



WHPA Existing Buildings Energy Efficiency Action Plan Committee (EBEE)

Teleconference Summary Minutes

Thursday, September 21, 2017 (Scheduled for 9:00 – 10:30am PDT)

Call to Order

Per Co-Chair request, WHPA Staff (Ellen Steiner) started the audio recording and called the meeting to order at 9:02 am PDT.

Roll Call

The following 21 participants attended the meeting with a quorum (6+) of voting members.

P = Present at meeting A = Absent from meeting; if proxy has been assigned it will be noted below.				
Organization	First Name	Last Name	WHPA Category	Attendance
CEC Advisors (non-voting)				
CEC (California Energy Commission)	Jeff	Miller	Government (Other than CPUC)	P
CEC (California Energy Commission)	Judy	Roberson	Government (Other than CPUC)	P
Voting Members				
Charles Segerstrom Consultant	Charles	Segerstrom	Energy Efficiency Program Consultant	P
Honeywell E&ES (Energy & Environmental Solutions)	Mike	Lawing	Controls (Manufacturer or Distributor)	P
IHACI (Institute of Heating and Air Conditioning Industries)	Bob	Wiseman	Contractor Association	P
Indio Cooling & Heating Supply	Tim	Mann	Distributor	P (Co-Chair)
Daniel Jones Consulting	Daniel	Jones	Energy Efficiency Program Consultant	P
SynergyNexGen	Barbara	Hernesman	Energy Efficiency Program Consultant	P (Co-Chair)
Tre'Laine Associates	Pepper	Hunziker	Energy Efficiency Program Consultant	P
Valley Contractors Exchange	Kate	Leyden	Contractor Association	P
Non-Voting Members				
BMA Mechanical+	Dustin	Lane	Other Stakeholder	P
CalCERTS	Shelby	Gatlin	Certifying Body	P
Cumming Corporation	Brian	Mauleon	Energy Efficiency Program Consultant	P
EGIA (Electric & Gas Industries Association)	Andre	Christian	Contractor Association	
Goodman Manufacturing	Aniruddh	Roy	HVAC Manufacturer	P
IHACI (Institute of Heating and Air Conditioning Industries)	Scott	Johnson	Contractor Association	P
SoCalGas (Southern California Gas Company)	Joe	Shiau	California IOU	P
Stone Energy Associates	Nehemiah	Stone	Energy Efficiency Program Consultant	P
Guests				
AEA (Association for Energy Affordability, Inc.)	Megan+	Ching	Other Stakeholder	P (Speaker)
CALBO (California Building Officials)	Bob	Barks	Codes & Standard Official (Association or Jurisdiction)	P
HHEA (Healthy Home Environment Association)	Susan	Davison	Educator, Trainer	A
Janell Jacks Consulting**	Janell	Jacks+	Other Stakeholder	A
1000 HC (Thousand Home Challenge)**	Linda	Wigington+	Energy Efficiency Program Consultant	A
Healthy Building Research**	Tom	Phillips+	Research Organization	A
LarryWeingarten.com**	Larry	Weingarten+	Energy Efficiency Organization	A
SCE (Southern California Edison Company)	Jose	Buendia+	California IOU	P
SCE (Southern California Edison Company)	David	Ibarra+	California IOU	P
WHPA Staff				
InfoPlast	Wendy	Worrell	Other Stakeholder	A (Scribe)
Opinion Dynamics	Ellen	Steiner	Other Stakeholder	P (Host/Facilitator)

** Organization is Not a Member of the WHPA; + Individual is NOT Registered with the WHPA; (P) after last name = Member/Registrant is Pending Approval from the WHPA Executive Committee

AGENDA

WHPA Staff email distributed the following agenda to the roster prior to the meeting.

GENERAL REMINDERS

- Adherence to the WHPA **Code of Conduct** is required.
- Disclose any potential conflicts of interest as it relates to meeting content, particularly prior to any votes that may occur.
- Identify yourself prior to speaking, clarifying the organization on whose behalf you are speaking, or if you are making a personal comment.



WHPA Existing Buildings Energy Efficiency Action Plan Committee (EBEE)

Teleconference Summary Minutes

Thursday, September 21, 2017 (Scheduled for 9:00 – 10:30am PDT)

- Mute yourself when not speaking. (*6 will take you on and off mute.)

