

PY2006-2008 INDIRECT IMPACT EVALUATION OF THE STATEWIDE EDUCATION & INFORMATION PROGRAMS

FINAL: VOLUME III OF III
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INTRODUCTION TO VOLUME III

The volume lists the data collection instruments used in for each of the eight programs in which we conducted primary research as part of our evaluations: Builder Energy Code Training (PGE 2044), Build It Green (PGE 2057), Southern California Home Performance (SCE 2548), Portfolio of the Future (SCG 3530), PACE Energy Efficiency Ethnic Outreach Program (SCG 3531), CLEO Custom Language Efficiency Outreach Program (SCG 3532/SCE 2513), K-12 Energy Efficiency Education (SDGE 3032), and Time of Sale Energy Check Up (SDGE 3036). We did not conduct any participant surveys, interviews, or observations for Portfolio of the Future (SDGE 3040), so no data collection instruments are included in this volume. Furthermore, because the PACE and CLEO evaluations used identical data collection instruments, those two programs are listed together here.

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1. PGE 2044: BUILDING ENERGY CODE TRAINING

1.1 *Builder and Code Official Survey Instrument*

This survey will be given to market actors who completed a Builder Energy Code training sessions. Market actors attending these workshops include builders and code officials. Code officials typically work for the city or county government.

This training session lasts between 1.5 hours and 8 hours, and can be conducted in a classroom, on a building site, or a combination of the two locations.

Please note: inside many of the questions we have included text in [brackets]. [Brackets] inside the question text denote items that will be pulled from contacts and events databases supplied by the program implementers. [Brackets] outside of the question text are notes to the ODC programmers and typically indicate skip patterns.

Introductory text

“Hello, I’d like to speak with [NAME]. I am calling from Opinion Dynamics on behalf of the California Public Utilities Commission. I would like to ask you a few questions to help the State of California better manage their energy resources. We are looking to speak with builders and inspectors who have participated in training sessions available from California utilities. Specifically, I would like to ask you questions about the Building Energy Code Training that you participated in on [DATE].”

Screener questions

S1. Our records indicate that you participated in a Builder Energy Code Training on [DATE]. Is this correct?

1. Yes
2. No [TERMINATE]
3. (Don’t know) [TERMINATE]

S2. Where did the training session take place?

1. Classroom
2. Construction site/field
3. Combination
4. Did not participate [TERMINATE]
5. (Don’t know)
6. (Refused)

S3. How would you describe your role? [NOTE TO INTERVIEWER: please categorize respondents as 1 or 2; if they do not seem to initially fit as 1 or 2, probe to make sure. We need to minimize the number responses = 3 and 4]

1. Builder, developer, contractor, or construction manager (NOTE TO INTERVIEWER: this includes construction supervisors, roofers, electricians, people who deal with lighting, engineers, and more)
2. Code official, inspector, building official or (NOTE TO INTERVIEWER: typically works for the government)
3. (Other, Specify)
4. (Refused)

[ASK S4-S7 IF S3=1, 3, or 4]

S4. What is your principal focus?

1. Design
2. Purchasing
3. Land acquisition and development
4. Plan development and code approval
5. Finance and fund acquisition
6. Construction
7. Subcontractor/trade (carpenters, roofers, electricians, HVAC, plumbers, painters)
8. Warranty
9. Supplier
10. Sales
11. (Other, Specify)
12. (Refused)

S5. How many homes does your company build or work on per year (2007)? [numerical open end]

S6. What percentage of the homes you work on are currently being built to code? [numerical open end 0-100, don't know, refused]

S7. What percentage of homes you work on are currently being built to be at least 15% above code (ENERGY STAR level)? [numerical open end 0-100; don't know, refused]

[ASK S8-S10 IF S3=2]

S8. How many homes do you inspect per year? [numerical open end, don't know, refused]

S9. What percentage of homes you inspect meet Title 24 Code requirements on the first try? [numerical open end 0-100; don't know, refused]

S10. What percentage of homes you inspect are built to be at least 15% above code (ENERGY STAR level)? [numerical open end 0-100; don't know, refused]

[ask all]

S11. What is the biggest challenge in meeting the new code? [open end; pre-code with the following]

1. (Lighting)
2. (HERS / ratings)
3. (HVAC)
4. (Costs)
5. (Not knowing what measures will be needed to achieve code)
6. (Getting information to trades)
7. (Getting code approval)
8. (Cool roofs)
9. (Other. Specify)
10. (Don't know)

Value of information provided by the program

V1a. As you think about what you heard at the Building Energy Code Training, was any of this NEW information?

1. Yes
2. No
3. (Don't know)
4. (Refused)

[ASK IF V1a=2 and S3=1, 3 or 4]

V1b. Although you don't think the information was new, did the training move you any closer to implementing efforts to save energy that you were already considering?

1. Yes
2. No
3. (Don't know)
4. (Refused)

[ASK ALL]

V2. On a scale of 1 to 7 where a 1 means not at all useful and a 7 means very useful, how useful was the information you heard at the training?

1 2 3 4 5 6 7 8 9
Not at all useful Very useful DK REF

Attitude – 1-4 scale

Please indicate the extent to which you agree or disagree with the following statements...

[ASK IF S3=1, 3 or 4, ELSE SKIP TO AT2]

AT1. Selling energy efficient products or services is good for our company's bottom line.

[Do you agree or disagree?] Is that strongly or somewhat?

1. Strongly Disagree
2. Somewhat Disagree
3. Somewhat Agree
4. Strongly Agree

- 5. (Don't know)
- 6. (Refused)

AT2. My organization does everything it can to promote energy savings. [Do you agree or disagree?] Is that strongly or somewhat?

- 1. Strongly Disagree
- 2. Somewhat Disagree
- 3. Somewhat Agree
- 4. Strongly Agree
- 5. (Don't know)
- 6. (Refused)

[ASK IF S3=1, 3, or 4, ELSE SKIP TO INF1]

AT3. It is difficult to sell energy efficient equipment or homes. [Do you agree or disagree?] Is that strongly or somewhat?

- 1. Strongly Disagree
- 2. Somewhat Disagree
- 3. Somewhat Agree
- 4. Strongly Agree
- 5. (Don't know)
- 6. (Refused)

AT4. People will not pay more for a product that is energy efficient. [Do you agree or disagree?] Is that strongly or somewhat?

- 1. Strongly Disagree
- 2. Somewhat Disagree
- 3. Somewhat Agree
- 4. Strongly Agree
- 5. (Don't know)
- 6. (Refused)

Influence 1-7 scale

On a 7 point scale where a 1 means not at all and a 7 means very much...

INF1. How much did the training cause you to THINK DIFFERENTLY about how to include energy efficiency in your projects?

1	2	3	4	5	6	7		8	9
Not at all					Very much		DK	REF	

INF2. How much did the training cause you to want to make any changes in how you [meet=s3=1,3,4 / enforce =s3=2] Title 24 energy code?

1	2	3	4	5	6	7		8	9
Not at all					Very much		DK	REF	

INF3. How much did the training increase your awareness of ways you can [meet=s3=1,3,4 / enforce =s3=2] Title 24 energy code?

1 2 3 4 5 6 7 8 9
Not at all Very much DK REF

INF4. Was the training a good way to explain ways you can [meet=s3=1,3,4 / enforce =s3=2] Title 24 energy code?

1 2 3 4 5 6 7 8 9
Not at all Very much DK REF

Knowledge questions – part 1 of 2

K1b. Which of the following sentences best describes your knowledge of Title 24 BEFORE you participated in the training?

1. I had NO knowledge
2. I had VERY LITTLE knowledge
3. I had SOME knowledge
4. I had A LOT of knowledge

K2. On a scale of 1 to 7 where 1 is I did not learn anything and 7 is I learned a lot, how much did you learn about how to [meet=s3=1,3,4 / enforce =s3=2] Title 24 energy code as a result of this course?

1 2 3 4 5 6 7 8 9
Did not learn anything Learned a lot DK REF

Action

TA1. Would you say that as a result of the training, you recommend energy efficient technologies or practices more often?

1. Yes
2. No
3. (Don't know)
4. (Refused)

TA2. On a similar 7 point scale where a 1 means not at all and a 7 means very much so, please rate the following statement. As a result of the training, I am MORE LIKELY to [recommend=s3=1,3,4 / require =s3=2] energy efficient equipment, designs or practices.

1 2 3 4 5 6 7 8 9
Not at all Very much so DK REF

TA3. Have you applied any of the concepts you learned at the training to the services you provide?

1. Yes
2. No
3. (Don't know)
4. (Refused)

[ASK IF TA3=1; OTHERWISE SKIP TO TA14]

TA4. How have you applied them? Did you... [1=Yes, 2=No, 3=Not applicable, 4=Don't know]

- a. [recommend=s3=1,3,4 / require =s3=2] energy saving actions that you learned about at the training?
- b. [recommend=s3=1,3,4 / require =s3=2] energy saving actions more frequently than you did before?
- c. Use building or system design principals or elements that you did not know much about before?
- d. Use diagnostic tools or practices that you did not know much about before?
- e. Change the way you install or maintain equipment that uses a lot of energy?
- f. Change the way you size and specify new equipment that uses a lot of energy?
- g. Apply the concepts in some other way?

TA4GA. You indicated that you applied the concepts in some other way. What did you do?

[OPEN END]

[Ask if TA3=1 and S3=1, 3 or 4; Otherwise Skip to TA14]

TA5. In what areas of the houses you work on did you make energy saving changes as a result of your attendance at the training session? [1=Yes, 2=No, 3=Not applicable, 4=Don't know]

- a. Insulation
- b. Air infiltration
- c. Windows and doors
- d. Lighting
- e. HVAC
- f. Duct work
- g. Water heating
- h. Other

[ASK IF TA5h=1]

TA5i. You indicated that you that you made energy saving changes in some other area. What area did you make the changes in? [OPEN END]

TA5. Besides the training, did anything else influence you to take the energy saving actions we just talked about? [Open end]

1. (Open end)
2. (Nothing)
3. (Don't know)

TA6. Have the changes you just told me about become standard practice for you?

1. Yes
2. No
3. (Don't know)
4. (Refused)

TA12. Approximately how many dollars do you save per building per year in utility bills?

_____ [NUMERIC OPEN END, 1,000,000; DON'T KNOW;
REFUSED]

[ASK IF TA11=2 OR 3]

TA13. Approximately how many kilowatt hours do you save per building per year?

_____ [NUMERIC OPEN END, 1,000,000; DON'T KNOW;
REFUSED]

[ASK IF TA3=2 and S3=1]

TA14. Why haven't you changed the way you use energy? [Open end, pre-codes below]

1. (There's nothing to change.)
2. (I don't have enough information.)
3. (I haven't had the chance to change.)
4. (I've tried, but it didn't work out.)
5. (Something else. Specify _____.)
6. (Don't know)
7. (Refused)

[ASK IF TA6=2 and S3=1, 3 or 4]

TA16. Why haven't these changes become standard practice?

[OPEN END]

[Ask if TA3=1 and S3=2; Otherwise Skip to IA14]

IA5. As a result of the training session, what specific energy code requirements do you now enforce that you didn't enforce before? [1=Yes, 2=No, 3=Not applicable, 4=Don't know]

- a. Insulation
- b. Air infiltration
- c. Windows and doors
- d. Lighting
- e. HVAC
- f. Duct work
- g. Water heating
- h. Other.

[Ask if IA5P=1]

IA5a. You indicated that you that you changed the way you enforce code in some other area. What area did you make the changes in?[OPEN END]

D4. Approximately how many employees are at your firm?

1. One
2. 2 to 5
3. 6 to 10
4. 10 to 25
5. 26 or more
6. (Don't know)
7. (Refused)

“Those are all our questions. On behalf of the State of California, we thank you for your time.”

1.2 Builder and Code Official Depth Interview Instrument¹

This interview guide is designed to gather verbal impact-oriented responses from a small number of participants who completed Builder Energy Code Training (BECT) sessions. BECT participants include persons who build homes and code officials who enforce Title 24. Code officials typically work for the city or county government. The focus of BECT is on attaining Title 24 standards.

A BECT training session lasts between 1.5 hours and 8 hours, and can be conducted in a classroom, on a building site, or a combination of the two locations.

Introductory text

“Hello, I’d like to speak with [NAME]. I am calling from Opinion Dynamics on behalf of the California Public Utilities Commission. I would like to ask you a few questions about Building Energy Code Training sessions to help the State of California better manage their energy resources. We are looking to speak with builders and code officials who have participated in Building Energy Code Training.

Screener questions

S1. Our records indicate that you participated in a Builder Energy Code Training [give date, if available]. Is this correct?

1. Yes
2. No -->[TERMINATE]
3. (Don’t know) -->[TERMINATE]

S2. Where did the training session take place? [Circle as many as apply]

1. Classroom
2. Construction site/field
3. Combination
4. Did not participate -->[TERMINATE]
5. (Don’t know) -->[TERMINATE]
6. (Refused) -->[TERMINATE]

What did you think about the classroom/field/combination training setting? What would have improved it?

S3. How would you best describe your job title?

¹ Note: Very few depth interviews were conducted for this study. Most of the data sought in the depth interviews was instead captured in the surveys.

[ASK if BUILDERS]

S4. What is your principal focus as a builder?

[ask if builders]

S5. What percentage of the homes you build are currently being built to code?

(if not all are built to code; how are they not meeting code? Why is this the case?
What are the barriers?)

S6. What percentage of homes you build are currently being built to be at least 15% above code (ENERGY STAR level)?

(if 100% ENERGY STAR, why do you do ENERGY STAR?)

(if less than 100% ENERGY STAR, what is the major obstacle to doing ENERGY STAR?)

[ask if inspectors]

S7. How many homes do you inspect per year?

[ask if inspectors]

S8. What percentage of homes you inspect meet Title 24 Code requirements on the first try?

What happens if they don't meet Title 24 code requirements on the first try?

[optional to inspectors]

S9. What percentage of homes you inspect are built to be at least 15% above code (ENERGY STAR level)?

[ask all]

S10. What is the biggest challenge to meeting the new code?

S11. Why did you take the course?

[optional question to all]

S12. Do you work with HERS raters?

(if yes), what do they do? how is it going? Are they providing a valued service?

Participant Evaluation of the Program

V1. Overall, would you say that your participation in this program session was *worth your time* spent in participating?

Please explain why you answered the way you did.

—>[If "no," do you think the program was useful for some of the other participants?]

1. Yes-> [If "Yes," then: Please explain?_____]
_____]

V2. Did the trainer(s) have the *background and experience* to know what they were talking about?

Please explain why you answered the way you did.

V3. Was the place the training was conducted OK for hearing what the trainer was saying?
1. Yes
2. No---->[If "No," then: Please explain?_____]

_____]

V4. Were the *written materials* clear enough?
1. Yes
2. No---->[If "No," then: Please explain?_____]

_____]

V5. Were the *demonstrations* realistic and clear?
1. Yes
2. No---->[If "No," then: Please explain?_____]

_____]

V6. Is there anything that should be done to make the training program *better or more effective*?
1. Yes-->[IF "Yes," then: What should be done?_____]

_____]
2. No

V7. As you think about what you heard at the Building Energy Code Training, was any of this NEW information? (yes/no)

Please explain why you answered the way you did. (What was new? Where else did you receive this information?)

V7. How useful was the information you heard from the training?

Please explain why you answered the way you did..

V8. Would you recommend the course to others? (yes/no)

Please explain why you answered the way you did.

Knowledge questions

K1. Which of the following sentences best describes your knowledge of Title 24 BEFORE you participated in the training?

- 5. I had NO knowledge
- 6. I had VERY LITTLE knowledge
- 7. I had SOME knowledge
- 8. I had A LOT of knowledge

(Optional) Please explain why you answered the way you did.

K2 How much did you learn about how to meet Title 24 energy code as a result of this course?

Please explain why you answered the way you did.

K3. Are you better able to meet Title 24 energy code as a result of taking this course?.

Please explain why you answered the way you did:

K4. As a result of attending the session, I am now more familiar with Title 24's...

	1 - Strongly Disagree	2	3	4	5	6	7 - Strongly Agree	DK	Refuse
Compliance documentation									
Lighting requirements									
Infiltration requirements									
Insulation requirements									
Water heating requirements									
Expected changes in future code									

Please explain why you answered the way you did....

Action

MACT1. Is there anything you do differently now, based on what you experienced at the BECT training session?

Why did you answer the way you did? (If yes, what do you do differently now? If no, why not?)

MACT2. Besides the training, did anything else influence you to take the energy saving actions we just talked about?

Final Questions

We have only a couple more questions to ask you.

Q1. Approximately how many employees are at your firm or in your department?

Q2. Should the state and the utilities keep running Building Energy Code Training sessions like the one you participated in, as Title 24 continues to change?

Why did you answer the way you did?

“Those are all our questions. On behalf of the State of California, we thank you for your time.”

1.3 Training On-Site Observation Form

Program:	Builder Energy Code Training – PGE 2044
Title of Event:	
Type of Event:	<input type="checkbox"/> Tour <input type="checkbox"/> Training <input type="checkbox"/> Presentation <input type="checkbox"/> Other
Event Description:	
Trainers	
Event Location	
Event Date and Time:	
Observer:	
Observation Date and Times:	
Number of Attendees:	
Types of Attendees:	

I. Event Logistics

Take at least one digital picture of the event, preferably two or three. Download to ODC with date of event in the file name.

- A. Location easy to find:
- B. Clear signs marking event:
- C. Event began on time:
- D. Event Inside or Outside?
- E. For outside events: Hot ___ Pleasant Weather ___ Poor Weather Conditions (Rain/Cold) ___
- F. For outside events: Shaded area for people?
- G. For inside events: Air Conditioned Space:
- H. Facilities Nearby (food and/or restrooms):

- I. Number of program people working the event:
- J. Program people have professional/tidy appearance:

II. Information Delivery Methods

- A. Program person engages participants during event:
- B. Program person capable of answering energy related questions:
- C. Does the event discuss other EE program resources:
- D. Does the event specifically channel people to other EE program resources:

III. Reason for the Event (Stated Goals)

IV. Key Topics Covered:

(Before the event, put the topics from the program evaluation plan that you are supposed to cover and indicate if and how they were covered)

V. Description of the presentations / reports etc. provided to attendees

List all materials or hard copy information used:

Type of Material	Description of Material Content	ODC Received	Soft Copy on Server
		<input type="checkbox"/> hard copy <input type="checkbox"/> soft copy	<input type="checkbox"/> Y <input type="checkbox"/> N

VI. Likelihood of event creating change in awareness, knowledge, or attitudes (AKA) towards energy efficiency and likelihood of changing energy efficiency behaviors in the participants

Based on what you observed, circle the most appropriate value:

Changes in AKA

1. Very Likely
2. Somewhat Likely
3. Neither Likely nor Unlikely
4. Somewhat Unlikely
5. Very Unlikely

Changes in Behavior

1. Very Likely
2. Somewhat Likely
3. Neither Likely nor Unlikely

4. Somewhat Unlikely
5. Very Unlikely

State why you rated the changes as you did.

VII. Other Comments, Observations Specific to this Event:

General impressions:

How the course differed from what I thought it would be from my review of the materials:

Question and Answer with the Trainer:

I spoke with the instructor after the class and asked him questions. Here are summaries of his responses.

Q: What is the duration of the training sessions?

Q: Has interest changed for the better or worse with the slower housing market?

Q: The title 24 code is no longer new – are you finding builders and code officials are more knowledgeable than before? Or the same?

Q: What are 5 things that builders should be doing that they aren't doing?

Q: Why do builders sign up for the training session?

Q: Does the host of the onsite trainings get a personalized report?

Q: Do you have new materials coming out soon?

2. PGE 2057: BUILD IT GREEN

2.1 Council and Guild Survey Instrument

This survey is designed to gather impact-oriented responses from a small number of participants who attended Build It Green (BIG) council, guild, or coalition meetings. Participants include an array of persons involved in advising, designing and building energy efficient buildings. This is an internet survey and we plan to send this to about 30-40% of each council/guild/coalition's active membership.

Introductory text

This survey is being completed on behalf of the California Public Utilities Commission. We would like to ask you a few questions to help the State of California better manage its energy resources. Specifically, we would like to ask you questions about the Build It Green council, guild, or coalition you are active in.

Screening questions

S1. Our records indicate that you are active in at least one of Build It Green's council and guilds. Is this correct?

1. Yes
2. No [TERMINATE]

S3. Which council, guild, or coalition are you most active in?

1. Builders Council (BC)
2. Suppliers Council (SC)
3. Public Agency Council (PAC)
4. Real Estate Council (REC)
5. Green Affordable Housing Coalition (GAHC)
6. Green Remodelers Guild (GRG) or Green Building Professionals Guild (GBPG)
7. None [TERMINATE]

[ASK IF S3=6, ELSE SKIP to WU1]

S3b. Which Green Remodelers Guild (GRG) or Green Building Professionals Guild (GBPG) chapter are you most active in?

1. East Bay
2. South Bay
3. San Francisco
4. North Bay
5. None [TERMINATE]

Warm Up Questions

WU1. What is the approximate date that you first attended a Build It Green meeting or event? (Your best guess is fine.)

[OPEN END]

WU1a. What was it? Please select from the list below:

1. Presentation
2. Green Home Tour
3. Council meeting
4. Guild meeting
5. Coalition meeting
6. Training
7. Course
8. Workshop
9. Other, please list: [open end]

WU2. Approximately how often do you attend Build It Green [FILL-IN S3 response] meetings? Please provide an approximate number of times per year.

_____ times a year (allow up to 99)

WU3. Have you completed a two day, Certified Green Building Professional course through Build It Green?

1. Yes
2. No

Value of information provided by the program

For the next questions please think about the value of the information provided in the Build It Green [INSERT S3 RESPONSE] meetings you've attended.

V1a. As you think about the information provided to you at the Build It Green [FILL-IN S3 response] meetings, has any of this been NEW information?

1. Yes
2. No

[ASK IF V1a=1]

V1b. In general, what have you learned?

[OPEN END]

[ASK IF V1a=2, ELSE SKIP TO V3]

V2. Although you don't think the information was new, has attending the [FILL-IN S3 response] meetings moved you any closer to promoting energy efficiency via your business or work?

1. Yes
2. No

V3. On a scale of 1 to 7 where a 1 means not at all useful and a 7 means very useful, how useful was the information you heard at the [FILL-IN S3 response] meetings?

1 2 3 4 5 6 7

Not at all useful

Very useful

Knowledge (Non-PAC module)

[READ IF S3 =1, 2, 4, 5, 6, ELSE SKIP TO PK1]

K1. In the next questions please think about the building ideas related to energy efficiency that you have been exposed to at the Build It Green [FILL-IN S3 response] meetings.

Energy efficiency is defined as those improvements that result in utility bill payers' savings on gas or electric bills. These might include such things as energy efficient HVAC systems, lighting, hot water heating, insulation, etc.

K1a. How would you describe your knowledge of energy efficiency BEFORE you became an active member of the [FILL-IN S3 response]?

