available for crop production. Baseline water needs are minimized, and irrigation systems are sized accordingly. This attained, investments in state-of-the-art irrigation systems enjoy increased cost-effectiveness. Soil moisture and evapotransporation rate are monitored, and water is precisely applied so that crop needs are met without flushing water below root zones. Variable frequency drives for pump motors can tailor the volume and pressure of irrigation water to field conditions. Other energy efficiency improvements can be made. But incentives, such as carbon offset payments, to get farmers to sequester carbon in their soils by practicing conservation

tillage and regularly incorporating high biomass cover crops into their soils are needed to defray the cost of adopting these practices. The ARB's Scoping Plan needs to reward farmers for sequestering carbon, pumping water with the least amount of conventional energy, and producing the most food for humans per unit of water.

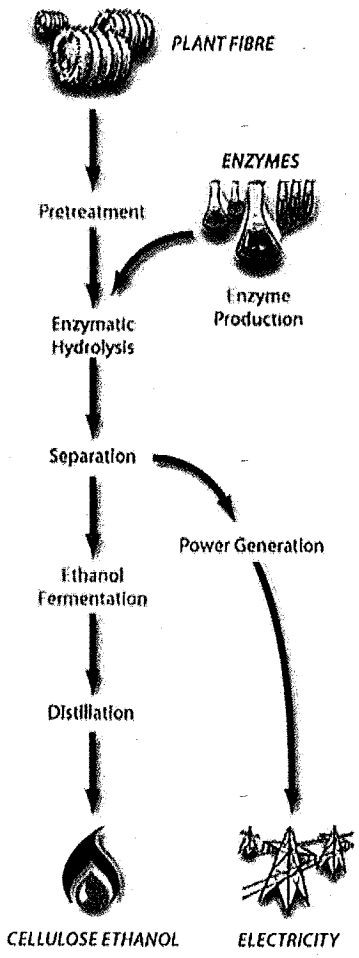
4) The Scoping Plan's proposed Renewable Portfolio Standard of 33% is extremely important to motivate electric utilities to buy Renewable Energy Credits from farmers who invest in solar photovoltaic and other renewable energy equipment to power agricultural pumps. My 28.8 kW solar PV-powered water pump saves $8,000 per year in electric charges; but if PG&E were mandated to pay me $0.05 per kWh for the 56,000 kWh my solar PV system generates annually, my revenues would increase $2,800 per year or 35%. The addition of Renewable Energy Credit income would boost my return on investment 2.5% to 24.5%. A 25% return on investment is attractive to most farmers, and a well designed 33% RPS tied to electric utility RECs purchases could help deliver this profitability to farmers who invest in renewable energy.

Here's how...

- Have an energy company install and operate a solar thermal system at your site and sell power and heat to you at a discount.
- Gasify almond wood to make power and diesel.
- Get paid to dispose of bio-waste at a regional digester.

San Joaquin Valley Resource Conservation & Development Area & Council

USDA NRCS Natural Resources Conservation Service



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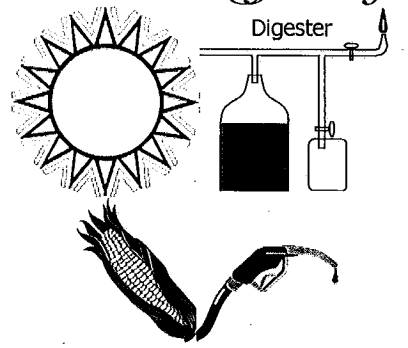
Clean Energy Project



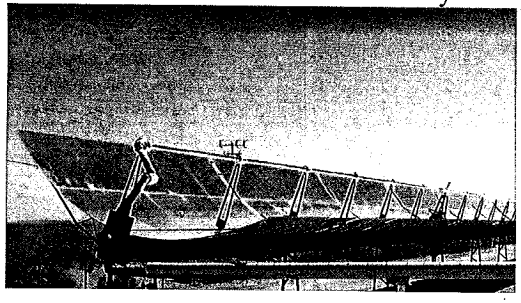
Processors and Growers...

