

**CPUC Energy Division  
Industrial Action Plan Workshop #1 - Notes  
San Francisco - August 8, 2013**

**AGENDA**

- A. Introduction - Rory Cox, CPUC Energy Division (ED)
- B. The California Energy Efficiency Strategic Plan - Jaclyn Marks, CPUC Energy Division & Raphael Friedmann, PG&E
- C. Panel: California's Industrial Sector & National Initiatives - Moderated by Kristina Skierka, Katalytix
- D. Industrial Chapter of Strategic Plan: Vision & Goals
- E. Discussion and comments - Breakout groups (Golden Gate Room and Auditorium)
- F. Report Backs from each group
- G. Wrap-Up and Next Steps

**NOTES**

**A. Introduction (Notes N/A)**

**B. The California Energy Efficiency Strategic Plan**

- Action plans will be vehicle for achieving goals
- AP needs to be agency/industry product
- IOU programs (inspired by the Plan)
  - Interested in ideas along for new application of existing tech or new technologies
  - Look for technologies to fill gaps; (energy advisor programs help identify gap)
  - Four core programs are intended to offer technologies to be adopted
  - Increased focus on water/energy - including embedded energy
  - CEI has always been an approach, if not a specific program (working with customer to move from quick payback to process improvements)
    - Customers reducing water, wastewater, waste going to landfill; limits in being viewed solely as EE program, not getting credit for water savings, etc.
    - Expensive; trying new ways of engaging market in cost effective way but still provide tools to engage customers
  - Definition of industrial varies; can include food processing and not data centers
  - C&I programs not particularly responsive to industrial needs; need advocates for programs targeting specific sectors
  - Need more feedback from industry with respect to EE ideas
  - Challenges from the EM&V side to measure benefits from in-kind service, including savings attribution

- Huge take up on DR; 60 percent of critical peak pricing are in industrial sector, generally from manufacturing, rock crushers,
  - Integration is important for plan - doing storage, EE, DG

**C. CA Industrial Sector & National Initiatives Panel**  
(Moderator Kristina Skierka, David Mallory, Neal Elliott, Beth Chambers, Matt Nymeyer)

- Panel to provide trends for industry EE strategies, talk about internal processes and results
- **Neal Elliott, ACEEE**
  - Each industry need to be treated differently and targeted specifically; unique externalities for each
  - US is becoming a low energy cost country with low natural gas prices, bringing back manufacturing
  - US also has innovation and a stable business environment
  - EE is an environmental compliance strategy, a method to reduce all emissions (criteria, toxins, carbon)
  - Top trend is strategic energy management (includes continuous energy programs)
    - Hierarchy starting out with setting targets to management practice ISO 50001
  - Supply chain of large companies will impact smaller companies; 85% of the embedded energy occurs in the small and medium companies that feed into the integrating companies; managing supply chain is becoming important and mandated by financial community for future economic viability
  - Industrial projects are done for total benefits and driven by non-energy benefits.
  - Labor intensive jobs not coming back to US, but there is a re-shoring trend that shortens the supply chain brings back manufacturing
  - Need to do lifecycle analysis; carbon tracking is a good path to estimate energy
    - Large portions of emissions come from large material manufacturing companies; smaller companies make parts and then supply integrating companies (Boeing, Whirlpool, etc)
  - Economic downturn cleaned out less efficient capacity; game changer (working smarter) -> manufacturer doing more with less energy
    - Example chemical processor went from open loop to close loop to increase productivity
  - Could energy intensity be incorporated into the process to investigate societal benefits? Possible for different agencies to collaborate together?
- **David Mallory, ARB**

- AB32 developed a coordinated and balanced approach to tackle climate change, improve air quality, and create a template for others to follow
    - CARB required to adopt a number of initiatives; scoping plan adopted in 2008, updated every 5 years
  - AB32 scoping plan update 2013 reviews original measures and potential new measures before 2020
    - Post-2020 portion requires emissions reduction by 80% with mid-term milestones
    - Focus areas: energy, transportation, agriculture, waste, water, and natural resources;
  - Preliminary draft report out at end of August; final report in the fall, approval by board in November
  - Acknowledge the need for cap and trade after 2020; on target to meet goals for 2020; specific reports on large industrial sectors (power plants, cement, chemical, oil and gas)
  - Top measures with greatest GHG reductions: low carbon fuel standards, EE, sustainable community, advanced cars, cap and trade
  - TBD if EE actions are mandatory or not: go through regulatory process and will be followed up
  - Both industrial and IOU have carbon reduction requirements and who gets the credits: it is difficult and sector specific; all measure are complementary and intersect
- **Beth Chambers, CEC**
    - EPIC to focus on research on industrial, buildings, and natural gas; to reduce energy cost and advance technologies
    - EPIC plan (applied research, technology demonstration and deployment, and market facilitation); industrial area will focus on demonstration and deployment
    - Many competing mandates for resources and time; priorities include real world demonstration and benefits will be returned to CA ratepayers
    - Technologies that have been deployed via PIER include IR to reduce waste, heat recovery systems, wastewater improvements, biogas technologies
    - EPIC selection criteria will include technical validity and merit, cost on research, and other scoring criteria on solicitations
    - CEC will arrange workshop to share information and publish reports to connect tech demo results back to industry
  - **Matt Nymeyer, Olam Spices**
    - Matt: ISO 5001 journey started with pilot program sponsored by PG&E for food processing company
    - Developed energy management team to mobilize and delegate resources

- Determined significant energy users (commercial dryers); use energy intensity as performance criteria
- Focused on increasing productivity and minimizing down time; cut the least 4 efficient dryers and keep 8 dryers to improve process
- Wouldn't have done program without support
- Motivated to start process and participation in incentive programs because of support from PG&E