1. I had NO knowledge
2. I had VERY LITTLE knowledge
3. I had SOME knowledge
4. I had A LOT of knowledge

K2. On a scale of 1 to 7 where 1 is “I have not learned anything” and 7 is “I have learned a lot,” has attending the [FILL-IN S3 response] meetings significantly increased your knowledge of the energy efficiency techniques, practices, or concepts of green building?

1 2 3 4 5 6 7

Have not learned anything Have learned a lot

[ASK IF K2 >= 4, ELSE SKIP TO MIN1]

K3. Please list up to three specific energy-related ideas you have learned about at Build It Green meetings:

1. _____
2. _____
3. _____

Attribution (Non-PAC module continued)

[ASK IF S3 = 1, 2, 4, 5, 6, ELSE SKIP TO PK1]

On a 7 point scale where a 1 means not at all and a 7 means very much...

MIN1. How much did the [FILL-IN S3 response] meetings cause you to THINK DIFFERENTLY about how to introduce energy efficiency opportunities to others?

1 2 3 4 5 6 7

Not at all Very much

MIN2. How much did the [FILL-IN S3 response] meetings cause you to WANT TO MAKE CHANGES in how you introduce energy efficiency opportunities to others?

1 2 3 4 5 6 7

Not at all Very much

MIN3. How much did the [FILL-IN S3 response] meetings INCREASE YOUR AWARENESS of methods for introducing energy efficiency opportunities to others?

1 2 3 4 5 6 7

Not at all Very much

MIN4. Were the [FILL-IN S3 response] meetings A GOOD WAY TO EXPLAIN how you and your clients can save energy?

1 2 3 4 5 6 7

Not at all

Very much

Knowledge questions (Non-PAC module continued)

K3. In the next items please tell us whether you agree or disagree with each sentence using a scale of 1 to 7 where 1 is strongly disagree and 7 is strongly agree.

K3b. As a result of attending the [FILL-IN S3 response] meetings, I am now more familiar with energy efficient tools and/or techniques that can enhance the service I provide.

1 2 3 4 5 6 7

Strongly disagree

Strongly agree

K3c. As a result of attending the [FILL-IN S3 response] meetings, I am more confident that the energy savings claims will occur when I recommend energy efficient technologies and practices.

1 2 3 4 5 6 7

Strongly disagree

Strongly agree

K4. As a result of attending the [FILL-IN S3 response] meetings, I am more aware of PG&E- or SMUD- sponsored energy efficiency programs.

1 2 3 4 5 6 7

Strongly disagree

Strongly agree

Actions Taken (Non-PAC module continued)

These next questions ask about specific actions you have taken since you started attending the [FILL-IN S3 response] meetings.

M1. Have you changed or enhanced the services you provide by applying the energy efficiency concepts you learned at the [FILL-IN S3 response] meetings?

1. Yes
2. No

M2. On a 7 point scale where a 1 means 'not at all' and a 7 means 'very much so,' please rate the following statement: As a result of attending the [FILL-IN S3 response] meetings, I am more likely to recommend energy efficient equipment, designs or practices.

1 2 3 4 5 6 7

Not at all

Very much so

M3. Have you applied any of the concepts you learned at Build It Green [FILL-IN S3 response] meetings to the services you provide?

1. Yes
2. No

[ASK IF M3=1; OTHERWISE SKIP TO M14]

M4a-e

You indicated that you applied concepts you learned at [FILL-IN S3 response] meetings. Now, please fill in this table to show <i>how</i> and <i>if</i> this has become standard practice for you.		
	Please select Yes, No, or Not applicable	[ASK IF YES] Has this become standard practice for you?
a. Did you make recommendations or requirements that you learned about at the [FILL-IN S3 response] meetings?	1=Yes 2=No 3= Not Applicable	1=Yes 2=No
b. Did you make recommendations or requirements MORE FREQUENTLY than you did before attending the [FILL-IN S3 response] meetings?	1=Yes 2=No 3= Not Applicable	1=Yes 2=No
c. Did you use building or system design principles that you did not know much about before attending the [FILL-IN S3 response] meetings?	1=Yes 2=No 3= Not Applicable	1=Yes 2=No
d. Since you first started attending the [FILL-IN S3 response] meetings have you changed the way you INSTALL OR MAINTAIN equipment that uses a lot of energy?	1=Yes 2=No 3= Not	1=Yes 2=No

M8a. Besides the [FILL-IN S3 response] meetings, is there anything else that influenced you to take or promote the energy saving actions listed above?

1. Yes, please list other influences [open end]
2. No

M9. In your opinion, have the changes you have made to the service you provide resulted in measurable energy savings for your clients?

1. Yes
2. No

[ASK IF M9=1, ELSE SKIP TO M14]

M10. In your opinion, how would you describe the amount of energy saved by your customers as a result of the changes in the service you provide?

1. Significant energy savings
2. Moderate energy savings
3. Measurable but insignificant energy savings
4. No energy savings
5. Don't know

M10a. What type of housing do you work on?

1. Single family
2. Multi-family
3. Both single family and multi-family

[ASK IF M10=1-3, ELSE SKIP TO M15]

[ASK IF M10a=1 or 3]

M11a. Have you estimated the average savings per building in either dollars or in kilowatt hours?

1. Yes, I have estimated dollars saved
2. Yes, I have estimated kilowatt hours saved
3. Yes, I have estimated BOTH dollars and kilowatt hours saved
4. No

[ASK IF M10a=2 or 3]

M11b. Have you estimated the average energy savings per unit in either dollars or in kilowatt hours?

1. Yes, I have estimated dollars saved
2. Yes, I have estimated kilowatt hours saved
3. Yes, I have estimated BOTH dollars and kilowatt hours saved

4. No

[ASK IF M11a=1 OR 3]

M12a. On average, approximately how many dollars are saved per building each year?

_____ [NUMERIC OPEN END (Allow up to \$500,000)]

[ASK IF M11b=1 OR 3]

M12b. On average, approximately how many dollars are saved per unit each year?

_____ [NUMERIC OPEN END (Allow up to \$500,000)]

[ASK IF M11a=2 OR 3]

M13a. On average, approximately how many kilowatt hours are saved per building each year?

_____ [NUMERIC OPEN END (Allow up to 500)]

[ASK IF M11b=2 OR 3]

M13b. On average, approximately how many kilowatt hours are saved per unit each year?

_____ [NUMERIC OPEN END (Allow up to 500)]

[ASK IF M3=2]

M14. Why haven't you made any changes? Please select those that apply: [MULTIPLE RESPONSE; ROTATE]

1. There's nothing to change.
2. I don't have enough info.
3. I haven't had the chance to change.
4. I've tried, but it didn't work out.
5. Too expensive.
6. Something else. Specify _____. [open end]

M15. It seems that being green is really in the forefront lately. Are you involved with any other meetings or classes where you learn information similar to what the Build It Green meetings provide you?

1. Yes
2. No

[ASK IF M15=1, ELSE SKIP TO D1]

M16. What are those other meetings or classes? [open end]

Knowledge questions (PAC Module)

[READ IF S3 =3, ELSE SKIP TO D1]

PK1. In the next questions please think about the energy efficient building policy ideas that you have heard at the PAC Build It Green meetings. Energy efficiency aspects are those things that result in savings on gas or electric bills. These might include more efficient HVAC systems, lighting, hot water heating, insulation, etc.

Please note that the following questions use the word “policy” to mean work on best practices, guidelines, requirements, and standards.

PK1a. How would you describe your knowledge of building or construction policies related to energy efficiency BEFORE you became a PAC member? Would you say...

1. I had NO knowledge
2. I had VERY LITTLE knowledge
3. I had SOME knowledge
4. I had A LOT of knowledge

PK2. On a scale of 1 to 7 where 1 is “I have not learned anything” and 7 is “I have learned a lot,” how has attending the Build It Green PAC meetings increased your knowledge of building or construction policies related to energy efficiency?

1 2 3 4 5 6 7

Have not learned anything

Have learned a lot

[ASK IF PK2>=4, ELSE GO TO PMINF1]

PK2a. Please list up to three of the specific policy ideas related to energy efficiency that you have learned about through Build It Green meetings: [open end]

1. _____
2. _____
3. _____

PMN1. On a scale where 1 is not at all and 7 is very much, how much has attending PAC meetings caused you to THINK DIFFERENTLY about building or construction policies related to energy efficiency?

1 2 3 4 5 6 7

Not at all

Very much

PMN2. How much has being a member of the PAC caused you to WANT TO MAKE CHANGES to existing practices or create new policies?

1 2 3 4 5 6 7

P1. Since attending the PAC meetings, have you helped pass building or construction policies related to energy efficiency? (Examples might include: organizing information for inclusion into a code; drafting the language of a guideline; voting on a policy; causing a best practice to be written; etc)

1. Yes
2. No
3. Not applicable

[ASK IF P1=3, ELSE SKIP TO P2]

P1a. Why did you choose “Not applicable” [open-end]

[ASK IF P1=1, 2 ELSE SKIP TO P16]

P2. On a 7 point scale where a 1 means ‘not at all’ and a 7 means ‘very much so,’ please rate the following statement. As a result of attending PAC meetings, I am more likely to recommend building or construction policies related to energy efficiency.

1 2 3 4 5 6 7

Not at all

Very much so

P3. Have you applied any of the ideas you heard about at the PAC meetings to your work?

1. Yes
2. No
3. Not applicable

[ASK IF P3=3, ELSE SKIP TO P4]

P3a. Why did you choose N/A [open-end]

[ASK IF P3=1; OTHERWISE SKIP TO P14]

P4. Please describe how you applied the ideas you heard about. [open end]

P4a. Did you require or recommend new building design principals or elements that you did not know much about before?

1. Yes
2. No

P4b. Did you require or recommend energy modeling for equipment that use a lot of energy?

1. Yes
2. No

P10. In your opinion, how would you describe the amount of energy saved as a result of the (new) policies?

1. Significant energy savings
2. Moderate energy savings
3. Measurable but insignificant energy savings
4. No energy savings
5. Don't know

P10a. What type of housing do you work on?

1. Single family
2. Multi-family
3. Both single family and multi-family

[ASK IF P10=1, 2, 3, ELSE SKIP TO P17]

[ASK IF P10a=1 or 3]

P11a. Have you estimated the average saved per building in either dollars or in kilowatt hours?

1. Yes, I have estimated dollars saved
2. Yes, I have estimated kilowatt hours saved
3. Yes, I have estimated in BOTH dollars and kilowatt hours saved
4. No

[ASK IF P10=1, 2, 3 AND P10a=2or3]

P11b. Have you estimated the average energy saved per unit in either dollars or in kilowatt hours?

1. Yes, I have estimated dollars saved
2. Yes, I have estimated kilowatt hours saved
3. Yes, I have estimated in BOTH dollars and kilowatt hours saved
4. No

[ASK IF P11a=1 OR 3]

P12a. On average, approximately how many dollars are saved per building per year?

_____ [NUMERIC OPEN END (Allow up to \$500,000)]

[ASK IF P11b=1 OR 3]

P12b. On average, approximately how many dollars are saved per unit per year?

_____ [NUMERIC OPEN END; (Allow up to \$500,000)]

[ASK IF P11a=2 OR 3]

P13a. On average, approximately how many kilowatt hours are saved per building per year?

_____ [NUMERIC OPEN END (Allow up to 500)]

[ASK IF P11b=2 OR 3]

P13b. On average, approximately how many kilowatt hours are saved per unit per year?

_____ [NUMERIC OPEN END (Allow up to 500)]

[ASK IF P3=2, ELSE GO TO P17]

P14. Are you currently developing or creating building or construction policies related to energy efficiency?

1. Yes
2. No

[ASK IF P14=1, ELSE GO TO P17]

P15. When do you think the policy/ies will be enacted? [open end]

[ASK IF P14=2 or 3]

P16. Why do you think changes to the policies related to energy efficiency haven't occurred? Please check all that apply:

1. There's nothing to change.
2. Don't have enough info.
3. Haven't had the chance to change.
4. We've tried, but it didn't work out.
5. Too expensive
6. There is resistance in my community
7. We already have this type of policy in place
8. It takes very long to work any policy through our community
9. Something else. Specify _____.

P17. It seems that that being green is really in the forefront lately. Are you involved with any other meetings or classes where you learn information similar to what the Build It Green meetings provide you?

1. Yes
2. No

[ASK IF P17=1]

P18. What are those other meetings? [open end]

Demographics

We have only a couple more questions to ask you. These are general demographic questions.

D1. What types of energy related services or equipment does your business provide?
[Multiple Response]

1. Construction
2. Engineering or architectural design
3. Lighting design assistance, sales or installation
4. HVAC equipment sales, installation, repair or maintenance
5. Refrigeration equipment sales, installation, repair or maintenance
6. Motor equipment sales, installation, repair or maintenance
7. Pumping/hydraulic equipment sales, installation, repair or maintenance
8. Other equipment sales, installation, repair or maintenance
9. Facility operations or maintenance
10. Energy technology research/consulting
11. Other, please specify _____

D2. Which of the following best describes your job or business?

8. I/My business provides services to **business** customers.
9. I/My business provides services to **residential** customers.
10. I/My business provides services to **business and residential** customers.
11. I work for the government.
12. Other, please specify _____

[ASK IF D2=1 OR 3]

D3. You indicated that you work with business customers. Which business market segment do you work with most often?

1. Commercial
2. Agricultural
3. Industrial

[THANK AND TERMINATE]

“Those are all our questions. On behalf of the State of California, we thank you for your time.”

2.2 **Green Home Tour Survey Instrument**

Build it Green offers a variety of services that promote the construction of quality, green, and energy efficient buildings.

This ONLINE survey is designed to be given to people who attended a Build it Green Home Tour.

Introductory text

This survey is being completed on behalf of the California Public Utilities Commission. We would like to ask you a few questions to help the State of California better manage its energy resources. Specifically, we would like to ask you questions about the Build it Green Home Tour you attended on [date].

Screener questions

S1a. Our records indicate that you attended a Build it Green Home Tour on [DATE] in [the] [TOUR – geographical area]. You may not remember the exact date, but does this sound about right?

4. Yes
5. No [TERMINATE]

S1b. Approximately how many houses did you visit that day? (Your best guess is fine.) [NUMERICAL OPEN END, 0-50]

S1c. Excluding travel time and breaks, about how many hours did you spend looking at green homes that day? (Your best guess is fine.) [NUMERICAL OPEN END, 0-15]

S1d. Have you attended any other Build it Green Home tours between 2006 and 2008?

1. Yes
2. No

[Ask IF S1d=1, ELSE SKIP TO S2]

S1e. Please select the other Build it Green Home Tour(s) that you attended between 2006 and 2008 from the list below: [OPS: ALLOW FOR MULTIPLE RESPONSE.]

1. East Bay: June 24, 2006
2. South Bay: October 1, 2006
3. North Bay: May 20, 2007
4. San Francisco: September 28, 2007
5. East Bay: June 1, 2008
6. South Bay/Peninsula: September 28, 2008

S2. At the [DATE] [TOUR-geographical area] Build it Green Home Tour, do you recall hearing, seeing, or receiving information on ways people can save energy?

1. Yes
2. No [TERMINATE]

S3. Did you attend the [DATE] [TOUR-geographical area] Build it Green Home Tour as:

1. A homeowner or renter
2. A residential contractor or energy industry professional
3. Other, please describe [open end]

[Ask IF S3=2, ELSE SKIP TO V1a]

S4a. Please select the year you attended your first Build it Green Home Tour:

1. 2005
2. 2006
3. 2007
4. 2008

[Ask IF S4a=1,2 ELSE SKIP TO S4c]

S4b. **Within 2006** (from January 1, 2006 through December 31, 2006), did your company start any design or building projects after you attended your first Build it Green Home Tour? If so, approximately how many projects were started? If not, please enter "0".

Within 2006, my company designed or built _____ projects after I attended my first Build it Green Home Tour. [NUMERICAL OPEN END]

[Ask IF S4a=1,2,3 ELSE SKIP TO S4d]

S4c. **Within 2007** (from January 1, 2007 through December 31, 2007), did your company start any design or building projects after you attended your first Build it Green Home Tour? If so, approximately how many projects were started? If not, please enter "0".

Within 2007, my company designed or built _____ projects after I attended my first Build it Green Home Tour. [NUMERICAL OPEN END]

[Ask IF S4a=1,2,3,4]

S4d. **Within 2008** (from January 1, 2008 through December 31, 2007), did your company start any design or building projects after you attended your first Build it Green Home Tour? If so, approximately how many projects were started? If not, please enter "0".

Within 2008, my company designed or built _____ projects after I attended my first Build it Green Home Tour. [NUMERICAL OPEN END]

[Ask if S4a through S4d total more than 0, ELSE SKIP TO V1a]

S5. Thinking about all the projects your company started after you attended your first Build it Green Home Tour, about what percent of these projects ...

- a. Followed the Build it Green GreenPoints checklist? (Your best guess is fine.)
Please enter a percent: [percentage 0-100] _____%
- b. Followed LEED design principles? (Your best guess is fine.) Please enter a percent: [percentage 0-100] _____%
- c. Used principles from a different green building program? (Your best guess is fine.)
Please enter a percent: [percentage 0-100] _____%

[ASK IF RESPONDENT ANSWERS S5c with a percentage greater than 0]

S6. You indicated that you used principles from a different green building program. Which one was it? [open-end]

[Ask if S4b>0, S4c>0, OR S4d>0, ELSE SKIP TO V1a]

S7. Thinking about all those projects that started after you attended your first Build it Green Home Tour, about how many were multi-family buildings? Please enter a whole number.

About _____ multi-family buildings [NUMERICAL OPEN END]

[Ask if S4b>0, S4c>0, OR S4d>0, ELSE SKIP TO V1a]

[Provide one field for every building indicated in S7]

S7a. Please enter about how many units each multifamily building contains?

Multi-family building 1.....Number of units _____

Multi-family building 2.....Number of units _____

Multi-family building 3.....Number of units _____

Multi-family building 4.....Number of units _____

Value of information provided by the program

V1a. As you think about the information provided to you at the Build it Green Home Tour, was any of this NEW information?

- 1. Yes
- 2. No

[ASK IF V1a=2, ELSE SKIP TO V2]

V1b. Although you don't think the information was new, did the Build it Green Home Tour move you any closer to doing something to save energy?

- 1. Yes
- 2. No

Actions taken

[ASK IF S3=1 or 3, ELSE SKIP TO M1]

R1. Since [DATE], have you done any remodeling?

1. Yes
2. No

[ASK IF R1=1, ELSE SKIP TO R1c]

R1b. Was the remodeling done to the home you currently live in?

1. Yes
2. No

R1c. Since [DATE], have you had a new home built?

1. Yes
2. No

[ASK IF R1c=1, ELSE SKIP TO R2]

R1d. Are you currently living in this home?

1. Yes
2. No

R2. Since attending a Build it Green Home Tour have you: [1=Yes, 2=No, 3=Don't know]

- a. Searched for additional information on ways to save energy?
- b. Shared the information you learned with others?
- c. Installed any energy saving measures, such as energy efficient lights, refrigerators, air conditioners, furnaces, water heaters, motors, pumps, or other.
- d. Changed your behavior or practices with regard to how you use energy? For example, turn off lights more frequently, change use patterns, alter operations and maintenance, etc.
- e. Did you take any other actions that we have not mentioned as a result of attending the Build it Green Home Tours?

[ASK IF R2b=1, ELSE SKIP TO R2g]

R2BA. Who did you share the information with?

[OPEN END]

[ASK IF R2e=1, ELSE SKIP TO R3]

R2g. Please describe any other actions you took. [open end]

[ASK IF R2c=1, ELSE SKIP TO R4]

R3. What did you install? Please check all that apply. [rotate]

Did you install:		
a. Energy efficient lights?	<input type="checkbox"/> Yes	<input type="checkbox"/> No
b. Air conditioner?	<input type="checkbox"/> Yes	<input type="checkbox"/> No
c. Furnace?	<input type="checkbox"/> Yes	<input type="checkbox"/> No
d. Hot water heater?	<input type="checkbox"/> Yes	<input type="checkbox"/> No
e. Refrigerator?	<input type="checkbox"/> Yes	<input type="checkbox"/> No
f. Commercial cooking/foodservice?	<input type="checkbox"/> Yes	<input type="checkbox"/> No
g. Daylighting equipment?	<input type="checkbox"/> Yes	<input type="checkbox"/> No
h. Thermostat?	<input type="checkbox"/> Yes	<input type="checkbox"/> No
i. Insulation?	<input type="checkbox"/> Yes	<input type="checkbox"/> No
j. Air barrier?	<input type="checkbox"/> Yes	<input type="checkbox"/> No
k. Windows?	<input type="checkbox"/> Yes	<input type="checkbox"/> No
l. Cool roof ?	<input type="checkbox"/> Yes	<input type="checkbox"/> No
m. Energy efficient motor?	<input type="checkbox"/> Yes	<input type="checkbox"/> No
n. Energy efficient pump?	<input type="checkbox"/> Yes	<input type="checkbox"/> No
o. Compressed air?	<input type="checkbox"/> Yes	<input type="checkbox"/> No
p. Controls / energy management systems?	<input type="checkbox"/> Yes	<input type="checkbox"/> No
q. Steam systems?	<input type="checkbox"/> Yes	<input type="checkbox"/> No
r. Renewable energy?	<input type="checkbox"/> Yes	<input type="checkbox"/> No
s. Distributed generation?	<input type="checkbox"/> Yes	<input type="checkbox"/> No
t. Demand / response?	<input type="checkbox"/> Yes	<input type="checkbox"/> No
u. Other?	<input type="checkbox"/> Yes	<input type="checkbox"/> No

[ASK IF QR3U=1]

R30A-C Please list up to three other items that you have installed?

1. [OPEN END]
2. [OPEN END]
3. [OPEN END]

[ASK IF Any R2c-e=1, ELSE SKIP TO R10]

R4. Other than the Build it Green Home Tour, what else influenced you to install something that saves energy, or change your behavior with regard to how you use energy? [open end]

R5. In your opinion, have those things you have installed or the changes you have made resulted in measurable energy savings?

1. Yes

[ASK IF R10=1, ELSE SKIP TO R11]

R10a. How are you planning to improve the energy efficiency of your home based on what you learned at the Build it Green Home Tour? [open end]

[ASK IF R2c-e=2 AND R10=2]

R11. Why haven't you changed the way you use energy? Please check all that apply: [rotate]

1. There's nothing to change.
2. I don't have enough info.
3. I haven't had the chance to change.
4. I've tried, but it didn't work out.
5. Too expensive
6. Something else. Please specify [open end]

[ASK IF S3=2, ELSE SKIP TO K3]

M1. Since attending the Build it Green Home Tours have you remodeled any single family homes?

1. Yes
2. No

[ASK IF M1=1, ELSE SKIP TO M1c]

M1a. Approximately how many single-family homes have you remodeled since first attending a Build it Green Home Tour? [open-end]

M1b. Did any of these remodels include the home you currently live in?

