CALIFORNIA ENERGY EFFICIENCY STRATEGIC PLANNING	**INDUSTRIAL SECTOR**	
Last Revised: 12/6/07	*Meeting Minutes*	Created By: Joanne Medvitz

Meeting Name	Joint Agriculture/Industrial Sector Workshop		
Meeting Date	November 30, 2007		
Meeting Time	9:30 AM – 12:30 PM		
Venue	Pacific Gas & Electric	**City**	Stockton, CA
Attendees	*(participant list private)*		

Meeting Notes

1. Welcome from Pacific Gas & Electric host
    a. This is a joint Agriculture and Industrial workshop since the food processing industry spans both sectors.
2. Introduction presentation given by convener explained overview on the process and introduced the straw man (posted on CEE website, Industrial section)
3. Goals/desired outcomes from this meeting
    a. Participants would like to see more effort to integrate with other agencies (ARB, federal level agencies).
    b. Statewide focus on standardized programs and metrics would be particularly helpful since many food processors work with multiple IOUs.
        i. Standardization eliminates confusion and the time required to find differences in the programs from different IOUs, reduces the number of resources needed to apply for and track rebates.
        ii. Metrics are particularly important to create reasonable and correctly incented programs/goals.
        iii. Program must reflect the competitiveness considerations
        iv. Advanced technology enablers exist to track CO_2 at zip code level.
        v. A holistic approach is recommended by the participants to include water, air, etc. not just a silo of electricity.
        vi. Programs as well as agencies need to be coordinated- use a more holistic approach that allows a cafeteria style selection of what combination works
        vii. Need to promulgate best practices for both energy and water efficiency throughout the industry

c. Participants would like a long term view (at least five years) –regulatory environment is still too focused on the short term and too variable

i. CARB does not have an Industrial Climate Action Team- why not?

ii. Participants state that food processing cannot be run on what is the current environmental issue of the day.

iii. Companies need an environment where they can plan ahead.

iv. Participant feels the regulatory environment is getting worse with "knee jerk" reactions.

d. State is a very large buyer and could have influence on CA markets to encourage energy efficiency

The four questions discussed are:

1. **How can energy efficiency help CA industry be more competitive?**
2. **What would strengthen the value of energy efficiency to shareholders, customers, and employees?**
3. **How will regulation affect the value of energy efficiency? What is the effect of AB32?**
4. **What could you do to encourage energy efficiency in your supply chain?**

1. How can energy efficiency help CA industry be more competitive?

a. Food processors can be more productive if energy efficiency succeeds in lowering cost or making it more stabilized so people can develop predictive models (predictive model of cost).

b. Cost of energy is having a negative impact on global competitiveness

ii. Tomatoes grow the best in CA, but other countries can compensate with lower costs in other areas

iii. Very concerned about dynamic pricing. Food processors have no opportunity to adjust operations in response to price. Processing is extremely time sensitive, so demand response isn't possible for fruit and vegetables processors

iv. Peak operations coincide with statewide peak electricity use

c. Effective benchmarking will aid in competitiveness with other states and countries.

i. The Industrial sector plan needs to have programs that reflect the global competitive theme.

ii. Question as to whether this will ensure competitiveness in food processing against international countries.

d. A comprehensive holistic sustainability approach is needed. This involves looking at resource efficiency rather than only energy efficiency.

i. Food processing works with multiple resources.

ii. Energy is the power source to transform those resources.

iii. Make regulations comprehensive across other resources including air, energy, water, labor, etc.

iv. A large amount of work resources is currently spent on dealing with each individual board.

v. Need renewed recognition from policy makers that natural gas is still a major player in meeting energy efficiency goals- CHP and DG

e. Regulatory situation needs to be more consistent, aligned and comprehensive to improve overall sustainability.

i. For example: to satisfy the emissions requirement, more energy is expended. This demonstrates the misalignment between emissions regulation and energy efficiency.

f. Improving energy efficiency will require capital expenditures but there is no capital available after satisfying regulatory obligations.

i. Incentives can assist customers in overcoming the initial capital cost.

ii. Industry is aware that energy savings programs work but need incentives to drive those programs.

iii. Integrate incentives in a holistic approach to achieve multiple goals at once.

iv. An algorithm to understand how to maximize return from programs across resources would be helpful to the food processing industry and encourage adoption by providing calculation of projected savings.

g. The participants felt that state, local and federal regulatory organizations that do not consider overall cost.

i. For example: transportation costs and issues are unique to food processing and limit their ability to recycle things such as food processing by-products.

h. By-products that the food industry generates can be recycled and reduce energy usage thereby also reducing cost.

i. For example: bio gas potential from animals to generate electricity onsite or create bio methane.

1. Special processing centers are needed to utilize these opportunities.

2. Regulations prohibit transportation of waste and processing.

3. High transportation costs to transport the by products to the center prevents bio methane from reaching its potential.