#### D. Industrial Chapter of Strategic Plan: Vision & Goals

- Goals and potential study
  - Sources for potential forecast: IAC database, KEMA, CEC data
  - Supply curves for industrial subsectors and end users (petroleum, food processing, chemical processing)
  - No gap between technical and economic lines, typically has a gap
  - 65% in O&M and 35% in equipment for cumulative market potential; dynamics prevent complete saturation in energy efficiency for industrial sector
  - Goals and potential developed out of a mandate to set reasonable targets for IOUs to meet and have something to measure the achievements
    - EE also informs procurement branch of PGT; assumptions from past evaluations and accomplishments
  - IAC program is driven by policy at the time and does not accurately reflect technical potential
  - Diversity in industrial energy use; makes economic sense to improve efficiency
  - Process improvement are large investments; there are also direct and indirect GHG mandates
  - Issues with IAC data extrapolation, doesn't tell potential from process improvements; difficult to use bottom up approach to acquire estimates; look at potential from a program approach; learning by doing trends (1% intensity improvement per year)
  - Price of NG will affect payback; fuel switching currently not considered; limited efficiency forecasts on technologies
- Vision & Goals
- 10-12 portfolio inspired by strategic plan
- Proposed and revised goals: conversation starter and driven by stakeholders
  - Goal 1: Energy Intensity Reduction
  - Goal 2: Integration of Energy Management with GHG reduction goals
  - Goal 3: Benchmarking
  - Goal 4: On-site Generation
  - Goal 5: Energy Management Plan
  - Goal 6: Workforce Education
  - Goal 7: Capital Budgeting

**E. Discussion and comments - Breakout groups**

**F. Report Backs**

- Group 1 (Vision & Goal 1)
  - Vision: **California’s industries will increase profitability and reduce greenhouse gas emissions through innovative energy management, leading edge technologies, and on-site generation**
    - If it is customer based, then it should be driving down costs and retaining industry; creating an environment where industry can be more efficient
    - Is on site generation a part of EE? Who is the target?
    - Vision should capture a future where there is successful and thriving industry that is sustainable, energy responsive, and low-carbon

**Goal 1: California industry’s energy intensity will be reduced by 25 percent from the current baseline by 2025 through energy management techniques, process improvements and equipment upgrades.**

- Omission of on-site generation
  - What is the baseline (per industry or customer specific)? How do you measure baseline (what is the unit)? What about early adopters
  - 1.5-2.5% in energy intensity reduction is a good start
  - The goal is voluntary and not mandatory
  - Third party implementers are only paid if industry customers implements incentivized projects; sales aspect is a concern
- Group 2 (Goal 2 & Goal 3)
  - Goal 2: **Energy management strategies will be integrated with other resource management objectives, especially GHG emissions reductions.**
    - Lacking commission directives; a need to capture and to coordinate support for policies; need for a statewide policy coordination goal
      - Requires CPUC to change policies to loosen restrictions on IOU actions; incorporate community benefits
    - Requires the word industry
    - “Other management objectives” include GHG reductions, water, waste, improve bottom line, and green creditability; a need for a statewide policy coordination goal;
    - Attribution (who gets the carbon credit) needs to be resolved
  - Goal 3: **Businesses responsible for a majority of the industrial sector’s energy use will set baselines and benchmark energy usage and GHG emissions as standard practice by 2020**
    - Need a specific methodology to determine what is the baseline

- Clarify the definition for customers and policy makers; to achieve the goal, we need some policy change;
- Benchmarking is sector based and different from individual baselines
  - How to get customers to participate in mandatory baseline determinations
  - CPUC should have public funds for baseline determinations and a systemized approach
- Group 3 (Goal 4 and Goal 5)

**Goal 4: Industrial users meet greater than 50 percent of on-peak period usage needs via selfgeneration using demand response, cogeneration, renewables and thermal energy storage by 2025.**

- Industrial facilities differ and need to be defined; need to have 50% by individual facilities or by aggregate
- Some customers have significant amount of strategies for on-peak period usage
- Need to think about how to fit DR into ancillary services
- The range should 20-50%, needs more analysis

**Goal 5: All industrial users have adopted long-term energy management plans by 2020 as part of on going business operations, and are tracking performance as part of a commitment to continuous energy management.**

- One size standard plan will not fit all industrial customers
- Need to determine current saturation; consider changing the word “all” to a percent or by a per kWh/mmBTU usage
- Goal 2,3, and 5 are similar so possibility for consolidation
- Suggestions for definitions to energy management plan

- Group 4 (Goal 6 and Goal 7)

**Goal 6: All employees at industrial facilities are informed about principles of energy management, conservation and efficiency, leading to an understanding of their contribution to the facility’s footprint and role in meeting organization energy management goals.**

- Not ambitious enough
- Incorporate energy training into the overall training program (need proper practices on the work floor)
- Technical training for the work force; need to measure impact and return on training and education, show there is value
- All are incorporated into holistic energy management approach (ISO 5001)

**Goal 7 : By 2025, 50% of medium and large industrial customers (peak demand > 200 kW) have a capital budgeting approach that supports and prioritizes energy efficient projects and equipment.**

- 50% is too high, maybe 25%
  - Consider focus group of CEOs and CFOs
  - Peak demand > 200 kW to low to have a customer to consider investment, increase to > 500 kW
  - Need to be clear that in introduction we share that we will support industrial customers to achieve these goals
- **Proposed New Goal: EE should be incorporated into design phase for new facilities and expansion of current facilities**

#### **H. Wrap-Up and Next Steps**

- Next workshop: 9/17, CARB, Sacramento
- Third workshop: 10/15, CPUC, Los Angeles
- Finalize action plan at end of 2013
- CPUC to investigate participating in industrial meetings around CA