1. Yes
2. No

M1c. Since attending the [DATE] Build it Green Home Tour, have you worked on any new construction projects?

1. Yes
2. No

[ASK IF M1c=1, ELSE SKIP TO M1g]

M1d. Did any of these new construction projects include single-family homes?

1. Yes
2. No

[ASK IF M1d=1, ELSE SKIP TO M1f]

5. Other. please specify [open end]

[ASK IF D2=1 OR 3]

D3. You indicated that you worked with business customers. Which business market segment do you work with most often?

1. Commercial
2. Agricultural
3. Industrial

[ASK IF S3=1 or 3, ELSE SKIP TO FI1]]

X1 In what type of building do you live in?

1. A mobile home
2. A one-family home detached from any other house
3. A one-family home attached to one or more houses
4. A building with two apartments
5. A building with three or four apartments
6. A building with five or more apartments
7. Other (SPECIFY)

X1a. Please fill-in your home zip code:

X2 About when was this building first built?

1. Before 1970s
2. 1970s
3. 1980s
4. 1990-94
5. 1995-99
6. 2000s

X3. What is the approximate square footage of your residence?

1. [Numeric Open End] MAX 20,000
2. Don't know

X4. Including yourself, how many people currently live in your home year-round?

1. _____ people

X5. Which of the following best describes your age?

1. Less than 18 years old
2. 18-24 years old
3. 25-34 years old
4. 35-44 years old

5. 45-54 years old
6. 55-64 years old
7. 65 or older

[ASK IF X4>1; OTHERWISE, SKIP TO X7]

X6. Including yourself, how many people currently living in your home year-round are in the following age groups?

1. Less than 18 years old
2. 18-24 years old
3. 25-34 years old
4. 35-44 years old
5. 45-54 years old
6. 55-64 years old
7. 65 or older

[TOTAL SHOULD EQUAL QX4]

X7. What is the highest level of education you have completed?

1. No schooling [Don't Show]
2. Less than high school
3. Some high school
4. High school graduate or equivalent (e.g., GED)
5. Trade or technical school
6. Some college
7. College degree (4-year)
8. Some graduate school
9. Graduate or professional degree
10. Other. Specify _____.

X8. Which of the following best represents your annual household income from all sources in 2008, before taxes? Was it . . . ?

1. Less than \$20,000 per year
2. \$20,000-49,999
3. \$50,000-74,999
4. \$75,000-99,999
5. \$100,000-149,999
6. \$150,000-199,999
7. \$200,000 or more

X9. What is your ethnicity?

1. White
2. Black, African American
3. American Indian or Alaska Native
4. Asian
5. Chinese

6. Japanese
7. Korean
8. Vietnamese
9. Filipino
10. Native Hawaiian
11. Guamanian or Chamorro
12. Samoan
13. Hispanic/Latina(o)
14. Other. Please specify: [open end]

X10. What is the primary language spoken in your home?

1. English
2. Spanish
3. Mandarin
4. Cantonese
5. Tagalog
6. Korean
7. Vietnamese
8. Russian
9. Japanese
10. Other. Specify

[ASK IF S3=2]

FI1. Thinking of other companies like yours, would you describe your company as...

1. A small company
2. A medium-sized company
3. A large company
4. Not applicable

[ASK IF S3=2]

FI2. How many locations does your firm have in California?

1. 1
2. 2 to 4
3. 5 to 10
4. 11 to 25
5. Over 25
6. Don't know

“Those are all our questions. On behalf of the State of California, we thank you for your time.”

2.3 Consultation In-Depth Interview Instrument

This interview guide is designed to gather verbal impact-oriented responses from a small number of participants who attended Build It Green (BIG) consultation meetings. Participants include an array of persons involved in advising, designing and constructing energy-efficient buildings.

Introductory text

“Hello, I’d like to speak with [NAME]. My name is [_____] and I am calling from Opinion Dynamics on behalf of the California Public Utilities Commission. I would like to ask you a few questions about Build It Green consultation meetings to help the State of California better manage their energy resources. We are looking to speak with people who have participated in these consultations. Consultations are interactions with Build it Green staff such as design meetings or walk-thrus of building or remodeling sites. Overall, we are more interested in energy efficiency aspects, such as energy efficient HVAC, lighting, hot water heating, insulation, etc., than we are in “green” ones such as walking distance to stores, low VOC paints, or using recycled building materials.

“Do you mind if I record our conversation for our notes?”

First, I have a few very short general questions.

1) Background

a) Role

- i) First, may I confirm the name of your organization? Is it [Organization NAME]?
- ii) Where is your organization located?
- iii) And may I confirm your title? Is it [TITLE]?
- iv) Could you please describe the main responsibilities associated with your role?
- v) In what capacity did you meet with Build It Green consultation staff?

b) Our records indicate that the consultation took place on [DATE] at [LOCATION]. Is that right?

c) Are there other projects you met with Build It Green to discuss?

Next, I have a few questions about what you learned while meeting with Build It Green staff.

2) Knowledge

- a) Did meeting with Build it Green staff significantly increase your knowledge of green building practices for the [PROJECT NAME] project you were working on? If so, how much?
- b) What specifically did you learn about?
- c) Does the information you learned apply to other projects? How much? Can you give me an example?

These next questions are specifically about what actions you took, or plan to take as a result of consulting with Build It Green staff on the [PROJECT NAME] project.

3) Actions Taken-Project

- a) Did meeting with Build It Green change or enhance the service you provided? If so, what specific changes did you make in the [PROJECT NAME] project? Were there:
 - i) Changes in energy efficient equipment*, designs** or practices***? If so, which ones? *(ex: HVAC, lighting, hot water heating); **(passive solar heating, how piping was laid out); *** (commitment to Green Points checklist, commitment to build certain percentage of energy efficient buildings)
 - ii) Changes in the way you sized and specified new equipment that use a lot of energy?
 - iii) Changes in how tools are used to diagnose energy efficiency? If so, which ones and how often?
- b) Have you estimated the average saved per building associated with the [INSERT PROJECT NAME] project in either dollars or in kilowatt hours? On average, approximately how many dollars were saved per building? On average, approximately how many kilowatt hours were saved per building?

These next questions are about other projects—ones that you have not met with Build It Green to discuss. What actions did you take, or plan to take, as a result of consulting with Build It Green staff, even though you did not meet with them to discuss them?

4) Actions Taken-Beyond Project

- a) Thinking beyond the [PROJECT NAME] project, having attended the consultation, are you now more likely to _____?
 - i) use energy efficient equipment, designs or practices these days? If so, which ones and how often?
 - ii) use tools for diagnose energy efficiency these days? If so, which ones and how often?

- iii) *change* the way you *size and specify* new equipment that uses a lot of energy?
- b) Are there other changes that you have made that affect energy since attending the consultation? What specifically?
- c) Besides the consultation, is there anything else that influenced you to make the changes we just talked about?
- d) *If you have not made any changes*, why not? Can you think of things keeping you from applying those things that you learned about at the consultation?

These next questions are still about those projects that you have not met with Build It Green to discuss.

5) Actions Taken-Impact

- a) Have the changes you just told me about become standard practice for you?
- b) In your opinion, have the changes you have made to the service you provide resulted in measurable energy savings?
- c) Have you estimated the average saved per {building} in either dollars or in kilowatt hours? On average, approximately how many dollars were saved per building? On average, approximately how many kilowatt hours were saved per building?

6) Other Attribution

- a) In terms of the changes we have been speaking about, have there been other sources of information—an utility sponsored energy efficiency program for example—that have influenced or caused a change in your consulting, design, or building practices? Did you learn about this through BIG or outside of BIG? When?

These next questions are about the consultation you had with Build It Green to discuss the [PROJECT NAME] project.

7) Value of Information

- a) How much of the information that came from the consultation was NEW information?
- b) How USEFUL was the information provided at the consultation?

8) Miscellaneous Questions/Thanks

- a) We are thinking about looking at utility billing records of the buildings that Build It Green has consulted on. Do you have any access to these records? If so, could you give us permission to use this kind of information? Can you provide me contact information for the people who now pay these bills?

- b) Is there anyone else you think that I should be talking to that might have a different perspective on what we talked about today?
- c) Those are the questions I have for you today. Is there anything else you would like to say about the Build It Green consultation meeting?
- d) Thank you very much for your time.

2.4 ***On-Site Training/Presentation Observation Form***

Program:	Green Building Technical Support Services – Build it Green. PGE 2057.
Title of Event:	
Type of Event:	<input type="checkbox"/> Tour <input type="checkbox"/> Training <input type="checkbox"/> Presentation <input type="checkbox"/> Other
Event Description:	
Objectives of the Event – usually stated in the PIP or Quarterly Reports:	
Event Location	
Event Date and Time:	
Observer:	
Observation Date and Times:	
Number of Attendees:	
Types of Attendees:	

I. Event Logistics

Take at least one digital picture of the event, preferably two or three. Download to ODC with date of event in the file name.

Information Delivery Methods

- A. Program person engages participants during event:
- B. Program person capable of answering energy related questions:
- C. Does the event discuss other energy efficiency programs?
- D. Does the event specifically channel people to other energy efficiency programs?
- E. How did the program person deliver the message/s? (Check all boxes that apply).

	One-on-one conversation
	Group lecture / Presentation
	Electronic Presentation (e.g. PowerPoint slideshow)
	Visual Display
	Hands-on workshop/demonstration
	Take away literature

III. Reason for the Event (Stated Goals and list source)
 (If no stated goals, were there implied goals? If so, what were they?)

IV. Description of the presentations / reports etc. provided to attendees

List all materials or hard copy information used:

Type of Material	Description of Material Content	ODC Received	Soft Copy on Server
		<input type="checkbox"/> hard copy <input type="checkbox"/> soft copy	<input type="checkbox"/> Y <input type="checkbox"/> N
		<input type="checkbox"/> hard copy <input type="checkbox"/> soft copy	<input type="checkbox"/> Y <input type="checkbox"/> N
		<input type="checkbox"/> hard copy <input type="checkbox"/> soft copy	<input type="checkbox"/> Y <input type="checkbox"/> N
		<input type="checkbox"/> hard copy <input type="checkbox"/> soft copy	<input type="checkbox"/> Y <input type="checkbox"/> N
		<input type="checkbox"/> hard copy <input type="checkbox"/> soft copy	<input type="checkbox"/> Y <input type="checkbox"/> N
		<input type="checkbox"/> hard copy <input type="checkbox"/> soft copy	<input type="checkbox"/> Y <input type="checkbox"/> N
		<input type="checkbox"/> hard copy <input type="checkbox"/> soft copy	<input type="checkbox"/> Y <input type="checkbox"/> N

V. Likelihood of event creating change in awareness, knowledge, or attitudes (AKA) towards energy efficiency and likelihood of changing energy efficiency behaviors in the participants. Consider: 1) what changes are being promoted and 2) what types of changes participants are expected to take. Based on what you observed, circle or highlight the most appropriate value:

Changes in AKA

1. Very Likely
2. Somewhat Likely
3. Neither Likely nor Unlikely
4. Somewhat Unlikely
5. Very Unlikely

Changes in Behavior

1. Very Likely
2. Somewhat Likely
3. Neither Likely nor Unlikely
4. Somewhat Unlikely
5. Very Unlikely

State why you rated the changes as you did – write about 1)what changes are being promoted and 2)what types of changes participants are expected to take.

VI. Other Comments, Observations Specific to this Event:

VII. Additional Questions

1. For which market sector is the event designed? Circle/highlight all that apply.

1. residential
2. commercial
3. industrial
4. agricultural
5. Other (Specify):

2. Is the content designed and intended for...

1. End-Users [including residential, commercial and industrial customers]
2. Trade Professionals [including contractors, engineers, architects, manufacturers, consultants etc.]
3. Both End-Users and Trade Professionals
4. Other (Specify: _____)

3. If trade professionals, for which type(s) of trade professionals is the content specifically designed? Circle/highlight all that apply.

1. Facility Engineer/O&M Professional
2. Plant Manager
3. Energy Efficiency Consultant
4. HVAC Contractor
5. Architect/Design Engineer
6. Commercial Property Developer

7. General Contractor
8. Residential Builder
9. Building Inspector
10. Other Contractor
11. Equipment Manufacturers
12. Equipment Sales Representatives
13. Other (Specify): Green, MF building developers, designers

4. On which types of activities does the content focus? Circle/highlight all that apply.

1. New construction
2. Existing construction (i.e., retrofit)
3. New installation (new equipment in existing structure)
4. Operations and Maintenance
5. Process Improvement
6. Other (Specify: _____)

5. What end-use technology(ies) is/are the principal focus? Circle/highlight all that apply:

1. HVAC
2. Lighting
3. Commercial Cooking/Foodservice
4. Refrigeration
5. Compressed Air
6. Motors/Pumps
7. Water Heating
8. Process Heating
9. Controls/Energy Management Systems
10. Building envelope
11. Renewable Energy
12. Green (LEED) building
13. Steam Systems
14. Distributed Generation
15. Demand/Response
16. Other (Specify: _____)

6. Which of the following issues or practices are covered as a core element or principal focus? Circle/highlight all that apply.

1. Energy Auditing/Diagnostics
2. Energy Savings
3. Cost-Benefit Calculations
4. Designing for Energy Savings
5. Code and Standard Development, Compliance and Enforcement
6. Energy Modeling
7. Financing
8. Operation and Maintenance
9. Retro-commissioning
10. Evaluation, Monitoring, Verification

- 11. Research and Development
- 12. Product Development
- 13. Other (Specify: _____)

7. What percentage of the total time was spent using each of the following methods of content delivery?

a.	Lecture/Presentation (including PowerPoint or other slideshow)	
b.	Video/Movie presentation	
c.	Group Discussion	
d.	Instructor demonstration	
e.	Attendee Presentations	
f.	Hands-on exercises	
g.	Workplace consultation	
h.	Other, specify	
i.	Total	

8. What is the expected level of expertise of the audience in the subject matter at the beginning of the presentation or training? (Ask staff person or instructor) Circle/highlight all that apply.

- 1. Novice (no experience needed to understand topic)
- 2. Basic (basic skills or knowledge needed to understand topic)
- 3. Advanced (advanced skills or knowledge needed to understand topic)
- 4. Mixed (mix of skill levels)

9. What types of handouts or materials are provided? Circle/highlight all that apply.

- 1. Handouts summarizing the event's content
- 2. Handouts with specific "how-to" instructions/guides
- 3. List of resources
- 4. Tools (ex. Flicker-Checker)
- 5. Software
- 6. Reference materials (ex. Title 24 codes)
- 7. Other (Specify):

10. Do attendees develop any personalized case-study or action plan for implementing the event's content?

- 1. Yes [If yes, obtain a copy.]

2. No

11. Energy efficiency may be but one of a number of themes covered. Indicate the degree to which the **implementation** of energy efficiency practices or behaviors by participants is a **central theme** of the content delivered. For example an event (like a tour) might cover green technologies in addition to energy efficiency because the group that promotes it promotes green projects.

1. Implementing energy saving actions is the only theme of the event
2. Implementing energy saving actions is one of several themes addressed by the event and it is a central component of the event
3. Implementing energy saving actions is one of several themes addressed by the event and it is no more important than the other themes
4. Implementing energy saving actions is a minor theme of the event
5. Other (Specify: _____)

Note:

12. To what degree does the event provide participants with specific and actionable examples of how to implement energy efficient practices or behaviors?

1. Detailed examples of how to implement energy efficient practices or behaviors.
2. More general examples of how to implement energy efficient practices or behaviors.
3. Does not give examples of how to implement energy efficient practices or behaviors

13. To what degree does the event describe utility energy efficiency rebate programs available to participants?

1. The availability and benefits of utility and third party energy efficiency programs is a topic which is an integrated component and referenced throughout the presentation or training
2. The availability and benefits of utility and third party energy efficiency programs is one of several topics individually addressed in the presentation or training
3. The content includes a general and brief discussion of the availability and benefits utility and third party energy efficiency programs
4. The event does not provide information regarding utility and third party energy efficiency programs

3. SCE 2548: SOUTHERN CALIFORNIA HOME PERFORMANCE

3.1 Workshop Attendee Survey Instrument

Introductory text

May I please speak with [INSERT FIRST AND LAST NAME]?

"I am calling from Opinion Dynamics on behalf of the California Public Utilities Commission. The CPUC is seeking your feedback on the CBPCA Training by Rick Chitwood. Specifically, I would like to ask you questions about the training that you attended in [INSERT TRAINING MONTH] of [INSERT TRAINING YEAR]. Your feedback will help the CPUC understand what changes you have made in your business since receiving this training. This survey should only take about 10 minutes of your time and for your participation, we will send you a check for \$50."

(IF NEEDED: This was a nine-day intensive home performance training workshop that focused on diagnostic testing.)

S2. Our records indicate that you participated in the Southern California Home Performance training in [INSERT TRAINING MONTH] of [INSERT TRAINING YEAR]. Is this correct?

1. Yes
2. No [TERMINATE]
8. (Don't know) [TERMINATE]
9. (Refused) [TERMINATE]

Value of information provided by the program

V1a. As you think about what you heard at the training, was any of this NEW information for you?

1. Yes
2. No
8. (Don't know)
9. (Refused)

[ASK IF V1a=2]

V1b. Although you don't think the information was new, did the training move you any closer to implementing home performance diagnostic and remediation principles that you were already considering?

1. Yes
2. No
8. (Don't know)

9. (Refused)

V2. On a scale of 1 to 7 where 1 is “not at all useful” and 7 is “very useful,” how useful was the information you heard during the training? [8=(Don’t know), 9=(Refused)]

Influence 1-7 scale

INF. On a scale of 1 to 7 where 1 is “not at all” and 7 is “very much”... [8=(Don’t know), 9=(Refused)]

INF1. How much did the training cause you to THINK DIFFERENTLY about how you diagnose and remediate homes?

INF2. How much did the training cause you to want to make changes in how you diagnose and remediate homes?

INF3. How much did the training increase your awareness of ways you can incorporate home energy performance testing into your business?

INF4. Was the 9-day in-person training a good way to explain the ways to use home energy performance testing in your business?

Knowledge questions

K1. Which of the following sentences best describes your knowledge about energy efficiency BEFORE you participated in the training?

1. I had NO knowledge
2. I had VERY LITTLE knowledge
3. I had SOME knowledge
4. I had A LOT of knowledge
8. (Don’t know)
9. (Refused)

K2. On a scale of 1 to 7 where 1 is “I did not learn anything” and 7 is “I learned a lot about energy efficiency” how much did you learn from the training? [8=(Don’t know), 9=(Refused)]

K3. On a scale of 1 to 7 where 1 is “strongly disagree” and 7 is “strongly agree,” please tell me how much you agree or disagree with the following statements: [8=(Don’t know), 9=(Refused)]

K3a. As a result of participating in the training workshop, I am better able to identify ways for my clients to reduce energy usage.

K3b. As a result of participating in the training, I am now more familiar with the tools and/or techniques that can enhance the services I provide.

K3c. As a result of participating in the training, I am more confident that the energy savings will occur when I recommend energy efficient technologies and practices.

K4. As a result of the training, I am more aware of utility sponsored energy efficiency programs.

Actions taken

MT2. On a scale of 1 to 7 where 1 is “not at all” and 7 is “very much” ,please rate the following statement. As a result of the training, I am more likely to recommend energy efficient equipment, designs or practices. [8=(Don’t know), 9=(Refused)]

MT3. Have you applied any of the concepts you learned at the training to the services you provide to your clients?

1. Yes
2. No
8. (Don’t know)
9. (Refused)

[ASK IF MT3=1; OTHERWISE SKIP TO MT14]

MT4. How have you applied them? Did you... [1=Yes, 2=No, 3=Not applicable, 8=(Don’t know), 9=(Refused)]

- a. Recommend energy efficient measures that you learned about at the training?
- b. Recommend energy efficient measures more frequently than you did before?
- c. Use building or system design principals or elements that you did not know much about before?
- d. Use diagnostic tools or practices that you did not know much about before?
- e. Did you do something else? Specify [OPEN END]

MT5. Besides the training, what else influenced you to apply the concepts we just talked about? [OPEN END]

97. (Nothing)
- 98.(Don’t know)
- 99.(Refused)

MT6. Have the changes you just told me about become standard practice for you?

1. Yes
2. No
8. (Don’t know)
9. (Refused)

MT7. On a scale of 1 to 7 where 1 is “strongly disagree” and 7 is “strongly agree”, please rate the following statement: My participation in the Southern California Home Performance training caused me to make the changes I just told you about. [8=(Don’t know), 9=(Refused)]

MT8. Approximately how many times in the last 12 months have you implemented something you learned about at the training to your customers? [NUMERIC OPEN END, UP TO 1,000, 9998= (Don't know/Don't remember), 9999=(Refused)]

MT9. In your opinion, have the changes you have made to the services you provide resulted in measurable energy savings in your customers' homes?

1. Yes
2. No
8. (Don't know)
9. (Refused)

[ASK IF MT9=1]

MT10. In your opinion, how would you describe the amount of energy saved by your customers resulting from the changes or enhancements you have made to the services you provide that were introduced by the training? Would you say it was...

1. Significant energy savings
2. Moderate energy savings
3. Measurable but insignificant energy savings
4. No energy savings
8. (Don't know)
9. (Refused)

[SKIP IF MT10=4, 8, 9]

MT11. Have you estimated the average money or kilowatt hours saved per home over the last 12 months?

1. Yes, I have estimated dollars saved
2. Yes, I have estimated kilowatt hours saved
3. Yes, I have estimated BOTH dollars and kilowatt hours saved
4. No
8. (Don't know)
9. (Refused)

[ASK IF MT11=1 OR 3; OTHERWISE, SKIP TO MT13]

MT12. On average, approximately how many dollars do you think your customers save per home over a 12 month period? [NUMERIC OPEN END, UP TO 1,000,000, 9,999,998=(Don't know), 9,999,999=(Refused)]

[ASK IF MT11=2 OR 3]

MT13. On average, approximately how many kilowatt hours are saved by your customers per home over a 12 month period? [NUMERIC OPEN END, UP TO 1,000,000, 9,999,998=(Don't know), 9,999,999=(Refused)]

[ASK IF MT3=2]

MT14. Why haven't you implemented any of the concepts from the training? [OPEN END]

1. (There's nothing to change)
2. (I don't have enough info)
3. (I haven't had the chance to change)
4. (I've tried, but it didn't work out)
5. (Too expensive)
6. (Market conditions, economy, customers unwilling to spend money)
00. Other, specify
98. (Don't know)
99. (Refused)

[ASK IF MT6=2]

MT15. Why haven't the concepts you learned in the training become standard practice for your business? [OPEN END]

1. (There's nothing to change)
2. (I don't have enough info)
3. (I haven't had the chance to change)
4. (I've tried, but it didn't work out)
5. (Too expensive)
6. (Market conditions, economy, customers unwilling to spend money)
00. Other, specify
98. (Don't know)
99. (Refused)

Specific Actions Taken

ST1a. We know there could have been several different specific recommendations you may have made to your customers. I am going to ask you about some of these and I'd like you to tell me if you have made this specific recommendation within the past 12 months. Have you recommended duct sealing your clients?