AGENDA ITEMS

- 1) **Roll Call of Voting Members** – WHPA Staff (Ellen Steiner) – 3 min
- 2) **Co-Chairs' Opening Comments** – Co-Chairs (Barbara Hernesman & Tim Mann) – 5 min
- 3) **Educational Presentations & Discussion** – Co-Chairs (Barbara Hernesman & Tim Mann) – 80 min
 - a. Presentation: Achieving Energy Efficiency in Existing Multifamily Buildings – Megan Ching (AEA)
 - b. Presentation: Financing Options for HVAC/EE Applications and Compliance of MF, Small & Medium Commercial Facilities – Daniel Jones (Consultant)
 - c. Discussion/Q&A
- 4) **Scheduling** – WHPA Staff (Wendy Worrell) – 2 min
 - a. October 19th from 9:00 a.m. - 10:30 a.m. PDT (Tentative)
 - b. Agenda TBD
- 5) **Adjournment** by 10:30am PDT – Co-Chairs (Barbara Hernesman and Tim Mann)

Opening Comments

Co-Chair Tim Mann (Indio Cooling & Heating Supply) overviewed the agenda.

Per Co-Chair request, Speaker Megan Ching clarified that AEA is a nationwide non-profit organization based out of New York. They are focused primarily on multifamily housing, particularly low-income developments.

Co-Chair Barbara Hernesman (SynergyNexGen) reminded participants that time will be allotted for further discussion at the end of the meeting.

Educational Presentations and Discussion Achieving Energy Efficiency in Existing Multifamily Buildings

The following reference documents were distributed the roster prior to the meeting:

- [09-21-17 Slides: AEA Achieving Energy Efficiency in Existing Multifamily Buildings](#)
- [09-21-17 Slides: Financing Options Presentation to WHPA EBEE](#)

Presentation: Achieving Energy Efficiency in Existing Multifamily Buildings

Megan Ching with the Association for Energy Affordability (AEA) presented on “Achieving Energy Efficiency in Existing Multifamily Buildings”.

PRESENTATION NOTES

Key information presented beyond the slide content follows:

Slides 3-4: The issues AEA faces for energy efficiency in existing buildings boiled down to long building and equipment lifetimes that prolong the damage that inefficient equipment does to the environment. To combat this from an economic perspective, there are two ways to perceive cost:

1. Private Cost is the cost of initial construction, operating costs, and all the costs to the person who would see the benefit of the service or good being acquired.
2. Social Cost includes the private costs, plus any externalities.
 - a. Externalities are costs that affect those who do not get any benefit from the good or service.
 - b. Energy Efficiency examples of extremality include air pollution and climate change.

EXAMPLE: If there is someone who wants to replace their existing gas water heater, they could replace it with another gas water for \$750 or a heat pump water heater for \$1,500. It is expected that the owner would act in their own best interest and only consider the private cost, therefore choosing the gas water heater, which is representative of most interactions.

At AEA, they have governmental organizations that have sought to balance the owner costs and social costs by setting funds aside specifically for energy efficiency projects. If in the above example, the owner was able to go through a \$500 rebate program toward a heat pump water heater, then the choices would have been \$750 for a gas water heater



WHPA Existing Buildings Energy Efficiency Action Plan Committee (EBEE)

Teleconference Summary Minutes

Thursday, September 21, 2017 (Scheduled for 9:00 – 10:30am PDT)

and \$1,000 for a heat pump water heater. Taking into consideration operating costs, constructability, and reliance, the decision becomes more difficult at those costs and encourages more analysis that would hopefully result in purchase of the heat pump water heater.

A lot of AEA work revolves around this type of issue so owners can make more socially conscious decisions.

Slides 5-8 provide details and a comparison chart for the Energy Efficiency Programs AEA works on in Existing Buildings:

- Bay Area Multifamily Building Enhancement Program (BAMBE)
- Marin Clean Energy Multifamily Energy Efficiency Program (MCE)
- Low Income Weatherization Program (LIWP)

With all the different rule sets, service territories and incentive structures, they can provide EE rebates for a host of building types from high-rise, low-rise, HOAs, large 100-unit properties to small 4-unit properties. Their success has been through careful program design. They can provide Energy Efficiency incentives are identified for Building Owners.

