2012 Bioenergy Action Plan

The comments in blue are the opinion of Thor Bailey Jun 2012

EXECUTIVE SUMMARY

California has enormous potential to create energy from organic waste materials.

Calif has had 30 years of enormous potential and only digressed in production. When will bureaucrats stop misleading consumers and change the paradigm from energy to mitigation?

Urban, agricultural and forest wastes that would otherwise go to landfills or be burned can, instead, be used to produce electricity, transportation fuels, combined heat and power, and more. Expanding bioenergy also creates jobs, provides local energy, enhances energy security, and helps protect public health and safety by reducing waste materials and fire danger.

All true except the financial returns are not appealing for investors that only want to make money on their money! Solution; develop management owned service companies for Ag feedstock collection and pursue socially responsible small return money sources for start-up.

California has adopted numerous policies to promote bioenergy, but significant barriers to its development remain.

When you mandate failed programs they are still failed programs

The *2011 Bioenergy Action Plan* identifies those barriers and recommends actions to address them so that the state can meet its clean energy, waste reduction and climate protection goals. The 2012 *Bioenergy Action Plan* updates the 2011 Plan and provides a more detailed action plan to achieve the following goals:

- Increase environmentally and economically sustainable energy production from organic waste.
- Encourage development of diverse bioenergy technologies that increase local electricity generation, combined heat and power facilities, renewable natural gas, and renewable liquid fuels for transportation and fuel cell applications.

- Create jobs and stimulate economic development, especially in rural regions of the state.
- Reduce fire danger, improve air and water quality, and reduce waste.

California has been subsidizing government, academic & bureaucracies for 30 years and should back private innovation minimum risk enterprise. Why; because after 30 years and countless dollars invested in past failed policy, little present incentive for continuing same Ag based paradigm.

Status of Bioenergy in California

Bioenergy is renewable energy produced from biomass wastes including forest and other wood waste, agriculture and food processing wastes, organic urban waste, waste and emissions from water treatment facilities, landfill gas and other organic waste sources. Biomass waste can be used to generate renewable electricity, liquid fuels and biogas.

Current bioenergy production in California includes:

- 33 biomass plants that generate a combined 600 megawatts of electricity, nearly 2 percent of California's total electricity supply.
- 11 dairy digesters that produce electricity, combined heat and power, and biogas.

The Langerwerf dairy in Durham installed one of the first manure digesters in 1981 and so that means 10 over the last 30 years. Considering there is approximately 1, 400 dairies in Calif. indicate something is not working!

- 500 megawatts of electricity is generated at biogas facilities at wastewater treatment plants and landfills.

This works because captive closed loop and paid for disposal.

50 to 100 million gasoline gallon equivalent is produced at in-state ethanol and biodiesel facilities.

California generates 36 million bone-dry tons of biomass from the urban, agricultural and forest sectors. Using that resource to produce energy provides numerous benefits. Bioenergy produced from in-state biomass reduces California's reliance on fossil fuels and out-of-state fuels. Biomass can be used to generate renewable electricity that is available 24/7. Bioenergy can significantly

reduce water and air pollution, including greenhouse gas emissions. Woody biomass facilities are also critical to reduce forest fire hazards by reducing excess fuel loads. Biomass can also produce combined heat and power for schools, hospitals and industrial processes. Bioenergy from organic urban wastes helps reduce waste going into the state's landfills and bioenergy from agricultural wastes reduces open field burning.

Bioenergy production creates jobs and revenues. In 2010, biopower facilities generated 5,745 gigawatt-hours of energy, impact worth $575 million and providing about 5,000 direct jobs. As reported by the California Biomass Energy Alliance, the largest share of jobs and economic impact came from existing woody biomass electric facilities which employed 750 people at the facilities and 1,200 to 1,500 in the fuel supply infrastructure. Increasing biopower capacity by 50 percent could provide an additional 2,500 jobs in California and generate an additional $287 million in revenues. Public data is not readily available on the employment and economic impact of existing biofuel facilities. However, biofuels has the potential to add over 1,600 jobs.

Challenges

Despite its many benefits, bioenergy production uses only 15 percent of California's available biomass waste, and production is decreasing.

Regardless of well-intentioned mandates, it is not possible to compete with the dependability, convenience and price of natural gas as an energy source. Next best solution is subsidized small facilities for Ag residue mitigation.

Regulatory and financial incentives for renewable power do not adequately monetize the many benefits of bioenergy, and regulatory barriers compound these challenges. Some incentives for bioenergy have been inconsistent or discontinued while others have failed to account for the additional costs and benefits of biomass. Environmental, waste disposal, public health, and pipeline safety regulations often complicate bioenergy permitting and development and sometimes contradict each other. Access to transmission lines, pipelines and other distribution networks also pose significant challenges to bioenergy development.

Some of these challenges require additional research and demonstration to ensure

that bioenergy production is environmentally and economically sustainable.

Most bioenergy technologies are not economics realistic or sustainable and State bureaucrats should quite confusing the consumers with rhetoric!

Other barriers require regulatory changes, including permit streamlining and consolidation, utility procurement requirements, financial incentives that reflect the many benefits of bioenergy, and other changes.

Recommended Actions

To meet California's renewable energy, waste reduction, environmental, and public safety goals, the Bioenergy Working Group recommends the following:

- Increase research and development of diverse bioenergy technologies and applications, as well as their costs, benefits, and impacts.

Divert some research invest into the private sector Ag based applied solutions business for pragmatic grassroots driven results.

- Continue to develop and make accessible information about the availability of organic wastes and opportunities for bioenergy development.

Invest in private sector feedstock processors & carbon sequestration

Streamline and consolidate permitting of bioenergy facilities and reconcile conflicting regulatory requirements to the extent possible.

- Assess and monetize the economic, energy, safety, environmental, and other benefits of biomass.

This should be done through GCN virtual office / IT private sector think tank.

- Facilitate access to transmission, pipelines, and other distribution networks.