4. Suggestion from participant to create a trust that takes energy money and puts it in a pot that funds a “resource efficiency program.”

5. Expensive technology is needed to process waste and harness the energy.

i. Energy is a cost of production and is trumped by everything else (meeting water and air regulations, the bottom line, profit, etc.)
    i. The food processing industry's number one priority is to meet regulations, in order to stay in business.
    ii. Many food processors are suppliers to other food packaging companies with the direct customer relationship, so a "green image" isn't as important as price control
    iii. Need to couple energy efficiency with actions taken to meet regulations.
    iv. Energy efficiency has low and long time for return.

j. Baseline data is available for analyzing industry for Demand Response capabilities.

k. There is a dovetailing supply.

l. Standard and appropriate metrics will provide a clear understanding of the result.
    i. Food processors currently have the data to know energy expended per unit of production.

m. Participants state the food processing industry is a bifurcated sector.
    i. Energy efficiency is already a big part of what makes the large food processors competitive.
    ii. The smaller food processors have an opportunity to put in place the energy efficiency methods the larger food processing companies have used.

n. Summary of Technology Solutions for Energy Efficiency
    i. A cooperative energy park with digesters that can handle a large influx of loads can effectively store energy and cover the peak production times.
    ii. Off-peak storage can be drawn upon during peak periods to flatten the loads during peak production periods.
    iii. Banked solar credits can be drawn upon during the three month peak production time.
        1. There are concerns about the state covering the peak power requirements.
    iv. AutoDR or pre-bidding other sectors can potentially cover the peak usage by fruit and vegetable processors.
    v. Membrane technology allows greater reuse of slightly contaminated process water.
    vi. More load matching is needed.

2. What would strengthen the value of energy efficiency to shareholders, customers and employees?
    a. Large publicly held companies have more pressure from shareholders and have had success but are taking a resource efficiency viewpoint (i.e. how much resource intensity does it take to make one product).

b. Applying an energy efficiency program is more complex when process in each plant is different. This is the case with food processing plants therefore more flexibility is needed.

c. For management, the priority is saving cost and maximizing operations during a 3-4 month cycle so energy efficiency is not considered (time and cost constraint).

    i. Profitability and quality of the product are prioritized higher than energy efficiency.

d. There is only one bottom line. Even when EE projects are allowed to have a different ROI, the difference must come from other capital projects.

    i. Payback must be within a couple of years.

    ii. ROI metrics need to include supply side forecasting.

        2. Focusing on a conventional way (using average cost of previous years) does not make sense when markets are so volatile.

    iii. ROI metrics should include wholesale markets into energy efficiency projects.

e. Having outside support come in and determine a baseline, then develop benchmarks to improve energy efficiency would be helpful. However, it takes a long time to train outside support about the plant's specific operations. Participant suggests there needs to be a resource manager dedicated to the company/location to develop the expertise needed.

    i. Then, incentives need to be provided for improvements that were made to reach those benchmarks.

    ii. Also, bonuses can be paid to employees for coming up with more efficient processes.

f. A methodology needs to be developed to include the "whole picture," such as lifecycle assessment technologies that allow consultants and factory engineers to understand the process from a resource perspective.

    i. Energy intensity is currently measured but a break down of specifically where in the process that energy is being spent is not known.

g. Improve education so engineers in school/training are coming out of their academic programs with knowledge about energy efficiency.

    i. Continuing education programs such as the UC Extension programs in food processing can create an efficiency focused group that develops knowledge of the unique plants in their area.

    ii. Supporting education about energy efficiency can help ease resistance within existing workforce.

    iii. Communicating to employees the energy cost of their daily actions, such as leaving the lights on or wasting compressed air increases awareness.

h. The culture in California promotes "social responsibility" of energy efficiency.

i. Information at the end-use level is useful to understand the costs.

i. For example: a trash compactor with red and green lights to demonstrate whether today is a good or bad day for compacting.

j. Energy efficiency needs to establish a linkage to CO_2 (a value for measuring green initiatives).

k. Maximizing financial incentives received based on multiple qualifications for rebates to meet capital requirements for projects increases attractiveness of energy efficiency projects.