Slide 9 discusses Energy Efficiency by design and clarifies how AEA's programs have found success in achieving energy efficiency, with a primary facet being a Whole Building approach for deeper energy efficiency. They often have projects bundle the cost-effective measures with less cost-effective measures for higher cost coverage but with the ability to do more work.

- "Core" measures are more permanent building fixtures or in unit items like envelope improvement, etcetera.
- An owner could only use BAMBE or MCE since both Programs are rater payer funded.

Slide 11: AEA works to implement electrification into their programs as part of energy efficiency by design. For the Rate Payer funded incentive, fuel switching measures need to pass the CPUC's three-pronged test:

1. It should not increase source BTU consumption.
2. The Total Resource Cost (TRC) and the Program Administrator Cost (PAC) must be 1.0 or greater.
3. It must not adversely affect the environment.

The second condition is the hardest to meet, but Megan Ching (AEA) reported that she recently read that the NRDC filed a motion to have the societal costs included in the metrics of TRC and PAC so it would be more likely for them to pass the three-pronged test and incentive fuel switching. For now, with funding through the California Air Resources Board and LIWP, they can surpass the fuel switching requirement because it does not have to pass the CPUC's three-pronged test. LIWP has the PV incentive, but for properties to access it, they have to go through the Energy Efficiency scope first. Through LIWP's cost coverage and ability to fuel switch, they have been able to persuade several projects to install heat pump water heaters.

Slide 13 Workforce Development: Part of AEA's mission is to provide education and training to those in the energy efficiency field. The New York office also has a larger training facility offering contractors more hands-on work. They provide Contractor incentives to hire trainees, industry recognized certifications, and provide field experience (JTO = Job Training Opportunity) hours to hone their skillsets.

Slide 14: Beyond Energy Efficiency: AEA focuses on all multifamily, but also takes specific interest in low income housing and tenants in particular. LIWP provides higher incentives for work that directly benefits tenants. Higher incentives are reflected in EE programs currently in the market.

Slide 16 Looking Forward: To move toward greater energy efficiency, they have to look at past performance and then determine if the energy efficiency projections came to fruition for the planned monitoring and benchmarking activities.



WHPA Existing Buildings Energy Efficiency Action Plan Committee (EBEE)

Teleconference Summary Minutes

Thursday, September 21, 2017 (Scheduled for 9:00 – 10:30am PDT)

They can learn from past mistakes and use them to inform energy efficiency decisions going forward. Demand Response is looking at how homes interact with the grid as electrification becomes more prevalent. Considerations:

- The option of using Smart technology with heat pump water heaters for intelligent interaction with the grid for thermal storage by superheating water to 160 degrees when electricity prices are low and taking the temperature down when it is being used, which would avoid water heating during peak demand response events.
- California has one of the fastest growing electric vehicle market so EV charging stations are popping up. These can act as flexible grid access with delayed charge based on peak time.

All of this combined can move closer toward the goal of Zero Net Energy (ZNE).

DISCUSSION

There was discussion focused on Slides 9, 10, 13 & 14:

QUESTION: Co-Chair Barbara Hernesman (SynergyNexGen) noted that the Community Service Development Program was “beaten up and lost a lot of funding after the American Recovery and Reinvestment Act (ARRA) funds”. She asked the presenter how the Programs are doing and how effective they are in the disadvantaged communities.

- **ANSWER:** Megan Ching (AEA) reported that AEA just closed their first round and hit their energy savings and spending incentives targets. Since their first round Programs were successful, they are moving forward into the next round with some Program revisions. More information about additional funding will be coming in the future.

QUESTION: Co-Chair Barbara Hernesman (SynergyNexGen) asked how the outreach is to community contractors and if there is any training for the contractors that participate in these types of Programs.

- **ANSWER:** Megan Ching (AEA) replied that it depends. For example, there is a PV incentive possible through LIWP. When contractors are putting in PV, depending on the system size, contractors are required to hire at least one trainee in solar and provide a minimum number of job training opportunity hours.