...you can put a stop to energy rate hikes!

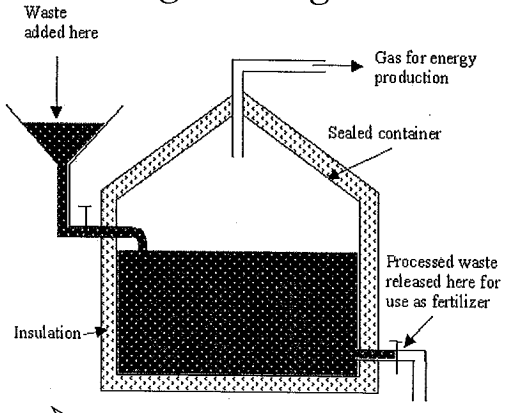
Clean Energy Goals of Westside RCD

➢ 30% of district agricultural processors using Clean Energy by 2012.

Solar heat and electricity



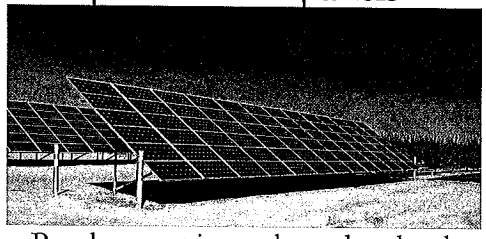
Digester diagram



- Lock in electric and natural gas savings for the next 20 years.
- Reduce San Joaquin Valley air pollution.
- Sell Renewable Energy Credits.
- Enjoy green "E" logo marketing.

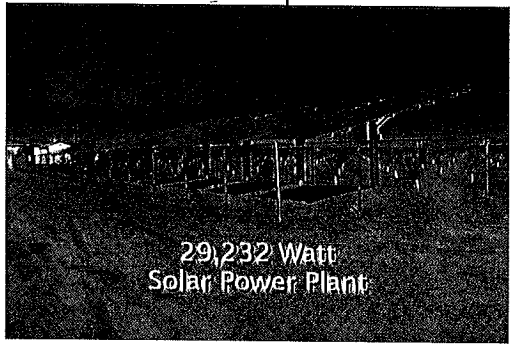
➢ 60% tree and vines using Clean Energy by 2017.

Ground mounted solar photovoltaic panels



Panels are set in an almond orchard.

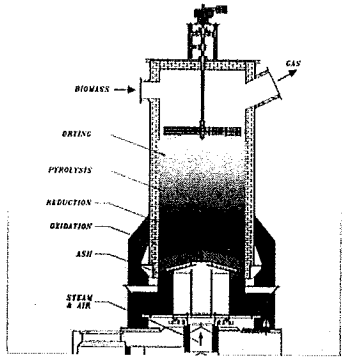
Top-of-pole mounted solar PV panels



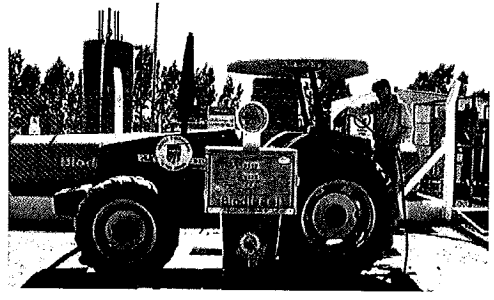
- Set lower electricity costs for the life of your trees or vines.
- Cut region-wide air pollution.
- Receive income from sales of Renewable Energy Credits.
- Sell Green nuts, fruits, and grapes.

➢ 10% of diesel pump, farm vehicle, and tractor fuel supplied by gasification and local digesters by 2015.

Almond wood as biofuel feedstock



Biodiesel-fueled tractor



- Save motor fuel costs.
- Abate particulate matter
- Reduce oxides of nitrogen.
- Diminish ozone (smog) in the San Joaquin Valley.