3. How will regulation affect the value of energy efficiency? What is the affect of AB32?

a. Agencies need to integrate policies so that one does not conflict with the other.

i. Participants state that incentive programs from all agencies should have standardized processes, forms and metrics.

ii. Integrate savings in embedded energy and monetize the value.

iii. Example:

1. NOx requirements are decreasing the efficiency of boilers
2. San Joaquin Valley requirements--9ppm NOx requirements are now downshifting to 5ppm, right after they replaced boilers to meet 9 ppm
3. Is this the best place to achieve the NOx deduction- or is the solution onsite power?

b. Offering a tax credit or white certificate for energy efficiency is helpful so that real savings are seen.

i. Tax credits would also make it clear that energy efficiency is a priority.

ii. Tax credits are applicable to multiple end-uses.

c. Removal of regulatory restrictions on selling power into the grid

d. Long term stabilization and certainty is needed.

i. For example: participant stated that industries are moving to Texas for looser regulations. However Texas actually has tighter regulation, but they are more stable so companies can plan for requirements and make major investments.

e. Early action credit for AB32 would prompt those who are waiting on projects to begin now.

f. Standardized “cafeteria” approach for coordinated program offerings from regulatory agencies makes the process easier for industry.

i. This allows customers to pick and choose components related to the project.

g. Demand response approach with a signup period in advance allows industry more opportunity to utilize demand response ahead of time.

i. A tiered approach (red-yellow-green) caters to companies even if they are risk averse.

4. What could encourage energy efficiency within in your supply chain?
   a. Everyone in the supply chain is squeezed so there is not much room to pressure the supply chain.
      i. Farmers are 50% of the cost and they will choose to grow something else if food processors demand too much.
      ii. Some food processors are involved in what kind of crop is grown and the estimated harvest date. This can be strategically set to reduce amount of energy spent in peak times by spreading processing time out over a longer time period.
   b. Food processing companies currently encourage research on foods to produce the least cost and highest quality. There is an opportunity to integrate energy efficiency into this process as well.
   c. The demographics of customers will determine whether or not an energy efficiency "label" will make a difference in their purchasing. Participants feel a smaller market is willing to pay more for energy efficient processed food.
   d. Other models
      i. A large car manufacturer concentrates on their own energy production as well as going upstream to the next supplier.
         1. The company held workshops to teach their upstream supplier about how to become lean and green. This included showing the cost savings that could result from adopting these practices.
         2. An incentive program helped manage and reduce the investment cost made to the supplier. Any savings that were realized were passed on to the car manufacturer in their direct purchases (win-win situation).
         3. The supplier benefited by increasing energy efficiency and competitiveness through kaizen principles.
      ii. A large retail store is beginning to require carbon footprint labels from all suppliers. They are auditing and measuring green efforts within their supply chain.
      iii. UK legislative requirement (see CEE website for more information and links).
5. Barriers
   a. Regulatory environment
   b. Capital cost
   c. Food processors cannot afford to have a dedicated energy person.
   d. High workforce/labor cost makes competition with off-shore facilities difficult.

e. Dichotomous demands and expensive requirements from various regulatory agencies (water, air, etc.) sometimes increase the energy intensity of a plant or use up any budget that would go towards energy efficiency projects.

f. A small profit margin for everyone involved in the supply chain (price points are very sensitive and has significant impact on volume sold) decreases the ability to pressure the supply chain.

g. Participant states it is becoming increasingly difficult to educate third party auditors to receive rebates.

h. Auditors are unaware of the industry and common terminology.

i. Companies must spend a large amount of time trying to receive their anticipated rebate amount. This is a serious hindrance.

4. For example: one participant was willing to cut losses and give up on a large rebate, rather than continue spending the time trying to work with the auditor.

ii. Auditors do not understand reporting requirements.

iii. This barrier drives the need for standard methodology and metrics.

6. Additional comments

a. The group plans to recommend to the PUC, due to the food processing industry's specific needs, that a Big Bold is needed to start a pilot program with input from the food industry starting with the ideas from these food processing workshops.

b. Create a program model that integrates AB32, perhaps modelled after the Northwest Alliance program.

c. ARB is currently having meetings to determine their air quality calculations and the CPUC is discussing Measurement and Evaluation (M&E).

d. Alignment with Climate Action Registry is critical - it is becoming the new standard.

e. Lagoons for food processors can use water chemistry data and perform cost and impact analysis, as well as CO_2 impact of aeration. This is a Demand Response project.

f. Embedded water program needs buy in at the policy maker level.

g. Food processors were encouraged to stay persistent with the PUC and not limit the scope of energy efficiency.

h. Participants stated the importance of bringing in the Air Board and other regulatory agencies in for holistic resource efficiency approach.

i. To calculate all costs a model/case study can be created: start with the lowest cost to produce tomatoes and trace backwards and identify cost of all factors including labor, transportation, etc. Then calculate separate regulation cost.

j. Best practices for both energy and water efficiency need to be shared throughout the industry.

7. Next steps
    a. Craft a strawman that is unique to the pilot demonstration.
    b. To increase movement towards the pilot demonstration, participants were asked to shop out broadly, get input, build ownership, and start discussions with other food processing companies.
    c. Food processing organizations will ask for a Big Bold initiative and will have specific discussion topics for food processing to build thoughts and input.
        i. The group recognizes the need to incorporate utilities, MUNIs, and manufacturing organizations.