QUESTION: Co-Chair Barbara Hernesman (SynergyNexGen) noted that it was referenced that Owners are the decision makers, but asked what efforts there are to involve tenant Input? “Have you looked at building a team approach to energy efficient project and program design/improvements?”

- **ANSWER:** The presenter clarified that most communications are with Owners without much direct tenant involvement. Tenant education is left up to the Owners, but it would be beneficial to consider prioritizing that into future incentive development.
- **REPLY:** Co-Chair Barbara Hernesman (SynergyNexGen) noted prior discussions with CEC about their “true desires” about getting tenants involved and then looking at data at the end of an upgrade period for the “best bang for the buck” so she was curious about the opportunity for tenants to be involved.
- **RESPONSE:** Megan Ching (AEA) indicated that it is difficult to have tenant access or gain interest as most tenants are only interested in the impacts on their electricity bills. It is difficult to change behavior, but some AEA personnel are working with CEC on a project that puts in [NEXI \(by Canary Systems\)](#), a type of LED interface that shows people whether their consumption is below average, over average, or at their baseline. The aim of the study is to see if tenants change behavior with that feedback.

QUESTIONS: Pepper Hunziker (Tre’Laine Associates) asked the following questions:

- How do you measure market transformation for these Program specific efforts?
- What is the longtime employability of those trained to do specific work for these types of Programs?
- **ANSWER:** Megan Ching (AEA) clarified that their first round ended a few weeks ago, so they are still pulling together their statistics for the end results of the workforce development.



WHPA Existing Buildings Energy Efficiency Action Plan Committee (EBEE)

Teleconference Summary Minutes

Thursday, September 21, 2017 (Scheduled for 9:00 – 10:30am PDT)

QUESTION: Co-Chair Barbara Hernesman (SynergyNexGen) asked if electric car charging is part of the demand in the multifamily-low income development population.

- **ANSWER:** Megan Ching (AEA) confirmed that it is not really a factor for low income development. It might be part of a large development if it is done by a non-profit developer. It is mostly more in an HOA areas and larger Urban areas.

COMMENT: Nehemiah Stone (Stone Energy Associates) noted that not long ago, San Jose decided that to solve workforce housing and crowded street issues by requiring new affordable housing to provide bus passes, UBER, or something similar. He suggested that as California gets more electric cars, there will be jurisdictions offering developers extra incentives if they make a certain number of electric cars available.

- **REPLY:** Co-Chair Barbara Hernesman (SynergyNexGen) commented that affordable housing is also for “Baby Boomers”, many of whom will be migrating toward an urban lifestyle. She expressed concern that affordable housing may not properly be preparing for what will occur in the next 15 years+.

QUESTION: Pepper Hunziker (Tre’Laine Associates) asked the presenter about the HVAC specific challenges she referenced in working with contractors and the proper sizing of equipment. She reported that she supports SCE on the workforce education and training aspects of their HVAC Programs. What informing specification were used for these types of activities?

- **ANSWER:** Megan Ching (AEA) clarified that around HVAC systems in new construction they look at mechanical plans and then back calculate the code minimum requirement and compare it to what was proposed. Then they have a conversation about the assumptions on the MEP’s part. If they were reasonable, they potentially pull in the Owner to see if they are okay reducing the equipment size. Often Owners are on board with a more aggressive approach. They use ASHRAE standards related to ventilation and multifamily for high-rise versus low-rise. She believes they are also referenced in Building Codes.
- **REPLY:** Dustin Lane (BMA Mechanical) confirmed that Building Code typically follows ASHRAE Standards. ASHRAE 62.1 is for nonresidential and 62.2 is for residential. ASHRAE 90.1 is the Building Energy Code.

There was discussion on Slide 16 about Demand Response and HVAC:

QUESTION: Aniruddh Roy (Goodman Manufacturing) asked if there is further scope for future demand response exploration to include HVAC, such as heat pumps and air conditioners.