1. Yes
2. No
8. (Don't Know)
9. (Refused)

[ASK IF ST1a=1]

ST1b. How many of your clients followed through with your recommendation in the past 12 months? [NUMERIC OPEN END, up to 1000, 9998= (Don't know/Don't remember), 9999=(Refused)]

ST9a. Have you recommended they replace their ducts?

1. Yes
2. No
8. (Don't Know)
9. (Refused)

[ASK IF ST9a=1]

ST9b. How many of your clients followed through with this recommendation? [NUMERIC OPEN END, up to 1000, 9998= (Don't know/Don't remember), 9999=(Refused)]

ST2a. Have you recommended attic, crawl space or other shell sealing in the last 12 months?

1. Yes
2. No
8. (Don't Know)
9. (Refused)

[ASK IF ST2a=1]

ST2b. How many of your customers followed through with this recommendation? [NUMERIC OPEN END, up to 1000, 9998= (Don't know/Don't remember), 9999=(Refused)]

ST3a. Have you recommended they check the refrigerant charge for new air conditioners?

1. Yes
2. No
8. (Don't know)
9. (Refused)

[ASK IF ST3a=1]

ST3b. How many have followed through? [NUMERIC OPEN END, up to 1000, 9998= (Don't know/Don't remember), 9999=(Refused)]

S12a. Have you recommended refrigerant charge and air flow diagnostics for existing air conditioners to your clients?

1. Yes
2. No
8. (Don't know)
9. (Refused)

[ASK IF S12a=1]

S12b. How many have followed through? [NUMERIC OPEN END, up to 1000, 9998= (Don't know/Don't remember), 9999=(Refused)]

ST4a. How about installing ceiling insulation?

1. Yes
2. No
8. (Don't know)
9. (Refused)

[ASK IF ST4a=1]

ST4b. How many have followed through? [NUMERIC OPEN END, up to 1000, 9998= (Don't know/Don't remember), 9999=(Refused)]

ST6a. How about installing programmable thermostats?

1. Yes
2. No
8. (Don't know)
9. (Refused)

[ASK IF ST6a=1]

ST6b. How many have installed these thermostats? [NUMERIC OPEN END, up to 1000, 9998= (Don't know/Don't remember), 9999=(Refused)]

ST7a. Have you recommended energy-efficient water heaters to your clients?

1. Yes
2. No
8. (Don't know)
9. (Refused)

[ASK IF SACT7a=1]

ST7b. How many have followed through? [NUMERIC OPEN END, up to 1000, 9998= (Don't know/Don't remember), 9999=(Refused)]

ST8a. How about energy-efficient windows?

1. Yes
2. No
8. (Don't know)
9. (Refused)

[ASK IF ST8a=1]

ST8b. How many have followed through? [NUMERIC OPEN END, up to 1000, 9998= (Don't know/Don't remember), 9999=(Refused)]

S10a. In the past 12 months, have you recommended retrofitting lighting to your clients?

1. Yes
2. No
8. (Don't know)
9. (Refused)

[ASK IF S10a=1]

S10b. How many have your customers followed through with this recommendation in the past 12 months? [NUMERIC OPEN END, up to 1000, 9998= (Don't know/Don't remember), 9999=(Refused)]

[ASK IF S10b>0]

S10c. We assume that you recommended screw-in compact fluorescent bulbs to your clients. About how many of these bulbs per home did your clients install? [NUMERIC OPEN END, up to 1000, 9997=Recommended some other type of lighting, 9998= (Don't know/Don't remember), 9999=(Refused)]

[ASK IF S10c=9997]

S10d. What was the lighting you recommended? [OPEN END, 98=(Don't know), 99=(Refused)]

S11a. How about replacing appliances with Energy Star appliances. Have you recommended this?

1. Yes
2. No
8. (Don't know)
9. (Refused)

[ASK IF S11a=1]

S11b. Which appliances did you recommend be replaced? [MULTIPLE RESPONSE, UP TO 3 RESPONSES]

1. Clothes washer
2. Clothes dryer
3. Refrigerator
4. Other, Please specific (_____)
8. (Don't know)
9. (Refused)

[ASK IF S11b=1]

S11c. How many customers replaced clothes washers? [NUMERIC OPEN END, up to 1000, 9998= (Don't know/Don't remember), 9999=(Refused)]

[ASK IF S11b=3]

S11e. How many customers replaced refrigerators? [NUMERIC OPEN END, up to 1000, 9998= (Don't know/Don't remember), 9999=(Refused)]

Demographics

"I just have a few more questions to ask you."

D1. What types of energy related services or equipment does your business provide?[MULTIPLE RESPONSE, UP TO 10 RESPONSES]

1. (Construction)
2. (Engineering or architectural design)
3. (Lighting design assistance, sales, installation)
4. (HVAC equipment sales, installation, repair or maintenance)
5. (Refrigeration equipment sales, installation, repair or maintenance)
6. (Motor equipment sales, installation, repair or maintenance)
7. (Pumping/hydraulic equipment sales, installation, repair or maintenance)
8. (Facility operations or maintenance)
9. (Energy technology research/consulting)
- 10.(Building performance testing and diagnostics)
- 00.Other. Specify
- 98.(Don't know)

99.(Refused)

D2. Which of the following best describes your business?

1. I/My business provides services to **business** customers.
2. I/My business provides services to **residential** customers.
3. I/My business provides services to **business and residential** customers.
4. I work for the government.
8. (Don't know)
9. (Refused)

[ASK IF D2=1 OR 3]

D3. Which market segment do you work with most often?

1. Commercial
2. Agricultural
3. Industrial
4. Residential
8. (Don't know)
9. (Refused)

D4. Can you please provide us with your address so we can send you the \$50 check for your participation?

00. OPEN END
98. (Don't know)
99. (Refused)

D5. We also want to make sure that the check is written to the right person. Can you please spell your first and last name for us? [RECORD FIRST AND LAST NAME]

“Those are all our questions. On behalf of the State of California Public Utilities Commission, we thank you for your time.”

3.2 Contractor In-Depth Interview Instrument

The goal of the interview guide is to create a framework of questions through which the interviewer can discuss a commercial end-user's (contractor's) experience with the SCE 2548 Southern California Home Performance Program. The interview guide will focus on some of the researchable questions for this program (designated with asterisks):

What is the reach of the program?

What education or information was provided? What are the behaviors that are encouraged?*

How likely is the program to induce behavioral change?*

What percentage of those targeted and exposed to the program reported behavior change as a result of the program?

What are the changes in awareness of energy saving opportunities as a result of the program?*

What percentage of participants was fed into resource programs, and which programs were promoted?

What indirect behaviors were taken by those people who received education or "treatment" through the program?*

What direct energy saving behaviors were taken by those who received education or "treatment" through the program?

What are the net energy-saving behaviors taken by those who receive education or "treatment" through the program?

What are the net energy savings as a result of the program?

What is the value of the program versus the cost of the program?

Background Questions

1. In a minute or less, how would you describe your business?
2. What types of energy related services or equipment does your business provide? (Please describe in detail.
3. What is your job title and description? What are your daily responsibilities? How long have you been doing this? What percentage of your time is dedicated to home performance related activities?

Interaction with the SCE 2548 So Cal Home Performance Program

4. How did you learn about the Southern California Home Performance Program training workshop?
5. What are the top three things that you learned at the workshop?
6. Have you attended one or more field training(s)? What are the top three things that you learned from the field trainings?
7. Have you changed your business operations as a result of attending a workshop or field training from the Southern California Home Performance Program? If so, how? If not, why not?
8. Have your quality assurance practices changed as a result of the training session? If yes, how? If no, why not?

Customer Interactions

9. Have you conducted a Home Performance assessment for a customer since your first attendance at a training or workshop? If so, how many? If not, why not?
10. Did the Home Performance assessment(s) result in you or your company implementing energy efficiency measure(s) for your customer? If so, how many? If not, why not?
11. Please describe the energy efficiency measures that you have installed for your customer as a result of your customer receiving a Home Performance test.
12. Do you calculate/estimate energy savings or utility bill savings for these jobs? If yes, could you share this information with us – for the job in question, and for the program overall?
13. To your knowledge, what percentage of your customers received financial incentives for the measures that were installed?
 - Why/why not?
 - From whom?
 - How do they hear about the incentives? Do you tell them?
 - Do you assist your customers to obtain the financial incentives? If yes, how do you do this?
- 13B. Customer Satisfaction. As a result of the class, did your customers complete satisfaction surveys? Why/why not? Please describe the results. Would you share this survey with us?
14. Has the training provided by the Home Performance program provided you with the knowledge and tools that you need? If so, then how? If not, then in what ways could it be improved?

Reporting

15. Have you submitted reports to CBPCA on the jobs you have completed? (why, why not?) Have you received incentives for your report(s)? If yes, how much time did it take for you to receive them?

16. (If he/she has not reported,) what are some of the barriers that make it difficult to provide reports for jobs?

17. Are the incentives for reporting sufficient? If no, what would be an appropriate incentive(s) to motivate you to report?

18. To your knowledge, have any of your jobs been verified by the CBPCA? If yes, how?

Networking—AKA

19. Have you participated in the CBPCA's "yahoo group" online listserv? Why or why not? If yes, how often do you use it?

20. Have you contacted other contractors about "teaming up" for Home Performance work? Have you completed any jobs with this "team?" Why or why not? Do you have information about what measures and energy savings were installed?

21. Have you referred work to another contractor? Why or why not? Has that job been completed? Do you have information about what measures and energy savings were installed?

22. How has the Southern California Home Performance program provided you with networking or referral opportunities, if at all?

23. In the future, do you have plans to participate in networking and/or referrals with the Southern California Home Performance Program? Why or why not? In what ways?

24. (OPTIONAL—Process Review) Please walk me through a real example of a time that you performed a home performance test, and then installed measures as a result?

- How did the customer contact you?
- Was the home performance test done in conjunction with other work you were doing for the customer?
- Describe the process of the home performance test.
- Describe the process of explaining the results of the home performance test to the customer. How did he/she react?
- How did you convince the customer to install the measures?
- How long did this process take?

External Market Effects on Business Operations

25. How has the current real estate and/or economic downturn affected your business, if at all?

26. As a result of taking the course, do you now perform work that you would have not performed otherwise? If yes, please describe. If no, please explain.

27. Additional thoughts: How can the program better serve your business needs? Focus on impact-behaviors, actions, attitudes that they have changed.

3.3 Homeowner In-Depth Interview Instrument

The goal of the interview guide is to create a framework of questions through which the interviewer can discuss a residential end-user's (homeowner's) experience with the SCE 2548 Southern California Home Performance Program and to gauge the impacts that the program has had on the residential end-user's actions.

Program Interaction

1. Did you participate in a Home Performance Assessment through the Southern California Home Performance Program?
2. Since the Home Performance Assessment, did you hire a contractor to make any energy efficiency improvements to your home as a result of the Home Performance Assessment?
3. Since the Home Performance Assessment, have you taken energy savings actions without the help of a contractor?
4. If yes, what influenced you to take the {energy saving actions} we described in the previous question?
5. Did you receive any assistance, guidance, or money from a utility program because you made changes at your home?
6. In which utility program did you participate?
7. Did the Home Performance Assessment inform you about this utility program?
8. Did anything else influence you to take the {energy saving actions} we just talked about?
9. If no, do you have plans within the next 12 months to improve the energy efficiency at your home using the things you learned during the Home Performance Assessment?
10. If no, please tell me the main reason you have not taken any {energy saving actions} after attending the Home Performance Assessment.
 1. The [effort] talked about {energy saving actions} that I am already doing.
 2. The [effort] did not give me enough information, materials, support or experience to be able to do the things that I learned about.
 3. I have not had the chance to apply the things I learned from this [effort] because there have been no opportunities for me to apply it.
 4. I have tried to do some of the {energy saving actions} I learned at the [effort], but other people or circumstances, such as financial budgets, have kept the things from being done.
00. Other. Specify _____.
- 98.(Don't know)
- 99.(Refused)

Demographics

11. In what type of building do you live?

1. A mobile home
2. A one-family home detached from any other house
3. A one-family home attached to one or more houses
4. A building with 2 apartments
5. A building with 3 or 4 apartments
6. A building with 5 or more apartments
- 00.Other (SPECIFY)

12. About when was your residence first built?

1. Before 1970s
2. 1970s
3. 1980s
4. 1990-94
5. 1995-99
6. 2000s

13. What is the approximate square footage of your residence?

- 96.[OPEN END]
- 98.(Don't know)
- 99.(Refused)

14. Including yourself, how many people currently live in your home year-round?

3.4 Training Observation Form

Program:	SCE 2548 Southern California Home Performance
Title of Event:	
Type of Event:	<input type="checkbox"/> Tour <input type="checkbox"/> Training <input type="checkbox"/> Presentation <input type="checkbox"/> Other
Event Description:	
Objectives of the Event – usually stated in the PIP or Quarterly Reports:	
Event Location	
Event Date and Time:	
Observer:	
Observation Date and Times:	
Number of Attendees:	
Types of Attendees:	

II. Event Logistics

III. Information Delivery Methods

- A. Program person engages participants during event
- B. Program person capable of answering energy related questions
- C. Does the event discuss other energy efficiency programs?
- D. Does the event specifically channel people to other energy efficiency programs?
[Y/N] [text description]
- E. How did the program person deliver the message/s? (Check all boxes that apply).
[Text description, as necessary.]

	One-on-one conversation
	Group lecture / Presentation
	Electronic Presentation (e.g. PowerPoint slideshow)
	Visual Display - house tour
	Hands-on workshop/demonstration – house tour
	Take away literature

V. Reason for the Event (Stated Goals and list source)

VI. Description of the presentations / reports etc. provided to attendees

Type of Material	Description of Material Content	ODC Received	Soft Copy on Server
		<input type="checkbox"/> hard copy <input type="checkbox"/> soft copy	<input type="checkbox"/> Y <input type="checkbox"/> N

V. Likelihood of event creating change in awareness, knowledge, or attitudes (AKA) towards energy efficiency and likelihood of changing energy efficiency behaviors in the participants. Consider: 1) what changes are being promoted and 2) what types of changes participants are expected to take. Based on what you observed, circle or highlight the most appropriate value

Changes in AKA

1. Very Likely
2. Somewhat Likely
3. Neither Likely nor Unlikely
4. Somewhat Unlikely
5. Very Unlikely

Changes in Behavior

6. Very Likely
7. Somewhat Likely
8. Neither Likely nor Unlikely
9. Somewhat Unlikely
10. Very Unlikely

State why you rated the changes as you did – write about 1)what changes are being promoted and 2)what types of changes participants are expected to take.

VI. Other Comments, Observations Specific to this Event:

VII. Additional questions

1. For which market sector is the event designed? Circle/highlight all that apply.

1. residential
2. commercial
3. industrial

- 4. agricultural
- 5. Other (Specify: _____)

2. Is the content designed and intended for...

- 1. End-Users [including residential, commercial and industrial customers]
- 2. Trade Professionals [including contractors, engineers, architects, manufacturers, consultants etc.]
- 3. Both End-Users and Trade Professionals
- 4. Other (Specify: _____)

3. If trade professionals, for which type(s) of trade professionals is the content specifically designed? Circle/highlight all that apply.

- | | |
|---------------------------------------|-------------------------------------|
| 1. Facility Engineer/O&M Professional | 8. Residential Builder |
| 2. Plant Manager | 9. Building Inspector |
| 3. Energy Efficiency Consultant | 10. Other Contractor |
| 4. HVAC Contractor | 11. Equipment Manufacturers |
| 5. Architect/Design Engineer | 12. Equipment Sales Representatives |
| 6. Commercial Property Developer | 13. Other (Specify: _____) |
| 7. General Contractor | |

4. On which types of activities does the content focus? Circle/highlight all that apply.

- 1. New construction
- 2. Existing construction (i.e., retrofit)
- 3. New installation (new equipment in existing structure)
- 4. Operations and Maintenance
- 5. Process Improvement
- 6. Other (Specify: _____)

5. What end-use technology(ies) is/are the principal focus? Circle/highlight all that apply

Generally, home systems can be made more energy efficient by:

- Improving equipment efficiency
- Correct sizing of air conditioners
- Proper duct system design and installation
- Reduced air handler fan power
- Adequate airflow over the indoor coil

Demand/Response

- Time Dependent Valuation
greater credit for peak energy saving measures over off-peak measures; greater penalties for peak demand requirements

Quality Insulation Installation (QII)

- Air sealing
- Radiant barrier

Window performance—Glazing requirements

- Placement of windows (minimize west-facing)
- Window to Wall ratios
- Visible Light Transmittance (VLT)
- Solar Heat Gain Coefficient (SHGC)
- Insulation factor (U-value)

HVAC

- Correctly Sizing an Air Conditioner/Furnace

Proper Duct Design and Installation

- Duct locations (attic, crawlspace, conditioned space etc.)
- Duct sizes (lengths and cross sectional areas)
- Supply and return grilles location (floor, ceiling, sidewall etc.)
- Supply and return grilles size
- Airflow at supply grilles (in cubic feet per minute, or CFM)
- Sealed and Tested Ducts
- Heat Pumps
- Specify ducts in conditioned space whenever possible
- Include sealed and tested ducts as part of the air conditioning contractors scope of work
- Increase duct insulation beyond the baseline minimum (when ducts are outside of conditioned space)
- Adequate Air Flow
- Air Handler Watt Draw
- Low Leakage “Tight” Duct
- Thermostatic Expansion Valve (TXV) and/or Refrigerant Charge Testing

Lighting

- Controls/Energy Management Systems
- Locations where needed—bathrooms, kitchens, closets, bedrooms, exterior
- High efficiency—compact fluorescent

Water Heating—All

- Condensing versus Non-Condensing
- Forced (or Induced) Venting versus Atmospheric Venting
- Pipe Insulation
- Drainwater Heat Recovery
- Heat Pump Water Heaters
- Tankless Water Heaters

Water Heating–Individual Systems

- Heat Traps

Water Heating–Central Systems

- Sizing of Central Systems
- Recirculation Loop Controls
- Demand Controls
- Temperature Modulation Controls
- Point-of-Use Heaters

ENERGY STAR® Appliances

- Refrigerators
- Dishwashers
- Clothes Washers

Renewable Energy

- Solar Photovoltaic (pV)
- Solar Hot Water/Solar Thermal

Process Heating

Commercial Cooking/Foodservice

Refrigeration

Compressed Air

Motors/Pumps

“Cool roofs”

Green (LEED) building

Steam Systems

Distributed Generation

Other (Specify: _____)

6. Which of the following issues or practices are covered as a core element or principal focus? Circle/highlight all that apply.

1. Energy Auditing/Diagnostics
2. Energy Savings
3. Cost-Benefit Calculations
4. Designing for Energy Savings
5. Code and Standard Development, Compliance and Enforcement
6. Energy Modeling
7. Financing
8. Operation and Maintenance
9. Retro-commissioning
10. Evaluation, Monitoring, Verification
11. Research and Development
12. Product Development

13. Other (Specify: _____)

7. What percentage of the total time was spent using each of the following methods of content delivery?

j.	Lecture/Presentation (including PowerPoint or other slideshow)	
k.	Video/Movie presentation	
l.	Group Discussion	
m.	Instructor demonstration	
n.	Attendee Presentations	
o.	Hands-on exercises	
p.	Workplace consultation	
q.	Other, specify	
r.	Total	

8. What is the expected level of expertise of the audience in the subject matter at the beginning of the presentation or training? (Ask staff person or instructor) Circle/highlight all that apply.

1. Novice (no experience needed to understand topic)
2. Basic (basic skills or knowledge needed to understand topic)
3. Advanced (advanced skills or knowledge needed to understand topic)
4. Mixed (mix of skill levels)

9. What types of handouts or materials are provided? Circle/highlight all that apply.

10. Do attendees develop any personalized case-study or action plan for implementing the event's content?

1. Yes [If yes, obtain a copy.]
2. No

11. Energy efficiency may be but one of a number of themes covered. Indicate the degree to which the **implementation** of energy efficiency practices or behaviors by participants is a **central theme** of the content delivered. For example an event (like a tour) might cover green technologies in addition to energy efficiency because the group that promotes it promotes green projects.

1. Implementing energy saving actions is one of several themes addressed by the event and it is no more important than the other themes

2. Implementing energy saving actions is a minor theme of the event
3. Other (Specify: _____)

12. To what degree does the event provide participants **with specific and actionable examples** of how to implement energy efficient practices or behaviors?

1. Detailed examples of how to implement energy efficient practices or behaviors.
2. More general examples of how to implement energy efficient practices or behaviors.
3. Does not give examples of how to implement energy efficient practices or behaviors

13. To what degree does the event describe utility energy efficiency rebate programs available to participants?

1. The availability and benefits of utility and third party energy efficiency programs is a topic which is an integrated component and referenced throughout the presentation or training
2. The availability and benefits of utility and third party energy efficiency programs is one of several topics individually addressed in the presentation or training
3. The content includes a general and brief discussion of the availability and benefits utility and third party energy efficiency programs
4. The event does not provide information regarding utility and third party energy efficiency programs

3.5 **Community Event Observation Form**

Date of Event: _____ Name of Event: _____

Length of Event: _____ Location of Event: _____

Name of Booth Organizer: _____

Observer Name: _____

Time Observation Began: _____ Time Event Began: _____

Time Observation Ended: _____ Time Event Ended: _____

I. Event Information

1. Type of Event (Check all that apply)

<input type="checkbox"/>	Flex Your Power
<input type="checkbox"/>	Booth ORGANIZER's event (event was planned by group being observed)
<input type="checkbox"/>	Event hosted by another organization
<input type="checkbox"/>	Environmental / energy related event where ORGANIZER has a booth
<input type="checkbox"/>	Arts / music event where ORGANIZER has a booth
<input type="checkbox"/>	Community festival / fair where ORGANIZER has a booth
<input type="checkbox"/>	Not for profit / charity event (MS Walk, Race for the Cure, etc.)
<input type="checkbox"/>	Other (Specify):

2. Description of the materials provided to attendees (obtain copies where possible). **Brochures, giveaways, CFL bulbs, game prizes, etc.** (List all materials given or shown to attendees)

Type of Material	Description of Material Content.
Example: Giveaway	Example: CFL bulb, 17 watts Osram

5. Event inside or outside? _____

6. Number of people working the event _____ Comments _____

7. Hot___ pleasant weather ___ poor weather conditions (rain/cold) ___

8. Shaded area for people at booth? _____[Y/N]

9. Comfortable space _____[Y/N/NA] Comments _____

10. Clean room _____[Y/N/NA]

11. Facilities nearby (food and/or restrooms) _____[Y/N]

12. Type of people in attendance; be as detailed as possible with demographics (i.e., age, ethnicity, language, general residential, targeted to group such as a church, etc). Comment on whether these are the right people for the given message, how does the topic and audience match, are they reaching the decision makers relative to the topic:

13. Notes about the event; detailed description of the event; general size; number of people; how prominent the booth is; any use of interesting visual, audio, prop, etc. to help draw people's attention, etc.:

14a. Describe the level of interest in the stoppers at the booth (Circle one box and then describe why you chose it below).

Less than half were interested in the	Half were interested in the information	More than half were interested in the
---------------------------------------	---	---------------------------------------

information		information
1	2	3

14b. On average how long did participants stop at/use the kiosk?

III. Information Delivery Methods

15. ORGANIZER representative has professional/tidy appearance ____[Y/N]

16. ORGANIZER representative engages participants during event (circle one below)

Too Little	Just Right	Too Much
------------	------------	----------

17. ORGANIZER representative capable of answering questions well, accurately and completely given the context and timeframe ____[Y/N]

18. How did the ORGANIZER deliver the message/s? (Please check all boxes that apply)

	One-on-one conversation
	Group lecture / presentation
	Electronic presentation (e.g. PowerPoint slideshow)
	Visual display
	Hands-on workshop/demonstration
	Take away literature (e.g. brochures, pamphlets, etc.)
	Other: describe other message delivery methods in detail, such as games, giveaways, contests, pledge card signing ceremonies, etc. _____

IV. Energy Efficiency Message

19. (Use the table to provide tally marks during the event. Provide supplemental comments in notes section.)

TIME	FIRST HOUR				SECOND HOUR			
OBSERVATION	15 min	15 min	15 min	15 min	15 min	15 min	15 min	15 min
1. # of people who stopped at the kiosk								
2. # of people who started watching the kiosk								
3. # of people who finished watching the kiosk								
4. # of people that watched the English version of the Kiosk video								
5. # of people that watched the Spanish version of the Kiosk video								
6. # of people that watched the Chinese version of the Kiosk video								
Record the <u>number of people that took marketing materials with them.</u>								
7. # of people that took marketing materials with them								

20. In conversations with participants, what percentage of time did the ORGANIZER spend on the topics listed in the chart above? _____

21a. Beyond the topics listed in the table above, what other information was communicated to the audience, including other energy efficiency information or other?

21b. In what ways was the kiosk interactive?

22. Were there any energy efficiency or conservation questions asked that the ORGANIZER was unable to answer? If so, describe the question and the adequacy of the response when possible:

23. Anecdotal comments from attendees: [note the comments/reactions that you hear from attendees, insert exact quotes if possible]

24. From your observation of the attendees' reactions to the information, how would you rate the audience overall on the following scale. (Circle a number)

Less than half of the attendees knew about the energy efficiency information that they heard from the ORGANIZER	About half of the attendees knew about the information and the other half seemed to learn something new	More than half of the attendees knew about the energy efficiency information that they heard from the ORGANIZER
1	2	3

25. Would you say that the above rating is different or dependent on the type of attendee? If so, please describe. [For example: most of the children learned something new while the adults seemed knowledgeable about the information.]

26. a. Do the ORGANIZER representatives ask for contact information from attendees?

Y / N (Circle one) What % of attendees provided contact information? _____

b. If yes, describe how they collect contact information (Please check all boxes that apply):

	A sign in sheet
	A raffle (Please describe what the raffle was for):
	A pledge for energy efficiency
	Other (Specify):

c. What exact information do they collect? (Please check all boxes that apply)

	First name
	Last name
	Job title
	Mailing address
	Telephone
	Email address
	Language spoken in the home
	Other (Specify):

d. Do they collect information to determine what language the attendee speaks? If so, how do they do it? (Please describe)

e. Why does the ORGANIZER collect the information? What does the ORGANIZER tell the attendee it will be used for? (Please check all boxes that apply)

	To send further information on energy efficiency
	To fulfill a raffle or prize
	To add to a mailing list
	To follow up on any energy efficiency actions they've taken
	Other (please specify):

f. Describe the attendees' willingness to give contact information. (Please check a box and describe)

	No hesitation
	Some hesitation. (Please describe)
	Very hesitant, almost everyone was weary of giving contact information. (Please describe)

g. How effective is the ORGANIZER's approach to collecting contact information? Is it capturing name AND some form of contact, email, phone or mail? If so, for what portion of the attendees? (Please check a box and describe)

	Effective because...
	Somewhat effective because...
	Very effective because...

4. SCG 3531: PACE ENERGY EFFICIENT OUTREACH PROGRAM & SCG 3532/SCE 2513: CLEO CUSTOM LANGUAGE EFFICIENCY OUTREACH PROGRAM²

4.1 Combined Residential and Non-Residential Survey Instrument

This survey is intended for people who received energy efficiency information from the PACE or CLEO program.

PACE participants received energy efficiency information at local community events or at residential seminars. The program targets residential and non-residential customers who identify with one of four ethnic groups (Chinese, Korean, Spanish, Vietnamese).

CLEO participants received energy efficiency information at seminars. The program outreach targets residential customers who identify with one of four ethnic groups (Vietnamese, Indian, Chinese, Korean).

The survey will be given to PACE booth participants and seminar participants as well as CLEO seminar participants. The survey will be given in several of the targeted languages.

Program = CLEO, PACE RES, PACE NONRES

Program Name = CLEO Program, PACE Energy Savings Project

Language = Chinese, Korean, Vietnamese, Spanish, English

[1. Begin in LANGUAGE]

[2. As needed continue in English]

[READ IF Program = PACE RES, PACE NONRES]

PACE Residential Introductory text

“Hello, I’d like to speak with [NAME]. I am calling from Opinion Dynamics on behalf of the California Public Utilities Commission. I would like to ask you a few questions to help the State of California better manage their energy resources. Specifically, I would like to ask you questions about your experience with the PACE Energy Savings Project in order to help improve future efforts to provide customers with energy efficiency information.”

² The PACE and CLEO used identical data collection instruments, so they are presented together here.

[READ IF Program = CLEO]

CLEO Introductory text

“Hello, I’d like to speak with [NAME]. I am calling from Opinion Dynamics on behalf of the California Public Utilities Commission. I would like to ask you a few questions to help the State of California better manage their energy resources. Specifically, I would like to ask you questions about your experience with the CLEO Energy Efficiency Seminar on [DATE] in order to help improve future efforts to provide customers with energy efficiency information.”

Screener - Part 1

S1. Would you prefer that I speak in...?

1. [LANGUAGE] [READ THE REST OF SURVEY IN SPECIFIC LANGUAGE]
2. or English? [READ THE REST OF THE SURVEY IN ENGLISH]

[SKIP IF Program = PACE NONRES]

Attitude Residential – 1-4 scale

Please indicate the extent to which you agree or disagree with the following statements...

RAT1. I am not very concerned about the amount of energy used in my home.

[Do you agree or disagree?] Is that strongly or somewhat?

1. Strongly Disagree
2. Somewhat Disagree
3. Somewhat Agree
4. Strongly Agree
5. (Don’t know)
6. (Refused)

RAT2. People like me are such a small part of the whole energy consumption picture that it really doesn’t matter how I use energy. [Do you agree or disagree?] Is that strongly or somewhat?

1. Strongly Disagree
2. Somewhat Disagree
3. Somewhat Agree
4. Strongly Agree
5. (Don’t know)
6. (Refused)

RAT3. Every home should make a real effort to save energy. [Do you agree or disagree?] Is that strongly or somewhat?

1. Strongly Disagree
2. Somewhat Disagree
3. Somewhat Agree
4. Strongly Agree
5. (Don't know)
6. (Refused)

RAT4. I would not pay more for a product that was energy efficient. [Do you agree or disagree?] Is that strongly or somewhat?

1. Strongly Disagree
2. Somewhat Disagree
3. Somewhat Agree
4. Strongly Agree
5. (Don't know)
6. (Refused)

[SKIP IF Program = PACE RES or CLEO]

Attitude Non-Residential – 1-4 scale

Please indicate the extent to which you agree or disagree with the following statements...

CAT1. I am not very concerned about the amount of energy used in my business. [Do you agree or disagree?] Is that strongly or somewhat?

1. Strongly Disagree
2. Somewhat Disagree
3. Somewhat Agree
4. Strongly Agree
5. (Don't know)
6. (Refused)

CAT2. Organizations like my business are such a small part of the whole energy consumption picture that it really doesn't matter how much energy we use. [Do you agree or disagree?] Is that strongly or somewhat?

1. Strongly Disagree
2. Somewhat Disagree
3. Somewhat Agree
4. Strongly Agree
5. (Don't know)
6. (Refused)

CAT3. Every business should make a serious effort to save energy. [Do you agree or disagree?] Is that strongly or somewhat?

1. Strongly Disagree
2. Somewhat Disagree

3. Somewhat Agree
4. Strongly Agree
5. (Don't know)
6. (Refused)

CAT4. My company would not pay more for a product that is energy efficient. [Do you agree or disagree?] Is that strongly or somewhat?

1. Strongly Disagree
2. Somewhat Disagree
3. Somewhat Agree
4. Strongly Agree
5. (Don't know)
6. (Refused)

Screener - Part 2

[SKIP IF PROGRAM = PACE NONRES]

S2. Our records indicate that you attended the [EVENT] on [DATE]. Is this correct?

1. Yes
2. No [TERMINATE]
3. (Don't know) [TERMINATE]

[SKIP IF PROGRAM = PACE NONRES or CLEO]

S3. Do you remember receiving information on ways to save energy at the [EVENT]?

3. Yes
4. No [TERMINATE]
5. (Don't know) [TERMINATE]

[SKIP IF PROGRAM = PACE RES or CLEO]

S4. Our records indicate that you received information from the PACE Energy Savings Project on ways to save energy at your business. Is this correct?

1. Yes
2. No [TERMINATE]
3. (Don't know) [TERMINATE]

[SKIP IF PROGRAM = CLEO or PACE NONRES]

Specific Actions Taken – PACE Residential

I'm now going to ask you about several specific actions you may have taken since attending the [EVENT] in order to improve the energy efficiency of your home.

[SKIP IF AERATOR SET=No]

GA1a. The PACE Energy Savings program distributed a free faucet aerator set at the [EVENT]. The aerator set was made up of three faucet aerators. A faucet aerator attaches to your existing faucet and creates a high-pressure flow while using less water. Do you recall receiving the aerator set?

1. Yes

2. No
3. (Don't know)
4. (Refused)

[SKIP IF GA1a <> 1]

GA2. Did you install the faucet aerator set at your home?

1. Yes
2. No
3. (Don't know)
4. (Refused)

[SKIP IF GA2 <> 1]

GA3a. Where in your home did you install the first aerator? [OPEN END]

1. (Kitchen)
2. (Bathroom)
3. (Other, specify)
4. (Didn't install)

[SKIP IF GA3a=4]

GA3b. Where in your home did you install the second aerator? [OPEN END]

1. (Kitchen)
2. (Bathroom)
3. (Do not have a second sink in home)
4. (Other, specify)
5. (Didn't install)

[SKIP IF GA3b=3,5]

GA3c. Where in your home did you install the third aerator? [OPEN END]

1. (Kitchen)
2. (Bathroom)
3. (Do not have a third sink in home)
4. (Other, specify)
5. (Didn't install)

[SKIP IF SHOWERHEAD = No]

GA4. The PACE Energy Savings program distributed a free low flow showerhead at the [EVENT]. The low flow showerhead replaces your existing showerhead and creates a high-pressure flow while using less water. Do you recall receiving the low flow showerhead?

1. Yes
2. No
3. (Don't know)
4. (Refused)

[SKIP IF GA4<>1]

GA5. Did you install the low flow showerhead in your home?

1. Yes
2. No

3. (Don't Know)
4. (Refused)

GA6. Since attending the [EVENT] did you replace any incandescent light bulbs with compact fluorescent light bulbs in your home? [IF NEEDED: A CFL light bulb is an energy efficient light bulb that looks like a question mark. It is intended to replace standard or incandescent light bulbs in your home.]

1. Yes
2. No
3. (Don't know)
4. (Refused)

[SKIP IF GA6<>1]

GA7. Approximately how many incandescent light bulbs in your home did you replace with CFLs? [NUMERIC OPEN END]

1. (1-4)
2. (5-9)
3. (10-14)
4. (15-19)
5. (20 or more)
6. (Don't know) [ASK FOR BEST GUESS]
7. (Refused)

[SKIP IF GA6<>1]

GA8. On average, how many hours per day do you use the CFLs in your home? [NUMERIC OPEN END]

GA9. Since attending the [EVENT] did you purchase an energy efficient refrigerator for your home?

1. Yes
2. No
3. (Don't know)
4. (Refused)

[SKIP IF PROGRAM = PACE RES or PACE NONRES]

Specific Actions Taken - CLEO

I'm now going to ask you about several specific actions you may have taken since attending the [EVENT] in order to improve the energy efficiency of your home.

GA10. The CLEO program distributed a free CFL light bulb at the [EVENT]. The CFL light bulb is an energy efficient light bulb that looks like a question mark. It is intended to replace standard or incandescent light bulbs in your home. Do you recall receiving the CFL?

1. Yes
2. No
3. (Don't know)
4. (Refused)

[SKIP IF GA10 <> 1]

GA11. Did you replace an incandescent light bulb at your home with the CFL you received?

1. Yes
2. No
3. (Don't know)
4. (Refused)

[SKIP IF GA11 <> 1]

GA12. Since attending the [EVENT] did you replace any other incandescent light bulbs with CFLs in your home?

1. Yes
2. No
3. (Don't know)
4. (Refused)

GA15. The CLEO program also distributed a free LED nightlight at the [EVENT]. The LED nightlight is an energy efficient night light that will turn on when you have turned off the other lights in your home. Do you recall receiving the LED nightlight?

1. Yes
2. No
3. (Don't know)
4. (Refused)

[SKIP IF GA15<>1]

GA16. Did you install the LED nightlight in your home?

1. Yes
2. No
3. (Don't know)
4. (Refused)

GA17. Since attending the [EVENT] did you purchase an energy efficient refrigerator for your home?

1. Yes
2. No
3. (Don't know)
4. (Refused)

[SKIP IF GA12<>1]

GA13. Approximately how many additional incandescent light bulbs in your home did you replace with CFLs? [NUMERIC OPEN END]

1. (1-4)
2. (5-9)
3. (10-14)
4. (15-19)
5. (20 or more)
6. (Don't know) [ASK FOR BEST GUESS]
7. (Refused)

[SKIP IF GA12<>1]

GA14. On average, how many hours per day do you use the CFLs in your home? [NUMERIC OPEN END]

[SKIP IF PROGRAM = PACE NONRES]

Home Energy Efficiency Survey (HEES) Participation

HE1. Have you completed the Home Energy and Water Efficiency Survey?

- a. Yes
- b. No [SKIP TO RACT2]
- c. (Don't know) [SKIP TO RACT2]
- d. (Refused) [SKIP TO RACT2]

HE2. Which of the following methods did you use when completing the survey? [SINGLE RESPONSE]

1. Paper – In [LANGUAGE]
2. Paper – In English
3. Phone
4. By Mail
5. Internet
6. At home visit with energy professional
7. Other, specify

HE3. Did you learn about the opportunity to take the survey from the [PROGRAM NAME]?

1. Yes
2. No
3. (Don't know)
4. (Refused)

[SKIP IF HE3<>1]

HE4. On a scale of 1 to 7, with 1 meaning that you strongly disagree and 7 meaning that you strongly agree, please rate the following statement:

"My attendance at the [EVENT] influenced me to take the survey."

1	2	3	4	5	6	7	8	9
Strongly disagree					Strongly agree		DK	REF

[SKIP IF HE3 <> 2]

HE5. How did you first learn about the survey? [OPEN END]

1. ([PROGRAM Name] booth/representative at a community event/fair)
2. (Utility booth/representative at a community event/fair)
3. (Other booth/representative at a community event/fair)
4. ([PROGRAM Name] website)
5. (Utility website)
6. (Other, specify)
7. (Don't know)
8. (Refused)

[SKIP IF PROGRAM = PACE NONRES]

Action Taken – Residential

RACT2. Since [DATE], have you: [1=Yes, 2=No, 3=Don't know]

- a. Searched for additional information on ways to save energy?
- b. Shared the information you learned with others? If yes, specify _____ [probe for relationship to person this information was shared with i.e. family member, friend, neighbor, co-worker, etc.].
- c. Changed your behavior or practices with regard to how you use energy? For example, turn off lights more frequently, change use patterns, alter operations and maintenance, etc.
- d. Installed any energy saving measures in addition to those we just discussed? For example, high efficiency air conditioners, furnaces, water heaters, insulation, etc.

[SKIP IF RACT 2d<>1]

RACT3. You mentioned that you installed additional energy savings measures in your home.

What specifically did you install? [MULTIPLE RESPONSE, ALLOW 17]

1. (lighting/CFLs)
2. (faucet aerator)
3. (low flow showerhead)
4. (lighting controls/dimmers/timers/motion sensors)
5. (air conditioner/evaporative cooler)
6. (furnace)
7. (water heater)
8. (Refrigerator)
9. (Washer)
- 10.(Dryer)
- 11.(Dishwasher)
- 12.(Programmable thermostat)
- 13.(Insulation)
- 14.(Pool cover)
- 15.(Pool timer)
- 16.(Pool pump/motor)
17. (Other, specify)

[SKIP IF RACT2c and d <>1]

RACT4. Other than the information provided at the [EVENT] what influenced you to make the changes we just talked about? [OPEN END]

1. (Open end)
2. (Nothing)
3. (Don't know)

[SKIP IF RACT2c and d <>1]

RACT6b. On a scale of 1 to 7, with 1 meaning that you strongly disagree and 7 meaning that you strongly agree, please rate the following statement:

"My attendance at the [EVENT] influenced me to make the changes I just told you about."

1	2	3	4	5	6	7	8	9
Strongly disagree					Strongly agree		DK	REF

RACT6c. Are you aware of any utility programs which provide assistance, guidance or a rebate or incentive for making energy efficiency changes at your home?

1. Yes
2. No
3. (Don't know)
4. (Refused)

[SKIP IF RACT6c<>1]

RACT6d. Did you hear about the utility program from the [PROGRAM NAME]?

1. Yes
2. No
3. (Don't know)

4. (Refused)

[SKIP IF RACT6c<>1]

RACT7. Did you receive any assistance, guidance, or a rebate or incentive from a utility program because you made energy efficiency changes at your home?

1. Yes
2. No
3. (Don't know)
4. (Refused)

[SKIP IF RACT7<>1]

RACT8. Which utility program was it? [OPEN END]

1. (Rebate Program)
2. (Direct Install Program)
3. (Low Income Energy Efficiency)
4. (Energy Audit Program)
5. (Other, specify)
6. (Don't know)
7. (Refused)

RACT10a. Do you have plans within the next 12 months to improve the energy efficiency of your home based on what you learned at the [EVENT]?

1. Yes
2. No
3. (Don't know)
4. (Refused)

[SKIP IF RACT10a<>1]

RACT10b. What do you plan to do? [OPEN END]

[SKIP IF RACT2c=1 or RACT 2d=1 or RACT10a=1]

RACT11. Why haven't you changed the way you use energy? [OPEN END]

1. (There's nothing to change)
2. (I don't have enough information)
3. (I haven't had the chance to change)
4. (I've tried, but it didn't work out)
5. (Too expensive)
6. (Other, specify)
7. (Don't know)
8. (Refused)

[SKIP IF PROGRAM = PACE RES or CLEO]

Action Taken – Non-Residential

ACT3. Since receiving information from the PACE Energy Savings Project have you... [1=Yes, 2=No, 3=Don't know]

- a. Searched for additional information on ways to save energy in your business?
- b. Shared the information you learned with others? If yes, specify _____ [probe for relationship to person this information was shared with i.e. co-worker, manager, etc.].
- c. Changed your behavior or practices with regard to how you use energy? For example, turn off lights more frequently, change use patterns, alter operations and maintenance, etc.
- d. Installed any energy saving measures at your business? For example, high efficiency air conditioners, furnaces, water heaters, insulation, etc.

[SKIP IF ACT 3d<>1]

ACT4. You mentioned that you installed energy savings measures in your business. What specifically did you install? [MULTIPLE RESPONSE, ALLOW 20]

- a. (Energy efficient lights/CFLs/T8s)
- b. (Air conditioner)
- c. (Furnace)
- d. (Hot water heater)
- e. (Refrigerator)
- f. (Commercial cooking/foodservice)
- g. (Daylighting equipment)
- h. (Thermostat)
- i. (Insulation)
- j. (Air barrier)
- k. (Energy efficient pump)
- l. (Compressed air)
- m. (Controls / energy management systems)
- n. (Steam systems)
- o. (Renewable energy)
- p. (Distributed generation)

- q. (Demand / response)
- r. (Other, specify)

[SKIP IF ACT3c and d <>1]

ACT8. Other than the information provided by the PACE Energy Savings Project what influenced you to take the actions we just talked about? [OPEN END]

1. (Open end)
2. (Nothing)
3. (Don't know)

[SKIP IF ACT3c and d <>1]

ACT8a. On a scale of 1 to 7, with 1 meaning that you strongly disagree and 7 meaning that you strongly agree, please rate the following statement:

“My attendance at the [EVENT] influenced me to make the changes I just told you about.”

1	2	3	4	5	6	7	8	9
Strongly disagree					Strongly agree		DK	REF

ACT8b. Are you aware of any utility programs which provide assistance, guidance or a rebate or incentive for making energy efficiency changes at your business?

1. Yes
2. No
3. (Don't know)
4. (Refused)

[SKIP IF ACT8b<>1]

ACT8c. Did you hear about the utility program from the [PROGRAM NAME]?

1. Yes
2. No
3. (Don't know)
4. (Refused)

[SKIP IF ACT8b<>1]

ACT9. Did you receive any assistance, guidance, or a rebate or incentive from a utility program because you made energy efficiency changes at your business?

1. Yes
2. No
3. (Don't know)
4. (Refused)

[SKIP IF ACT9<>1]

ACT10. Which utility program was it? [OPEN END]

1. (Standard Performance Contract)
2. (Express Efficiency)
3. (Savings by Design)
4. (Multi-Family Rebate Program)
5. (Low Income Energy Efficiency)
6. (Other, specify)
7. (Don't know)
8. (Refused)

ACT12. Do you have plans within the next 12 months to improve the energy efficiency of your business based on what you learned from the PACE Energy Savings Project?

1. Yes
2. No
3. (Don't know)
4. (Refused)

[SKIP IF ACT12<>1]

ACT12b. What do you plan to do? [OPEN END]

[SKIP IF ACT3c=1 or ACT3d=1 or ACT12=1]

ACT13. Why haven't you changed the way you use energy? [OPEN END]

1. (There's nothing to change)
2. (I don't have enough info)
3. (I haven't had the chance)
4. (I've tried, but it didn't work out)
5. (Too expensive)
6. (Other, specify)
7. (Don't know)
8. (Refused)

Value of information provided by the program

I'm now going to ask you a few questions about the information about the information on ways to save energy that was provided by the [PROGRAM NAME].