- **ANSWER:** Megan Ching (AEA) confirmed that heat pump water heaters are a good technology to integrate with demand response because of their ability to act as thermal storage. She was unaware of any demand response related to HVAC systems because there is not as much room for delayed response due to comfort requirements.
- **REPLY:** Aniruddh Roy (Goodman Manufacturing) clarified that PG&E has a SMART A/C Program with direct load control as well as the Smart Rate Residential where 5% of their customers are enrolled. He believed SCE also has similar Programs so there is already a level of load control or demand response being implemented on the HVAC side.
- **QUESTION:** Megan Ching (AEA) was unaware of that and asked about awareness of storage systems, such as TESLA power wall battery.
- **ANSWER:** Nehemiah Stone (Stone Energy Associates) clarified that the shut off is not for the full period, but rather a certain number of minutes per hour. It cycles it so not everyone’s A/C is on for that whole period. He informed that the 2019 Title 24 Standards have demand response thermostats as a prescriptive measure for the next round of codes.
- **REPLY:** Dustin Lane (BMA Mechanical) confirmed that it is mandatory that they receive the signal, but participation is not mandatory at this point.



WHPA Existing Buildings Energy Efficiency Action Plan Committee (EBEE)

Teleconference Summary Minutes

Thursday, September 21, 2017 (Scheduled for 9:00 – 10:30am PDT)

ACTION: Further comments/questions about AEA’s work on “Achieving Energy Efficiency in Existing Multifamily Buildings” to be sent directly to Megan Ching (mching@aea.us.org).

Presentation: Financing Options

Daniel Jones (Consultant) presented on “Financing Options for HVAC/Energy Efficient Applications and Compliance of Multi-Family, Small & Medium Commercial Facilities”.

PRESENTATION NOTES

Key information presented beyond the slide content follows:

Slide 2: HVAC/EE Financing Options: From Inception-Energy Efficiency Goals and Programs should include “ALL” stakeholders in the process, especially the Finance sector. Bring forward these Subject Matter Experts (SME) to be engaged.

Slide 3: HVAC/EE Financing Options:

[09-16-17 LA Times article: Legislature Passes Bills to Reform PACE Energy Efficiency Loan Program.](#)

2-Bills (SB 242 and AB 1284) to Boost Protection for Consumers taking out PACE Home Improvement Loans are headed to Governor Jerry Brown’s desk after passing the California State Legislature. The Financial Sector is a catalyst for Consumer Protection.

Slide 4: KISS = Keep It as Simple and Scalable as possible!

DISCUSSION

COMMENT: Nehemiah Stone (Stone Energy Associates) brought attention to the [Investor Confidence Project](#).

COMMENT: Daniel Jones (Consultant) brought attention to the [Database of State Incentives for Renewables & Efficiency](#) (DSIRE).

COMMENT: Charles Segerstrom (Consultant) reported that Realtors and Mortgage Brokers are not represented in these discussions nor engaged in the reform efforts of PACE. He indicated that further outreach and education are needed for engagement of these stakeholders in developing solutions for a “better more effective” PACE program. “Not having them engage can prove to be dangerous for our PACE Program.”

- **REPLY:** Daniel Jones (Consultant) clarified that BOMA also needs to be approached for more engagement in developing solutions to the problems they identify with the current PACE Program.

COMMENT: Co-Chair Barbara Hernesman (SynergyNexGen) commented on the importance of having inclusivity of stakeholder engagement and from the point of inception for “Project TEAM Development”. Rocky Mountain Institute was cited as an example to model:

- <http://www.pae-engineers.com/projects/rocky-mountain-institute-innovation-center>
- <http://www.pae-engineers.com/services>

Closing Comments/Scheduling

The next EBEE Committee meeting (includes the EWG and “Community” members) was confirmed for Thursday, September 19, 2017 from 9:00am – 10:30am PDT.

Adjournment

The Co-Chairs adjourned the meeting at 10:20am PDT.

* * * * *

Summary of Action Items and Key Decisions (from above discussion)

ACTION ITEMS



WHPA Existing Buildings Energy Efficiency Action Plan Committee (EBEE)
Teleconference Summary Minutes
Thursday, September 21, 2017 (Scheduled for 9:00 – 10:30am PDT)

1. **ACTION:** Further comments/questions about AEA’s work on “Achieving Energy Efficiency in Existing Multifamily Buildings” to be sent directly to Megan Ching (mching@aea.us.org).