V1a. As you think about the information on ways to save energy provided by the program, was any of this NEW information?

1. Yes
2. No
3. (Don't know)
4. (Refused)

[SKIP IF V1a<>2]

V1b. Although you don't think the information was new, did it move you any closer to implementing efforts to save energy that you were already considering?

1. Yes
2. No
3. (Don't know)
4. (Refused)

V2. On a scale of 1 to 7 where a 1 means not at all useful and a 7 means very useful, how useful was the information provided by [PROGRAM NAME]?

1 2 3 4 5 6 7 8 9
Not at all Very useful DK REF

Influence 1-7 scale

On a 7 point scale where a 1 means not at all and a 7 means very much...

INF1. How much did the information provided by the [PROGRAM NAME] cause you to THINK DIFFERENTLY about how you use energy?

1 2 3 4 5 6 7 8 9
Not at all Very much DK REF

INF2. How much did the information provided cause you to WANT TO MAKE CHANGES in how you use energy?

1 2 3 4 5 6 7 8 9
Not at all Very much DK REF

INF3. How much did the information provided INCREASE YOUR AWARENESS of ways you can save energy in your home?

1 2 3 4 5 6 7 8 9
Not at all Very much DK REF

[SKIP IF PROGRAM=PACE NONRES]

INF4. Was the [EVENT] a good way to explain the ways to save energy in your home?

1 2 3 4 5 6 7 8 9
Not at all Very much DK REF

Knowledge questions

We're almost done, these next few questions have to do with your knowledge of energy efficiency.

K1. Which of the following sentences best describes your knowledge about energy efficiency BEFORE your interaction with the [PROGRAM NAME]?

1. I had NO knowledge
2. I had VERY LITTLE knowledge
3. I had SOME knowledge
4. I had A LOT of knowledge

K2. On a scale of 1 to 7 where 1 is I did not learn anything and 7 is I learned a lot about saving energy, how much did you learn from the program?

1 2 3 4 5 6 7 8 9
Did not learn anything Learned a lot DK REF

K3. I'm going to read you a few sentences and I would like you to tell me whether you agree or disagree with each sentence using a scale of 1 to 7 where 1 is strongly disagree and 7 is strongly agree.

K3a. As a result of my interaction with the [PROGRAM NAME], I am better able to identify ways to use less energy.

1 2 3 4 5 6 7 8 9
Strongly disagree Strongly agree DK REF

K3e. As a result of my interaction with the program, I better understand how to improve the energy efficiency in my home or business.

1 2 3 4 5 6 7 8 9
Strongly disagree Strongly agree DK REF

X5. Which of the following best describes your age?

1. Less than 18 years old
2. 18-24 years old
3. 25-34 years old
4. 35-44 years old
5. 45-54 years old
6. 55-64 years old
7. 65 or older
8. (Refused)

[ASK IF X4>1; OTHERWISE, SKIP TO X7]

X6. Including yourself, how many people currently living in your home year-round are in the following age groups?

1. Less than 18 years old
2. 18-24 years old
3. 25-34 years old
4. 35-44 years old
5. 45-54 years old
6. 55-64 years old
7. 65 or older
8. (Don't know)
9. (Refused)

[FORCE TOTAL TO EQUAL X4]

X7. What is the highest level of education you have completed?

1. No schooling
2. Less than high school
3. Some high school
4. High school graduate or equivalent (e.g., GED)
5. Trade or technical school
6. Some college
7. College degree (4-year)
8. Some graduate school
9. Graduate or professional degree
10. Other. Specify _____.
11. (Don't know)
12. (Refused)

- X8. Which of the following best represents your annual household income from all sources in 2008, before taxes? Was it . . . ?
1. Less than \$20,000 per year
 2. \$20,000-49,999
 3. \$50,000-74,999
 4. \$75,000-99,999
 5. \$100,000-149,999
 6. \$150,000-199,999
 7. \$200,000 or more
 8. (Don't know)
 9. (Refused)
- X9. What is your ethnicity?
1. White
 2. Black, African American
 3. American Indian or Alaska Native
 4. Asian
 5. Chinese
 6. Japanese
 7. Korean
 8. Vietnamese
 9. Filipino
 10. Native Hawaiian
 11. Guamanian or Chamorro
 12. Samoan
 13. Hispanic/Latina(o)
 14. Other. Specify _____.

X10. What is the primary language spoken in your home?

11. English
12. Spanish
13. Mandarin
14. Cantonese
15. Tagalog
16. Korean
17. Vietnamese
18. Russian
19. Japanese
20. Other. Specify _____.
21. (Don't know)
22. (Refused)

[SKIP IF PROGRAM = PACE RES or CLEO]

Demographics – Non-Residential

We have only a couple more questions to ask you. These are general demographic questions.

FI1. Thinking of other companies like yours, would you describe your company as...

5. A small company
6. A medium-sized company
7. A large company
8. Not applicable

FI2. Does your company lease or own your facility?

1. Lease
2. Own
3. Other, specify

FI3. What is the approximate square footage of your facility? [OPEN END]

1. [OPEN END]
2. (Don't know)
3. (Refused)

FI4. Approximately what percentage of your facility is heated? [OPEN END]

1. [OPEN END]
2. (Don't know)
3. (Refused)

FI5. Approximately what percentage of your facility is air conditioned? [OPEN END]

1. [OPEN END]
2. (Don't know)
3. (Refused)

FI6. On average, how many hours a day is your facility in use?

1. Less than 8 hours

2. 8 to 11 hours
3. 12 to 15 hours
4. 16 to 23 hours
5. 24 hours
6. (Don't know)

FI7. How long has your business been at this location?

1. Less than one year
2. Years, specify
3. (Don't know)
4. (Refused)

FI8. How many locations does your firm have in California?

1. 1
2. 2 to 4
3. 5 to 10
4. 11 to 25
5. Over 25
6. (Don't know)
7. (Refused)

FI9. What is the main activity of your business?

1. Office
2. Retail (Non-food)
3. College/university
4. School
5. Grocery store
6. Convenience store
7. Restaurant
8. Health care/hospital
9. Hotel/motel
10. Warehouse
11. Personal service
12. Community service/church/temple/municipality
13. Industrial process/manufacturing/assembly
14. Condo association/apartment management
15. Agriculture
16. Other, specify
17. (Don't know)
18. (Refused)

"Those are all our questions. On behalf of the State of California, we thank you for your time."

4.2 *Event Intercept Questionnaire*

1. What were your reasons for visiting the booth today? (Check all that apply)

- Wanted to talk to a representative
- Wanted more information on energy efficiency
- Wanted to receive a giveaway or enter a drawing
- Was just walking by the booth
- Other: _____

2. What best describes your knowledge of energy efficiency BEFORE TODAY? (Check one)

I had no knowledge

I had very little knowledge

I had some knowledge

I had a lot of knowledge

	None						A lot/
3. Thinking about all of the sources of information available, how much information on saving energy had you received BEFORE TODAY?	1	2	3	4	5	6	7

	Not At All						Very Much
4. How much did your knowledge of energy efficiency increase based on the information provided to you today at the booth?	1	2	3	4	5	6	7

5. If someone had high energy bills in their home, what are THREE energy efficiency improvements that she might make to lower her energy bill?

1. _____
2. _____
3. _____

6. What did you learn today at the booth? Please be specific.

	Not At All						Very Much
7. In general, how useful did you find the information provided by the booth representative? (Circle one)	1	2	3	4	5	6	7

	None						All
8. As you think about the information provided, how much of it was NEW to you?	1	2	3	4	5	6	7

9. Did your experience at the booth motivate you to save energy in ways you had already been considering?

- Yes No

Based on your *experience at the booth today*, how much did the information... (Circle one)

	Not At All						Very Much
10. Cause you to THINK DIFFERENTLY about how to save energy in your home?	1	2	3	4	5	6	7
11. Cause you to WANT TO MAKE CHANGES in the ways that you save energy at home?	1	2	3	4	5	6	7
12. Increase YOUR AWARENESS of ways you can save energy at home?	1	2	3	4	5	6	7
13. Was the information at the booth a good way to inform you of ways you can save energy?	1	2	3	4	5	6	7

14. Based on the information that you received today, what is your likelihood to take the following actions at your home? (Circle one)

	Not At All Likely						Very Likely
Search for additional information on ways to save energy	1	2	3	4	5	6	7
Share the information I have learned with others	1	2	3	4	5	6	7
Install energy efficient lights	1	2	3	4	5	6	7
Install energy saving appliances (such as energy efficient refrigerators, air conditioners, furnaces, water heaters, or others)	1	2	3	4	5	6	7
Change my behavior with regard to how I use energy (such as turning off lights more frequently, lowering thermostat settings, pulling window shades during the daytime or others)	1	2	3	4	5	6	7

15. Do you agree or disagree with the following statements? (Circle one)

	Strongly Disagree						Strongly Agree
Every home should make a real effort to save energy	1	2	3	4	5	6	7
Energy saving has become a widespread practice in California	1	2	3	4	5	6	7
Information and tips on how to save energy in my household are <u>easy</u> to find	1	2	3	4	5	6	7
When looking to buy a product that uses energy, my household seeks out the most energy efficient product available	1	2	3	4	5	6	7
People like me are such a small part of the whole energy consumption picture that it really doesn't matter how I use energy	1	2	3	4	5	6	7
I would not pay more for a product that was energy efficient	1	2	3	4	5	6	7
I am not very concerned about the amount of energy used in my home	1	2	3	4	5	6	7

16. Are you aware of any of the following energy saving opportunities? (Check all that apply)

- Rebates and incentives from your utility for energy efficient appliances or for making home improvements
- Energy audits of your home to find ways to save energy
- The Flex Your Power website: www.fypower.org
- Your electric or gas utilities' website for energy saving information

17. Have you heard of any of the following before today (Check all that apply)?

- Change a Light, Change the World
- Flex Alert
- Click it or Ticket
- Flex Your Power
- Energy Star

18. As a follow up to what you learned today, where would you look for more information? I will...(Check all that apply)

- NOT likely look for more information
- Visit the Flex Your Power website
- Visit a utility website
- Call the Flex Your Power toll-free number
- Call a utility (gas or electric company)
- Contact a bank
- Other: _____
- Don't know

19. What is your zip code? _____

20. Do you own or rent your home? (Check one)

- Own Rent

21. Which of the following best describes your age? (Check one)

- Less than 18 years old 18-24 years old 25-34 years old 35-44 years old 45-54 years old 55-64 years old 65 or older

22. Do you own or operate one of the following types of businesses in the local area?

- | | | |
|---|------------------------------|-----------------------------|
| Restaurant or foodservice | <input type="checkbox"/> Yes | <input type="checkbox"/> No |
| Dry cleaner | <input type="checkbox"/> Yes | <input type="checkbox"/> No |
| Nail or beauty salon | <input type="checkbox"/> Yes | <input type="checkbox"/> No |
| Hotel or motel | <input type="checkbox"/> Yes | <input type="checkbox"/> No |
| Financial services company | <input type="checkbox"/> Yes | <input type="checkbox"/> No |
| Multi-family housing or other property management | <input type="checkbox"/> Yes | <input type="checkbox"/> No |

23. What is the name of your electric utility? (Check one)

- Pacific Gas and Electric
 Southern California Edison
 San Diego Gas and Electric
 LADWP
 Other, Please Specify: _____

24. What is the name of your gas utility? (Check one)

- Pacific Gas and Electric
 Southern California Gas
 San Diego Gas and Electric
 Other, Please Specify: _____

25. What is your gender? (Check one)

- Male Female

4.3 **Event/Booth Observation Instrument**

Date of Event: _____ Name of Event: _____

Length of Event: _____ Location of Event: _____

Name of Booth Organizer: _____

Observer Name: _____

Time Observation Began: _____ Time Event Began: _____

Time Observation Ended: _____ Time Event Ended: _____

I. Event Information

1. Type of Event (Check all that apply)

<input type="checkbox"/>	Flex Your Power
<input type="checkbox"/>	Booth ORGANIZER's event (event was planned by group being observed)
<input type="checkbox"/>	Event hosted by another organization
<input type="checkbox"/>	Environmental / energy related event where ORGANIZER has a booth
<input type="checkbox"/>	Arts / music event where ORGANIZER has a booth
<input type="checkbox"/>	Community festival / fair where ORGANIZER has a booth
<input type="checkbox"/>	Not for profit / charity event (MS Walk, Race for the Cure, etc.)
<input type="checkbox"/>	Other (Specify):

2. Description of the materials provided to attendees (obtain copies where possible). Brochures, giveaways, CFL bulbs, game prizes, etc. (List all materials given or shown to attendees)

Type of Material	Description of Material Content.
Example: Giveaway	Example: CFL bulb, 17 watts Osram

5. Event inside or outside? _____

6. Number of people working the event _____ Comments _____

7. Hot___ pleasant weather ___ poor weather conditions (rain/cold) ___

8. Shaded area for people at booth?_____[Y/N]

9. Comfortable space _____[Y/N/NA] Comments _____

10. Clean room _____[Y/N/NA]

11. Facilities nearby (food and/or restrooms) _____[Y/N]

12. Type of people in attendance; be as detailed as possible with demographics (i.e., age, ethnicity, language, general residential, targeted to group such as a church, etc). Comment on whether these are the right people for the given message, how does the topic and audience match, are they reaching the decision makers relative to the topic:

13. Notes about the event; detailed description of the event; general size; number of people; how prominent the booth is; any use of interesting visual, audio, prop, etc. to help draw people's attention, etc.:

14. Describe the level of interest in the stoppers at the booth (Circle one box and then describe why you chose it below).

Less than half were interested in the information	Half were interested in the information	More than half were interested in the information
1	2	3

III. Information Delivery Methods

15. ORGANIZER representative has professional/tidy appearance _____[Y/N]

16. ORGANIZER representative engages participants during event (circle one below)

Too Little	Just Right	Too Much
------------	------------	----------

17. ORGANIZER representative capable of answering questions well, accurately and completely given the context and timeframe ____[Y/N]

18. How did the ORGANIZER deliver the message/s? (Please check all boxes that apply)

	One-on-one conversation
	Group lecture / presentation
	Electronic presentation (e.g. PowerPoint slideshow)
	Visual display
	Hands-on workshop/demonstration
	Take away literature (e.g. brochures, pamphlets, etc.)
	Other: describe other message delivery methods in detail, such as games, giveaways, contests, pledge card signing ceremonies, etc. _____

IV. Energy Efficiency Message

19. (Use the table to provide tally marks during the event. Provide supplemental comments in notes section.)

TIME	FIRST HOUR				SECOND HOUR			
OBSERVATION	15 min	15 min	15 min	15 min	15 min	15 min	15 min	15 min
7. # of people who stopped at the booth								
Record the <u>number of people that heard the ORGANIZER discuss</u> the following items.								
2. Use CFL (compact fluorescent) light bulbs, or other energy efficient lighting products								
3. Buy/install ENERGY STAR-appliances								
4. Unplug electronic devices / turn off lights when not in use								
5. Use a ceiling fan to cool your home (or business) in the summer instead of air conditioning								
6. Programs, seminars or classes related to energy efficiency.								
7. Rebates for energy efficient products								

SCG 3531: PACE Energy Efficient Outreach Program & SCG 3532/SCE 2513: CLEO Custom Language Efficiency Outreach Program

8. Home energy audits or HEES survey (Home Energy Efficiency Survey) – either online or in paper								
Record the <u>number of people that took marketing materials with them.</u>								
7. # of people that took marketing materials with them								

20. In conversations with participants, what percentage of time did the ORGANIZER spend on the topics listed in the chart above? _____

21. Beyond the topics listed in the table above, what other information was communicated to the audience, including other energy efficiency information or other?

22. Were there any energy efficiency or conservation questions asked that the ORGANIZER was unable to answer? If so, describe the question and the adequacy of the response when possible:

23. Anecdotal comments from attendees: [note the comments/reactions that you hear from attendees, insert exact quotes if possible]

24. From your observation of the attendees' reactions to the information, how would you rate the audience overall on the following scale. (Circle a number)

Less than half of the attendees knew about the energy efficiency information that they heard from the ORGANIZER	About half of the attendees knew about the information and the other half seemed to learn something new	More than half of the attendees knew about the energy efficiency information that they heard from the ORGANIZER
1	2	3

25. Would you say that the above rating is different or dependent on the type of attendee? If so, please describe. [For example: most of the children learned something new while the adults seemed knowledgeable about the information.]

26.

a. Do the ORGANIZER representatives ask for contact information from attendees?

Y / N (Circle one) What % of attendees provided contact information? _____

b. If yes, describe how they collect contact information (Please check all boxes that apply):

	A sign in sheet
	A raffle (Please describe what the raffle was for):
	A pledge for energy efficiency
	Other (Specify):

c. What exact information do they collect? (Please check all boxes that apply)

<input type="checkbox"/>	First name
<input type="checkbox"/>	Last name
<input type="checkbox"/>	Job title
<input type="checkbox"/>	Mailing address
<input type="checkbox"/>	Telephone
<input type="checkbox"/>	Email address
<input type="checkbox"/>	Language spoken in the home
<input type="checkbox"/>	Other (Specify):

d. Do they collect information to determine what language the attendee speaks? If so, how do they do it? (Please describe)

e. Why does the ORGANIZER collect the information? What does the ORGANIZER tell the attendee it will be used for? (Please check all boxes that apply)

<input type="checkbox"/>	To send further information on energy efficiency
<input type="checkbox"/>	To fulfill a raffle or prize
<input type="checkbox"/>	To add to a mailing list
<input type="checkbox"/>	To follow up on any energy efficiency actions they've taken
<input type="checkbox"/>	Other (please specify):

f. Describe the attendees' willingness to give contact information. (Please check a box and describe)

<input type="checkbox"/>	No hesitation
<input type="checkbox"/>	Some hesitation. (Please describe)
<input type="checkbox"/>	Very hesitant, almost everyone was weary of giving contact information. (Please describe)

g. How effective is the ORGANIZER's approach to collecting contact information? Is it capturing name AND some form of contact, email, phone or mail? If so, for what portion of the attendees? (Please check a box and describe)

<input type="checkbox"/>	Effective because...
<input type="checkbox"/>	Somewhat effective because...
<input type="checkbox"/>	Very effective because...

5. SDGE 3032: E3 K-12 PROGRAM

5.1 Teacher Training Survey Instrument

E3 Teacher Online Survey Instrument

1. Contact information/Basics:

Name: _____
School: _____
Email: _____
Phone: _____

2. Grade you teach: [can select more than one]

1. Kindergarten
2. 1st
3. 4th
4. 6th
5. 10th
6. 11th
7. 12th
8. Special needs
9. Other. Specify

3. I took the teacher training for the E3 curriculum...

1. In a classroom
2. Online
3. Both

4. When did you attend the teacher training for the E3 curriculum?

1. June 2008
2. July 2008
3. October 2008
4. November 2008
5. January 2009
6. February 2009
7. March 2009
8. April 2009
9. May 2009
10. Don't know
11. Not applicable

5. Why did you decide to teach the E3 curriculum in your classroom? [check any and all that apply]

1. (Great resources)
2. (I am interested in energy efficiency)
3. (My students are interested in energy efficiency)

4. (Interesting method for teaching core scientific concepts)
5. (I am required by the school district to teach the curriculum)

7. How did you learn about the E3 curriculum? [multiple response]

1. Friend
2. Colleague
3. Through my school
4. E3 program outreach materials (flyer, mailing, etc.)
5. Principal
6. District Office
7. District/County Science Department
8. Other. (specify)

I. (NEW) Program Content and Delivery

1. On a scale of 1 to 5, with 1 being “too simple” and 5 being “too advanced,” how appropriate are the lessons to the age level you teach?

1 2 3 4 5

Too simple

Too advanced

2. Which energy-related topics that are addressed in the curriculum seem to do the best job of capturing your students’ interest? [open end]

II. Program Impacts

You will see that we are asking some questions with a 5 point scale and some with a 7 point scale. We realize that this is different than what you usually see. However, the seven point scale is required for part of the survey research going on within California. Please answer these seven point scales to the best of your ability.

1. On a scale of 1 to 7, with 1 being “not at all” and 7 being “very much,” how well do you think this curriculum equips students with the information they need to increase their energy-saving behaviors at home?

1 2 3 4 5 6 7

Not at all

Very Much

2. A central goal for the E3 program is to equip students with the information they need to increase their energy-saving and efficiency behaviors at home. Was it made clear to you through the E3 training workshop or through any teacher’s guides that this is a key goal for the program?

1. Yes
2. No

5.2 *Teacher Post-Exposure Curriculum Survey Instrument (2006-2008)*

1. What grade level did you teach?
2. How many students did you teach?
3. On a scale of 1 to 5 rate your agreement with the following statements, where “1” means “Strongly Disagree” and “5” means “Strongly Agree”:
 - a. The lesson design was easy to follow
 - b. The content of the curriculum was appropriate for my students
 - c. The materials and equipment helped support my students’ understanding
 - d. My students were engaged in the lessons
4. Would you teach this curriculum to students again?
 1. Yes
 2. No
5. Additional ideas or activities I added: _____
6. Student/Parent comments: _____
7. You could make it better by: _____

5.3 *Teacher Post-Exposure Curriculum Survey Instrument (Post-2009)*

1. What types of materials and activities were used in class to teach you about energy concepts and ways you can save energy at home?

- slides
- videos
- handouts / booklets
- classroom experiments / labs
- discussion

2. On a scale of one to seven where one is “very confusing and difficult to understand” and seven is “very clear and easy to understand” how easy was it for you and your classmates to understand the new information and ideas presented in the materials and activities?

3. On a scale of one to seven where one is “completely new” and seven is “not new at all”, how much of what you learned about energy in class was new to you?

4. Before you learned about energy in class, were you or your family already doing things at home to save energy?

5. [If yes to above] What types of things were you and your family doing at home to save energy before having learned about energy in class?

- turning off lights when not in use
- spending less time with the refrigerator door open
- turning up the temperature on the thermostat to use less air conditioning
- replacing regular light bulbs with more efficient ones
- hanging clothes to dry rather than using a dryer
- buying energy efficient appliances
- other (specify) _____

6. Did you and your family start doing more things at home to save energy as a result of what you learned in class? [1=Yes, 2=No]

7. [If yes to above] What types of things did you and your family start doing at home to save energy after having learned about energy in class?

- turning off lights when not in use
- spending less time with the refrigerator door open
- turning up the temperature on the thermostat to use less air conditioning
- replacing regular light bulbs with more efficient ones
- hanging clothes to dry rather than using a dryer
- buying energy efficient appliances
- other (specify) _____

8. Are there any additional things you and your family plan to do in the future to save energy at home?

9. What is the most interesting or important thing you learned about energy or how to save energy at home?

10. On a scale of one to seven where one is "not at all" and seven is "very much," how much did the **[television, radio or newspaper ads, parents / family, teachers / lessons at school, friends]** increase your awareness of ways to save energy at home?

11. On a scale of one to seven where one is "not at all" and seven is "very much," how much did **[the] [television, radio or newspaper ads, parents / family, teachers / lessons at school, friends]** make you want to do more things to save energy at home?

12. What are two of the most important reasons why people should try to use less energy at home?

13. Did you learn about any utility programs your family can participate in to save money on new energy efficient equipment?

1. Yes
2. No

14. [If yes to above] If yes, what types of programs did you participate in?

15. Has your family participated in any of these programs yet?

1. Yes
2. No

16. Does your family plan to participate in any utility programs in the future?

1. Yes
2. No

5.4 Student Take-Home Survey Instrument

Your child recently participated in an Energy Efficiency Education program at school. There were opportunities for family participation. Would you please take a moment to answer the following questions.

Student Name: _____

School: _____

Teacher: _____ Grade: _____

Please check the box that reflects your understanding of the Energy Efficiency Program.

- My child discussed the program with me.
- We reviewed the energy saving ideas from the program.
- We changed _____ # of light bulbs from incandescent to compact fluorescent light bulbs (CFLs).
- We are going to change our light bulbs from incandescent to compact fluorescent light bulbs (CFLs).
- We are turning off lights when we leave the room.
- We are reducing the use of our appliance(s). (refrigerator, air conditioner, dryer/water heater)
- Other steps we are taking to reduce energy use include: _____

5.5 Teacher In-Depth Interview Instrument

I. Background and Experience with the Program

1. How many students do you have? How many times a day do you deliver a given lesson?
2. Please describe your involvement with the E3 curriculum to date. For instance:
 - a. When did you participate in a training workshop for the E3 program?
 - b. For how long have you been teaching the E3 curriculum in your classroom (# of months/school years/semesters/quarters/trimesters)?
 - c. Approximately how many students have been exposed to the E3 curriculum in your classroom to date (number of students per semester)?
3. How did you learn about the E3 curriculum?
 Friend or colleague
 E3 program outreach materials (flyer, mailing, etc.)
 Other (specify)
4. Why did you choose to participate in the E3 program?
5. Had you ever taught about energy concepts, or energy efficiency concepts specifically prior to teaching the E3 curriculum (i.e. at another school, or using a different curriculum)? If so, how does the E3 program compare?

II. Program Content and Delivery

1. What are your overall impressions of the E3 program? Specifically, what do you consider to be the program's greatest strengths and weaknesses?

[ASK THE FOLLOWING IF RESPONSE TO ABOVE DOES NOT ADDRESS THESE TOPICS]

2. Are the lessons well suited to the age level you teach (i.e. are they too advanced, just right, or too simple for the age group you teach)?
3. Are the topics and themes addressed in the lessons interesting and engaging for your students? Yes/No. How so?
 - a. Which energy-related topics that are addressed in the curriculum seem to do the best job of capturing your students' interest?

4. Can you provide any specific examples of lesson content or program materials that were too advanced or inappropriate for your students?
5. Are you satisfied with the program materials (teacher's guide, recommended handouts and classroom activity kits) provided to you? Why/Why not?

III. Program Impacts

1. On a scale of 1 to 7, with one being poor performance and 7 being excellent performance, how well do you think this curriculum equips students with the information they need to increase their energy-saving behaviors at home.
2. Have you done anything in your classroom to gauge whether the students (or their families) are changing their energy use behaviors at home?
3. How many of the students in your class(es) (total # or %) are likely to change their behavior in some way as a result of the E3 program?
4. Of those students who are likely to change their behavior, **how much** do you think the average student's energy use behaviors at home will change as a result of the program? Please answer using a scale of 1 to 7 with one being "not at all" and 7 being "dramatic change is likely to occur."
5. What actions do you think your students and their families are actually taking to use less energy as a result of the E3 program? [Examples include: turning off lights, changing to CFLs, setting the thermostat to save energy, pulling shades and shutting windows rather than running A/C, purchasing more energy efficient appliances, etc.]
6. What is the students' level of understanding of energy concepts and opportunities to save energy at home **before** you teach them the E3 curriculum? (Ask staff person or instructor) Circle/highlight all that apply.
 - a) Novice (no experience needed to understand topic)
 - b) Basic (basic skills or knowledge needed to understand topic)
 - c) Advanced (advanced skills or knowledge needed to understand topic)
 - d) Mixed (mix of skill levels)
7. What is the students' level of understanding of energy concepts and opportunities to save energy at home **after** you teach them the E3 curriculum? (Ask staff person or instructor) Circle/highlight all that apply.
 - a) Novice (no experience needed to understand topic)

- b) Basic (basic skills or knowledge needed to understand topic)
- c) Advanced (advanced skills or knowledge needed to understand topic)
- d) Mixed (mix of skill levels)

IV. Recommendations for Program Improvements

1. Recognizing that a key goal of the program is to cause students and their families to change the way they use energy at home, do you think it is necessary to change the program curriculum at all to ensure that this goal is being fulfilled? (Y/N, explain)
2. Please provide any suggestions for ways the program curriculum could be changed to place more emphasis on the ways students and their families can change the way they use energy at home.

5.6 **Teacher Training On-Site Observation Form**

Program:	E3 – K-12 Energy Efficiency Education Program
Title of Event:	Energy Efficiency Education Program – 4 th Grade
Type of Event:	<input type="checkbox"/> Tour <input type="checkbox"/> Training <input type="checkbox"/> Presentation <input type="checkbox"/> Other
Event Description:	
Objectives of the Event (usually stated in the PIP or Quarterly Reports):	
Event Location:	
Event Date and Time:	
Observer:	
Observation Date and Times:	
Number of Attendees:	
Types of Attendees (provide lots of detail): (were they from different schools? Different districts? Did you get a sense that there were multiple teachers from the same school? Were certain types of schools highly represented i.e., charter or other?)	

II. Event Logistics

Take at least one digital picture of the event, preferably two or three. Download to ODC with date of event in the file name.

II. Information Delivery Methods

- F. Program person engages participants during event:
- G. Program person capable of answering energy related questions:
- H. How did the program person deliver the message/s? (Check all boxes that apply).
[Text description, as necessary.]

	One-on-one conversation
	Group lecture / Presentation
	Electronic Presentation (e.g. PowerPoint slideshow)
	Visual Display - house tour
	Hands-on workshop/demonstration – house tour
	Take away literature
	Other: Online Learning Tool

IV. Reason for the Event (Stated Goals and list source)

(If no stated goals, were there implied goals? If so, what were they?)

IV. Description of the presentations / reports etc. provided to attendees

List all materials or hard copy information used – please mention whether or not the event distributed an evaluation/feedback form to attendee, and obtain a copy of it:

Type of Material	Description of Material Content	ODC Received	Soft Copy on Server
		<input type="checkbox"/> hard copy <input type="checkbox"/> soft copy	<input type="checkbox"/> Y <input type="checkbox"/> N
		<input type="checkbox"/> hard copy <input type="checkbox"/> soft copy	<input type="checkbox"/> Y <input type="checkbox"/> N
		<input type="checkbox"/> hard copy <input type="checkbox"/> soft copy	<input type="checkbox"/> Y <input type="checkbox"/> N
		<input type="checkbox"/> hard copy <input type="checkbox"/> soft copy	<input type="checkbox"/> Y <input type="checkbox"/> N
		<input type="checkbox"/> hard copy <input type="checkbox"/> soft copy	<input type="checkbox"/> Y <input type="checkbox"/> N

		<input type="checkbox"/> hard copy <input type="checkbox"/> soft copy	<input type="checkbox"/> Y <input type="checkbox"/> N
		<input type="checkbox"/> hard copy <input type="checkbox"/> soft copy	<input type="checkbox"/> Y <input type="checkbox"/> N

V. Likelihood of event creating change in awareness, knowledge, or attitudes (AKA) towards energy efficiency and likelihood of changing energy efficiency behaviors in the students and families. Consider: 1) what changes are being promoted and 2) what types of changes participants are expected to take. Based on what you observed, circle or highlight the most appropriate value

Changes in AKA

1. Very Likely
2. Somewhat Likely
3. Neither Likely nor Unlikely
4. Somewhat Unlikely
5. Very Unlikely

Changes in Behavior

1. Very Likely
2. Somewhat Likely
3. Neither Likely nor Unlikely
4. Somewhat Unlikely
5. Very Unlikely

State why you rated the changes as you did – write about 1)what changes are being promoted and 2)what types of changes teachers and students are expected to take.

VI. Other comments, observations, and recommendations specific to this event:

VII. Additional questions

1. Please list/include a course or training session outline, and identify any end use technologies that were covered.

[alternatively, list/include a course/training session outline – and identify the technologies covered.]

2. What percentage of the total time was spent using each of the following methods of content delivery?

s. Lecture/Presentation (including PowerPoint or other slideshow)	
t. Video/Movie presentation	
u. Group Discussion	
v. Instructor demonstration	

w.	Attendee Presentations	
x.	Hands-on exercises	
y.	Workplace consultation	
z.	Other, specify: Online Learning Tool	
aa.	Total	100%

3. What is the expected level of expertise of the audience in the subject matter at the beginning of the presentation or training? (Ask staff person or instructor)
Circle/highlight all that apply.
 5. Novice (no experience needed to understand topic)
 6. Basic (basic skills or knowledge needed to understand topic)
 7. Advanced (advanced skills or knowledge needed to understand topic)
 8. Mixed (mix of skill levels)

4. Do attendees develop any personalized case-study or action plan for implementing the event's content?
 - i. Yes [If yes, obtain a copy.]
 - ii. No

5. Energy efficiency may be but one of a number of themes covered. Indicate the degree to which the implementation of energy efficiency practices or behaviors by participants is a central theme of the content delivered. For example an event (like a tour) might cover green technologies in addition to energy efficiency because the group that promotes it promotes green projects.
 1. Implementing energy saving actions is the only theme of the event
 2. Implementing energy saving actions is one of several themes addressed by the event and it is a central component of the event
 3. Implementing energy saving actions is one of several themes addressed by the event and it is no more important than the other themes
 4. Implementing energy saving actions is a minor theme of the event
 5. Other (Specify: _____)

6. To what degree does the event provide participants with specific and actionable examples of how to implement energy efficient practices or behaviors?

7. To what degree does the event describe utility energy efficiency rebate programs available to participants?

VII. E-3 Curriculum: Content, Delivery and Teacher Response

1. In terms of how well the training prepares teachers to effectively teach the curriculum in their classroom, how would you rate the quality and amount of information

provided in the training session (use a scale of 1-7 if 1=very poor and 7=excellent)? Please explain.

2. To what extent is each of the following accomplished through the training (use a scale of 1-7: 1 = very little and 7 = a major focus of the training)? Please explain.
 - a. Helping teachers improve their knowledge of the energy topics that will be covered in the curriculum.
 - b. Walking teachers through the lessons so they are aware of what's included in the curriculum.
 - c. Creating a "call to action" for students to change their energy using behaviors.
 - d. Creating a "call to action" for teachers to change their energy using behaviors.
 - e. Informing teachers of specific tasks they can/should carry out to fulfill the program's objectives, such as using examples of how the lessons relate to the student's energy use behaviors at home, and distributing pre and post surveys for students to complete to gauge changes in energy use.
3. Do any of the teachers express concern about their lack of knowledge of energy topics and/or their ability to effectively teach the material? Please explain. Do many teachers feel this way?
4. If any of the teachers express concern about their level of understanding of the material, how does the presenter respond (i.e. refers them to sources of information they can explore later, or further explains the concepts during the training)?
5. What types of questions do the teachers ask of the presenter (i.e., logistics of delivering the curriculum, questions to better understand the concepts being taught through the curriculum, etc.)? How well does the presenter address these questions?

6. SDGE 3036: TIME OF SALE ENERGY CHECK UP

6.1 Real Estate Agent/Broker Survey Instrument

This survey will be given to real estate agents, and real estate brokers (all are market actors) who have completed the Time of Sale Energy Check Up training course, also called the EnergyWi\$e training session. The course typically lasts 90 minutes. For real estate agents and brokers the course provides an introduction to energy efficiency and promotes both home energy audits and CFLs.

Introductory text

This survey is being completed on behalf of the California Public Utilities Commission. We would like to ask you a few questions to help the State of California better manage their energy resources. Specifically, we would like to ask you questions about the EnergyWi\$e training session on [date].

Screener questions

S1. Our records indicate that you participated in an EnergyWi\$e training session on energy efficiency on [DATE]. Is this correct?

1. Yes
2. No [TERMINATE]

S2. Which best describes your position?

1. Real estate agent
2. Real estate broker
3. Other, Specify

Value of information provided by the program

V1a. As you think about what you heard at the training session, was any of the information related to energy new?

1. Yes
2. No

[ASK IF V1a=2]

V1b. Although you don't think the information related to energy was new, did the training session move you any closer to working with your clients on the ways they use energy?

1. Yes

2. No

V2. How useful was the information presented in the training session? Please use a 7 point scale where a 1 means “not at all useful” and a 7 means “very useful.”

1 2 3 4 5 6 7

Not at all useful

Very useful

Influence 1-7 scale

The next set of questions asks about the training session on a 7 point scale where a 1 means “not at all” and a 7 means “very much.”

	1 Not at All	2	3	4	5	6	7 Very Much
INF1. How much did the training session cause you to THINK DIFFERENTLY about how to introduce energy efficiency to your clients?							
INF2. How much did the training session cause you to WANT TO RECOMMEND ways to save energy to your clients?							
INF3. How much did the training session INCREASE YOUR AWARENESS OF METHODS FOR INTRODUCING ways to save energy to your clients?							
INF4. Was the training session A GOOD WAY to learn to explain to your clients how to save energy?							

Attitude – part 1 of 2

For each statement please tell us if you strongly disagree, somewhat disagree, somewhat agree, or strongly agree.

	Strongly Disagree	Somewhat Disagree	Somewhat Agree	Strongly Agree
RAT1. I am not very concerned about the amount of energy used in <u>MY</u> home.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

					this?
TS2a. ...discussed energy efficiency upgrades with your customers?				TS2d	%
TS2b. ...recommended CFLs to your customers?				TS2e	%
TS2c. ...recommended home energy audits to your customers?				TS2f	%

TS3. Please rate the degree to which you agree with the following statements. Please use a 7 point scale where 1 means “Strongly disagree” and 7 means “Strongly agree.”							
	1 Strongly Disagree	2	3	4	5	6	7 Strongly Agree
TS3a. As a result of the training session, I am <u>more likely</u> to recommend energy efficiency upgrades to clients.							
TS3b. As a result of the training session, I am <u>more likely</u> to recommend CFLs to clients.							
TS3c. I am <u>more likely</u> to recommend home energy audits to clients.							

TS5. Please mark a yes, no, or don't know.

Since the training session, did you...			
	Yes	No	Don't know
TS5a. Pledge to become an EnergyWi\$e partner?			
TS5b. Request and receive at least one “Energy Rated” sign to feature on your listing(s)?			

[Ask if TS5b=yes; else skip to TS6]

TS5c. On how many homes did you post an “Energy Rated” sign? [NUMERIC OPEN END; DON'T KNOW]

TS5d. How useful are the “Energy Rated” sign(s)? Please use a 7 point scale where a 1 means “not at all useful” and a 7 means “very useful.”

1 2 3 4 5 6 7

Not at all Useful

Very Useful

[ASK IF TS5a=yes; else K3]

TS6. Please mark yes, no, or don't know.

Since the training did you...										
	Please mark one				[IF YES] How useful was it? 1 means "not at all useful" and 7 means "very useful"					
	Yes	No	Don't Know		1 Not at all Useful	2	3	4	5	6
TS6a. ...receive a free EnergyWi\$e sales kit? Sales kits typically include CFLs, a nightlight, a showerhead, and faucet aerators.				TS6d						
TS6b. ... receive any closing gifts for clients?				TS6e						
TS6c. ... receive free CFLs (compact fluorescent lights) for your house?				TS6f						

[ask if TS6b=yes]

TS6g. How many closing gifts did you receive? [NUMERIC OPEN END; DON'T KNOW]

[ask if TS6c=yes]

TS6h. How many CFLs did you receive? [NUMERIC OPEN END; DON'T KNOW]

TS6i. How many did you install? [NUMERIC OPEN END, DON'T KNOW]

TS6j. How much did your experiences with the free CFLs influence the number of times that you discussed energy efficiency with your clients?

1. The free CFLs had NO INFLUENCE on the number of times that I discussed energy efficiency with clients.
2. The free CFLs had VERY LITTLE influence.
3. The free CFLs had SOME influence.
4. The free CFLs had A LOT of influence.

[ASK IF MAC3=2; ELSE K3]

MA14. What is the main reason you have NOT applied any of the training course's concepts since attending the session?

1. I am already doing the things talked about in the training.
2. The training did not give me enough information.
3. I have not had the chance to apply the things I learned.
4. I have tried to do some of the things but they were unsuccessful.

5. Other. Specify _____.

Knowledge – Part 2 of 2

K3. Please mark whether you agree or disagree with each of the following sentences using a scale of 1 to 7 where 1 is “strongly disagree” and 7 is “strongly agree.”

	1 Strongly Disagree	2	3	4	5	6	7 Strongly agree
K3b. As a result of attending the training session, I learned tools and techniques that can enhance my services to homebuyers.							
TS7. This training session helped me to find new ways to reach customers.							
K3cb. As a result of attending the training session, I am more comfortable recommending CFLs.							
K3ca. As a result of attending the training session, I am more comfortable recommending HOME ENERGY AUDITS.							

Please indicate with the degree to which you agree with each of the following statements. Please use a 7 point scale where 1 means “strongly disagree” and 7 means “strongly agree.”

As a result of attending the training session...

	1 Strongly Disagree	2	3	4	5	6	7 Strongly agree
K3a. I am better able to identify ways to use less energy.							
K3d. I better understand how to improve the energy efficiency of HOMES.							
K4. I am more aware of utility-sponsored energy efficiency programs like rebates and classes.							

K3e. I better understand how to improve the energy efficiency in MY HOME.							
---	--	--	--	--	--	--	--

Please indicate with the degree to which you agree with each of the following statements. Please use a 7 point scale where 1 means “strongly disagree” and 7 means “strongly agree.”

	1 Strongly Disagree	2	3	4	5	6	7 Strongly agree
TS8. BEFORE attending the training session, I was confident that home energy audits saved homebuyers money over the long term.							
TS9. AFTER attending the training session, I am <u>more</u> confident that home energy audits will save homebuyers money over the long term.							

Attitude – part 2 of 2

For each statement please tell us if you strongly disagree, somewhat disagree, somewhat agree, or strongly agree with each statement.

	Strongly Disagree	Somewhat Disagree	Somewhat Agree	Strongly Agree
AT1.Promoting energy efficiency is good for my company’s bottom line.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
AT2. My organization does everything it can to promote energy efficiency.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
AT3. It is difficult to sell energy efficiency to my customers.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
AT4. My customers would not pay more for a product or service that is energy efficient.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Demographics

D1. What types of services does your business provide? (Check all that apply)

1. Residential real estate transactions (buyer agent)
2. Residential real estate transactions (seller agent)
3. Residential real estate transactions (both buyer and seller agent)
4. Residential real estate transactions (broker)
5. Residential real estate transactions (support staff to realtor)
6. Other. Please Specify _____

D2. Which of the following best describes your job or business?

1. My business provides services to **business** customers.
2. My business provides services to **residential** customers.
3. My business provides services to **business and residential** customers.
4. Other. Please Specify _____

[ASK IF D2=1 OR 3]

D3. You indicated that you work with business customers. With which market segment do you work most often?

1. Commercial
2. Agricultural
3. Industrial
4. Other, specify _____

Z1. How many homes did you sell in 2007? [Numeric open end]

Z2. How many homes did you sell in 2008? [Numeric open end]

[Ask if Z1>0 or Z2>0]

Z3. What percentage of those homes that you sold in 2007 and/or 2008 do you consider to be energy efficient? [Numeric, 0-100; don't know]

[Ask if Z1>0 or Z2>0]

Z4. To the best of your knowledge, approximately what percentage of homes that you sold in 2007 and/or 2008 were built prior to 1978? [Numeric, 1-100; don't know]

[Ask if Z1>0 or Z2>0]

Z5. To the best of your knowledge, approximately what percentage of homes that you sold in 2007 and/or 2008 obtained electricity from...

Electric Utility	Percentage
San Diego Gas and Electric	[numeric open end; 1-100]
Southern California Edison	[numeric open end; 1-100]
Pacific Gas and Electric	[numeric open end; 1-100]
LADWP	[numeric open end; 1-100]

Other, please specify: _____	[numeric open end; 1-100]
Total	100%

[Ask if Z1>0 or Z2>0]

Z6. To the best of your knowledge, approximately what percentage of homes that you sold in 2007 and 2008 obtained gas from...

Gas Utility	Percentage
Homes were not hooked up to gas	[numeric open end; 1-100]
San Diego Gas and Electric	[numeric open end; 1-100]
Southern California Gas	[numeric open end; 1-100]
Pacific Gas and Electric	[numeric open end; 1-100]
Other, please specify: _____	[numeric open end; 1-100]
Total	100%

“Those are all our questions. On behalf of the State of California Public Utilities Commission, we thank you for your time.”

6.2 **Participating Homeowner Survey Instrument**

This survey will be given to home buyers and sellers who received a home inspection from an EnergyWise-trained home inspector. Respondents should have received an additional home energy efficiency audit (likely via an email to an online link) as part of their inspection and free energy efficiency products as part of the direct install component of the program.

Introductory text

Thank you for agreeing to participate in this study regarding the energy efficiency information and products you may have received when you recently bought or sold a home in the San Diego area. The energy information and products you received were funded by the California Public Utilities Commission. On behalf of the CPUC, we are conducting this study to understand the value of the information you received. Ultimately, your feedback will help the State of California better manage their energy resources.

Please answer the following questions so that we can determine whether you qualify for this study.

S1. In last 3 years, were you in the market to buy or sell a home in the San Diego area?

1. Yes
2. No [TERMINATE]
3. Don't know [TERMINATE]

S2. Did your real estate agent recommend a home inspector that could perform an energy efficiency audit for the home?

1. Yes
2. No
3. Don't know

S3: Did you receive a Home Energy Check-Up Report following your inspection? This report may have been emailed to you from the inspector with a link to an online report that showed the energy use of the home, estimated annual energy costs and recommended some ways to save energy and money.

1. Yes
2. No [TERMINATE]
3. Don't know [TERMINATE]

S4. Did you receive any free gifts after the inspection and Energy Check-Up Report? You may have received some free energy efficiency products for the home, such as Compact Fluorescent Light bulbs (CFLs) or low-flow shower heads?

1. Yes
2. No

3. Don't know

S5. Did you receive any of the following free items?

1. Compact fluorescent lights (CFLs) for indoor use (if needed: CFLs are energy-saving light bulbs that are usually bent or twisted, but some may also be globe-shaped)
2. CFLs for outdoor use (floodlights)
3. Faucet aerator
4. Water-saving showerhead
5. LED Nite Lite
6. Other (Please Specify _____)
7. Don't know

Excellent, you qualify for this study. We have several questions to ask regarding how you may have used the inspector's energy audit information and the free energy efficient products. This survey should take no more than 10 minutes of your time.

1. Regarding the home that was inspected, were you the buyer or the seller for this home?
 1. Buyer
 2. Seller
 3. Other – Specify

[IF BUYER]

2. Did you purchase this home?
 1. Yes
 2. No

[IF SELLER]

3. Was the home sold?
 1. Yes
 2. No
 3. Don't know

Direct Install

[IF RECEIVED INDOOR CFLs]

D1a. How many of the free indoor compact fluorescent light bulbs did you receive and install?

_____ Received
_____ Installed

[IF RECEIVED OUTDOOR CFLs]

D2a. How many of the free outdoor compact fluorescent light bulbs did you receive and install?

_____ Received
_____ Installed

EA5. Using the scale below, how much information did you learn as a result of the Energy Check-Up Report?

1	2	3	4	5	6	7
Did not learn anything						Learned a lot

[ASK IF EA1a=1]

EA6. What NEW information did you learn about home energy use or energy efficiency from the Energy Check-Up Report or from the free gifts you may have received? [OPEN END]

EA7. Did the Energy Check-Up Report provide any information regarding rebates available for new energy efficient upgrades, such as rebates for new energy efficient appliances?

1. Yes
2. No
3. Don't know

Using the scale below, please say whether you agree or disagree with the following statements.

K3a. As a result of receiving the Energy Check-Up Report, I am better able to identify ways to use less energy.

1	2	3	4	5	6	7
Strongly disagree						Strongly agree

- j. Upgrade insulation
- k. Upgrade air conditioner
- l. Upgrade furnace
- m. Upgrade dishwasher
- n. Upgrade refrigerator
- o. Upgrade water heater
- p. Upgrade gas furnace
- q. Upgrade windows or skylights
- r. Upgrade clothes washer
- s. Solar panels
- t. Solar water heater
- u. Other – Specify

[ASK IF A1D=1]

A4. Did you begin to do any of the following? [1=Yes, 2=No, 3=Don't know]

- 1. Set AC to 78 degrees when home in summer
- 2. Set thermostat to 68 degrees in winter
- 3. Run the clothes dryer only when full
- 4. Run dishwasher only when full
- 5. Turn off lights when not in use
- 6. Turn off other electronics or appliances when not in use
- 7. Unplug electronic devices or power strips when not in use
- 8. Other – Specify

[ASK IF A1c=1]

A5. Did you receive any rebates from a utility program for new energy efficiency upgrades to the home?

- 1. Yes
- 2. No
- 3. Don't know

[ASK IF A1c=2]

A7. Why haven't you installed any energy saving measures? (Check all that apply)

- 1. There's nothing to change
- 2. I don't have enough information
- 3. I haven't had the chance to change
- 4. I've tried, but it didn't work out
- 5. Too expensive
- 6. I expect the buyer to make the changes
- 7. Something else. Specify _____
- 8. Don't know

A6. Do you have plans within the next 12 months to improve the energy efficiency in the home using the things you learned from Energy Check-Up Report or from the free items you may have received?

- 1. Yes, Specify _____.
- 2. No

3. Don't know

[ASK IF A1c=1 or A1d=1 or A1e=1]

A8. In your opinion, have the changes you have made resulted in measurable energy savings?

1. Yes
2. No
3. Don't know

[ASK IF A8=1]

A8a. How would you describe the amount of energy you saved from the changes you have made that were introduced by the Energy Check-Up Report and/or free items?

1. Significant energy savings
2. Moderate energy savings
3. Measurable but insignificant energy savings
4. No energy savings
5. Don't know

Level of Influence

[ASK IF A1c-e=1]

A9. Other than the Energy Check-Up Report and/or free items, did anything else influence you to make the changes we just talked about?

4. Yes
5. No
6. Don't know

[ASK IF A9 =1]

A9a. What was it that influenced you? [Open end]

1. (OPEN END)
2. Don't know/Nothing

[ASK IF A1c-e=1]

A9b. Using the scale below, please rate your agreement with the following statement: The Energy Check-Up Report/free item influenced me to make the changes I just told you about.

1	2	3	4	5	6	7
Strongly disagree						Strongly agree

INF1. How much did the Energy Check-Up Report/free item cause you to THINK DIFFERENTLY about how you use energy?

1	2	3	4	5	6	7
Not at all						Very much

X8. Which of the following best represents your annual household income from all sources in 2008, before taxes? Was it?

1. Less than \$30,000 per year
2. \$30,000-49,999
3. \$50,000-74,999
4. \$75,000-99,999
5. \$100,000-149,999
6. \$150,000-199,999
7. \$200,000 or more

X9. What is your ethnicity? (Check all that apply)

1. White
2. Black, African American
3. Hispanic/Latina(o)
4. American Indian or Alaska Native
5. Chinese
6. Japanese
7. Korean
8. Vietnamese
9. Filipino
10. Asian Indian
11. Other Asian or Pacific Islander
12. Arabic
13. Native Hawaiian
14. Other. Specify _____.

X10. What is the primary language spoken in your home?

1. English
2. Spanish
3. Mandarin
4. Cantonese
5. Tagalog
6. Korean
7. Vietnamese
8. Russian
9. Japanese
10. Other – Specify

“Those are all our questions. On behalf of the State of California, we thank you for your time.”

6.3 Realtor Training Observation Form

Program:	SDGE 3036 Energy Check Up
Title of Event:	EnergyWi\$e TM Partner Seminar
Type of Event:	<input type="checkbox"/> Tour <input type="checkbox"/> Training <input type="checkbox"/> Presentation <input type="checkbox"/> Other
Event Description:	
Objectives of the Event:	
Event Location	
Event Date and Time:	
Observer:	
Observation Date and Times:	
Number of Attendees:	
Types of Attendees:	

I. Event Logistics

Take at least one digital picture of the event, preferably two or three. Download to ODC with date of event in the file name.

II. Information Delivery Methods

- A. Program person engages participants during event?
- B. Program person capable of answering energy related questions?
- C. Does the event discuss other energy efficiency programs?.

D. Does the event specifically channel people to other energy efficiency programs?

E. How did the program person deliver the message/s? (Check all boxes that apply).

	One-on-one conversation
	Group lecture / Presentation
	Electronic Presentation (e.g. PowerPoint slideshow)
	Visual Display
	Hands-on workshop/demonstration
	Take away literature

III. Reason for the Event (Stated Goals and list source)

IV. Description of the presentations / reports etc. provided to attendees

List all materials or hard copy information used:

Type of Material	Description of Material Content	ODC Received	Soft Copy on Server
		<input type="checkbox"/> hard copy <input type="checkbox"/> soft copy	<input type="checkbox"/> Y <input type="checkbox"/> N
		<input type="checkbox"/> hard copy <input type="checkbox"/> soft copy	<input type="checkbox"/> Y <input type="checkbox"/> N
		<input type="checkbox"/> hard copy <input type="checkbox"/> soft copy	<input type="checkbox"/> Y <input type="checkbox"/> N
		<input type="checkbox"/> hard copy <input type="checkbox"/> soft copy	<input type="checkbox"/> Y <input type="checkbox"/> N
		<input type="checkbox"/> hard copy <input type="checkbox"/> soft copy	<input type="checkbox"/> Y <input type="checkbox"/> N
		<input type="checkbox"/> hard copy <input type="checkbox"/> soft copy	<input type="checkbox"/> Y <input type="checkbox"/> N
		<input type="checkbox"/> hard copy <input type="checkbox"/> soft copy	<input type="checkbox"/> Y <input type="checkbox"/> N

V. Likelihood of event creating change in awareness, knowledge, or attitudes (AKA) towards energy efficiency and likelihood of changing energy efficiency behaviors in the participants.

Consider: 1) what changes are being promoted and 2) what types of changes participants are expected to take. Based on what you observed, circle or highlight the most appropriate value.

Changes in AKA

1. Very Likely
2. Somewhat Likely
3. Neither Likely nor Unlikely
4. Somewhat Unlikely
5. Very Unlikely

Changes in Behavior

1. Very Likely
2. Somewhat Likely
3. Neither Likely nor Unlikely
4. Somewhat Unlikely
5. Very Unlikely

State why you rated the changes as you did – write about 1)what changes are being promoted and 2)what types of changes participants are expected to take.

VI. Other Comments, Observations Specific to this Event:

VII. Additional questions

1. For which market sector is the event designed? Circle/highlight all that apply.

1. residential
2. commercial
3. industrial
4. agricultural
5. Other (Specify: _____)

2. Is the content designed and intended for...

1. End-Users [including residential, commercial and industrial customers]
2. Trade Professionals [including contractors, engineers, architects, manufacturers, consultants etc.]
3. Both End-Users and Trade Professionals
4. Other (Specify: _____)

3. If trade professionals, for which type(s) of trade professionals is the content specifically designed? Circle/highlight all that apply.

1. Facility Engineer/O&M Professional
2. Plant Manager
3. Energy Efficiency Consultant
4. HVAC Contractor
5. Architect/Design Engineer
6. Commercial Property Developer
7. General Contractor
8. Residential Builder

- 9. Building Inspector
- 10. Other Contractor
- 11. Equipment Manufacturers
- 12. Equipment Sales Representatives
- 13. Other (Specify: _____)

4. On which types of activities does the content focus? Circle/highlight all that apply.

- 1. New construction
- 2. Existing construction (i.e., retrofit)
- 3. New installation (new equipment in existing structure)
- 4. Operations and Maintenance
- 5. Process Improvement
- 6. Other (Specify: _____)

5. What was the course training outline?

Which of the following issues or practices are covered as a core element or principal focus? Circle/highlight all that apply.

- 1. Energy Auditing/Diagnostics
- 2. Energy Savings
- 3. Cost-Benefit Calculations
- 4. Designing for Energy Savings
- 5. Code and Standard Development
- 6. Compliance and Enforcement
- 7. Energy Modeling
- 8. Financing
- 9. Operation and Maintenance
- 10. Retro-commissioning
- 11. Evaluation, Monitoring, Verification
- 12. Research and Development
- 13. Product Development
- 14. Other (Specify: _____)

7. What percentage of the total time was spent using each of the following methods of content delivery?

a. Lecture/Presentation (including PowerPoint or other slideshow)	
b. Video/Movie presentation	
c. Group Discussion	
d. Instructor demonstration	
e. Attendee Presentations	

f.	Hands-on exercises	
g.	Workplace consultation	
h.	Other, specify	
i.	Total	100%

8. What is the expected level of expertise of the audience in the subject matter at the beginning of the presentation or training? (Ask staff person or instructor) Circle/highlight all that apply.

1. Novice (no experience needed to understand topic)
2. Basic (basic skills or knowledge needed to understand topic)
3. Advanced (advanced skills or knowledge needed to understand topic)
4. Mixed (mix of skill levels)

9. What types of handouts or materials are provided? Circle/highlight all that apply.

1. Handouts summarizing the event's content
2. Handouts with specific "how-to" instructions/guides
3. List of resources
4. Tools (ex. Flicker-Checker)
5. Software
6. Reference materials (ex. Title 24 codes)
7. Other (Specify: _____)

10. Do attendees develop any personalized case-study or action plan for implementing the event's content?

1. Yes [If yes, obtain a copy.]
2. No

11. Energy efficiency may be but one of a number of themes covered. Indicate the degree to which the **implementation** of energy efficiency practices or behaviors by participants is a **central theme** of the content delivered. For example an event (like a tour) might cover green technologies in addition to energy efficiency because the group that promotes it promotes green projects.

1. Implementing energy saving actions is the only theme of the event
2. Implementing energy saving actions is one of several themes addressed by the event and it is a central component of the event
3. Implementing energy saving actions is one of several themes addressed by the event and it is no more important than the other themes
4. Implementing energy saving actions is a minor theme of the event
5. Other (Specify: _____)

12. To what degree does the event provide participants **with specific and actionable examples** of how to implement energy efficient practices or behaviors?

1. Detailed examples of how to implement energy efficient practices or behaviors.
2. More general examples of how to implement energy efficient practices or behaviors.
3. Does not give examples of how to implement energy efficient practices or behaviors

13. To what degree does the event describe utility energy efficiency rebate programs available to participants?

1. The availability and benefits of utility and third party energy efficiency programs is a topic which is an integrated component and referenced throughout the presentation or training
2. The availability and benefits of utility and third party energy efficiency programs is one of several topics individually addressed in the presentation or training
3. The content includes a general and brief discussion of the availability and benefits utility and third party energy efficiency programs
4. The event does not provide information regarding utility and third party energy efficiency programs

7. SDGE 3040: BUSINESS ENERGY ASSESSMENT

7.1 Business Participants Core Survey Instrument

This survey will be given to small business owners and employees (commercial end users) who took the Energy Challenger Audit, either online at the SDG&E Web site or over the phone. The online sessions typically took 10-15 minutes.

Introductory text

This survey is being completed on behalf of the California Public Utilities Commission. We would like to ask you a few questions to help the State of California better manage their energy resources. Specifically, we would like to ask you questions about the Energy Challenger Audit that you took in [month] [year].

Screener questions

S1. Our records indicate that you took the Energy Challenger Audit in [month] [year]. Is this correct?

1. Yes
2. No [Thank and terminate]

BEA1 (S2). Did you COMPLETE the Energy Challenger Audit?

1. Yes
2. No [Thank and terminate]

BEA2 (S3). In the (Energy Challenger) audit that you completed, you were shown or received by email a list of recommended actions on how to save energy. Would you say that you...³

1. Read the recommendations thoroughly
2. Read some portions of the recommendations
3. Just glanced through it
4. Did not read the recommendations at all
5. Do not recall seeing/receiving the recommendations

³ Note: we intend to ask everyone the remaining survey, regardless of whether or not they read the recommendations or recall seeing them. This is because through completing the survey (which everyone did) they will have gotten ideas about the kinds of actions they can take.

BEA6 (S4). Please rate your level of agreement with the following statement: Prior to this audit I was planning to take energy saving actions. Please use a scale of 1 to 7 where 1 means “Strongly disagree” and 7 means “Strongly agree.”

Strongly disagree							Strongly agree
1	2	3	4	5	6	7	

Value of information provided by the program

V1a. As you think about the information you received from the energy audit, was any of this new to you?

1. Yes
2. No

[ASK IF V1a=2, else skip to V2]

V1b. Although you don't think the information you received was new, did the energy audit move you any closer to implementing efforts to save energy that you were already considering?

1. Yes
2. No

V2. How useful was the information you received from the energy audit? Please use a scale of 1 to 7 where 1 means “Not at all useful” and 7 means “Very useful.”

Not at all							Very useful
1	2	3	4	5	6	7	

Influence 1-7 scale

CINF. For the following questions, please use a 1-7 scale where 1 means “not at all” and a 7 means “very much.”

How much did the energy audit...

Not at all							Very much
1	2	3	4	5	6	7	

(Q11A)1. Cause you to **think differently** about energy efficiency opportunities at your organization?

(Q11B)2. Cause you to **want to make energy efficiency changes** at your organization?

(Q11C)3. **Increase your awareness** of energy efficiency opportunities at your organization?

INF4 (Q12). Was the energy audit a **good way to explain** ways to save energy in your organization?

Not at all Very much

1 2 3 4 5 6 7

Knowledge questions – part 1 of 2

K1. Which of the following statements best describes your knowledge about energy efficiency **before** you took the energy audit?

- 5. I had **no** knowledge
- 6. I had **very little** knowledge
- 7. I had **some** knowledge
- 8. I had **a lot** of knowledge

K2. How much did the audit change your knowledge about energy efficiency opportunities for your organization? Please use a scale of 1 to 7 where 1 means “no more knowledgeable” and 7 means “significantly more knowledgeable.”

No more knowledgeable Significantly more knowledgeable

1 2 3 4 5 6 7

Ability to take action

AB1. Please rate your ability to change the amount of energy used in your organization. Please use a scale of 1-7 where 1 means “it is extremely difficult” and a 7 means “it is extremely easy” to make changes.

Extremely difficult Extremely easy

1 2 3 4 5 6 7

Actions taken

AT3. Since [month] of [year] have you or your organization... [1=Yes, 2=No,]

- a. Searched for additional information on ways to save energy in your organization?
- b. Recommended ways to save energy to your management?
- c. Made energy saving recommendations more often?

AT12. Do you have any plans to take action or make additional changes within the next 12 months to improve energy efficiency at your organization using the concepts learned from the audit?

1. Yes, specify
2. No

For this next section, we are going to ask you a few more questions about what you did as a result of the energy audit.

BE22. As a result of taking the energy audit, did you do any of the following? [MULTIPLE RESPONSE]

1. Called the SDG&E Energy Information Center
2. Visited the SDG&E website to learn more about energy efficiency opportunities
3. Asked a contractor about other energy efficiency programs
4. Applied for a SDG&E rebate
5. None of the above

BE23. As a result of taking the energy audit, did you participate in any of the following programs? [MULTIPLE RESPONSE]

1. Standard Performance Contract
2. Express Efficiency
3. Savings by Design
4. Multi-Family Rebate Program
5. Food Services Rebates – save energy and money by improving the efficiency of your food service operations
6. Peak Day Credit Program - Receive monthly energy bill credits for reducing your consumption by 10-20% on 'critical' day periods
7. Join the Summer Saver Program - Receive a financial incentive to cycle your central HVAC during peak periods
8. Join a Demand Bidding program (Day-Ahead or Day-Of) – Receive monthly energy bill credits by voluntarily offering to reduce your energy consumption in advance
9. Reduce your energy cost throughout the year, by accepting a higher rate during 'critical alert' periods
10. Small Business Super Saver
11. Industrial Energy Efficiency Acceleration Program
12. Sweetwater Schools Demonstration Program
13. California Preschool EE Program
14. Domestic Hot Water Control Program
15. Mobile Energy Clinic
16. RCx Retrocommissioning Program
17. Commercial Laundry Program
18. VeSM Advantage Plus
19. M2M Controls for Restaurant HVAC and Hot Water
20. Smart Controls for Pools and Spas

- 21. Healthcare Energy Efficiency Program
- 22. Lodging Energy Efficiency Program
- 23. HVAC Training, Installation and Maintenance
- 24. Upstream HVAC/Motors Program
- 25. CHEERS New Construction Advanced Rating Program
- 97. Other
- 96. None of the above

[ASK IF BEA23=97]

BE24. What was the “other” program you participated in? [OPEN END]

00. Open text window

Knowledge questions – part 2 of 2

K3. Please indicate the extent to which you agree/disagree with the following statements.
[INSERT BREAK]

Please use a 1-7 scale where 1 means “strongly disagree” and 7 means “strongly agree.”

Strongly
disagree

Strongly
agree

1

2

3

4

5

6

7

A. As a result of taking the energy audit, I am better able to identify ways to use less energy in my organization.

B. As a result of taking the energy audit, I better understand how to make my organization more energy efficient.

Other

BE2A. Did you complete the energy audit online or over the phone?

- 1. Online at the SDG&E website
- 2. Over the phone

BE7. How long did it take you to complete the energy audit?

- 1. Less than five minutes
- 2. 5-10 minutes
- 3. 11-15 minutes
- 4. 16-20 minutes
- 5. More than 20 minutes
- 6. Don't know

BE8. After you completed the energy audit, did you receive a follow up phone call to review the results?

1. Yes
2. No
3. I don't remember

Firmographics

[DON'T REQUIRE RESPONSES TO ANY OF THE REMAINING QUESTIONS BUT IF RESPONDENTS TO SKIP OVER THEM - CODE AS REFUSED]

"We have only a few more questions to ask you. These are general demographic questions."

FI1. Thinking of other organizations like yours, would you describe your organization as...

1. A small organization
2. A medium-sized organization
3. A large organization
4. Not applicable

FI2. Does your organization lease or own your facility?

1. Lease
2. Own
00. Other. Specify

BEA25 (FI2B). How many employees are at this location?

1. 1 to 5
2. 6 to 10
3. 11 to 20
4. 21 to 50
5. 51 to 100
6. Over 100

FI3. What is the approximate square footage of your facility?

[NUMERIC OPEN END, 1 UP TO 1,000,000]

998. Don't know

FI4. Approximately what percentage of your facility is heated?

[NUMERIC OPEN END, 0 UP TO 100]

998. Don't know

FI5. Approximately what percentage of your facility is air conditioned?

[NUMERIC OPEN END, 0 UP TO 100]

998. Don't know

FI6. On average, how many hours a day is your facility in use?

7. Less than 8 hours

8. 8 to 11 hours

9. 12 to 15 hours

10. 16 to 23 hours

11. 24 hours

BEA26 (FI7). How would you describe yourself? [MULTIPLE RESPONSE]

1. Landlord

2. Tenant

3. Energy manager

4. Site manager

5. Building owner

00. Other, specify

Those are all our questions. On behalf of the State of California, we thank you for your time.

7.2 Business Participants Impact Module Survey Instrument

AT4. You mentioned that you or your organization installed energy saving measures (such as energy efficient lights or air conditioners). Have you made changes to any of the following areas? [MULTIPLE RESPONSE]

a. Lighting

b. Heating, Ventilation, and/or Air Conditioning

c. Refrigeration

d. Boilers and/or hot water heaters

e. Compressed Air

f. Shell of the building (e.g., windows, roof, and insulation)

g. Dryers

h. Other Energy-Efficiency changes

[LIGHTING MODULE] [ASK IF QAT4=1 ELSE MC1A]

BEA9a.(MA1) You indicated that you have applied the concepts you learned from the audit to save energy at your facility. Thinking about just those facilities that are served by one of California's investor owned utilities, have you made any of the following changes to the lighting equipment at your facility(ies)? [Yes =1, No =2, Ask for each]

- a. Replaced existing lighting fixtures with more efficient fixtures (retrofit of existing measures)
- b. Replaced and/or installed exterior lighting fixtures
- c. Installed lighting controls (e.g., timers or occupancy sensors)

[ASK IF MA1a-c = 2, ELSE SKIP TO MA2A]

BEA9a1.(MA2) It seems we have not captured the changes that you made. Please describe the lighting changes you have made to save energy where you applied concepts from the energy audit.

[ASK IF MA1a-c = 1, ELSE SKIP TO MA3]

MA2A. Please describe any additional lighting changes you made to save energy where you applied concepts from the energy audit.

[OPEN END]

96. Did not make any other change

MA3 In the course of making the changes you just described, did you or any party to this project receive technical or financial assistance through a utility program other than the energy audit?

1. Yes
2. No
3. Don't know

[ASK IF MA3=1, ELSE SKIP TO MB1]

MA4. In which program did you participate?

1. Standard Performance Contract
2. Express Efficiency
3. Savings by Design
4. Multi-Family Rebate Program
5. Low Income Energy Efficiency
6. Other, Specify
7. Don't know/refused

MA5a. Did the energy audit provide you information about the utility program in which you participated?

1. Yes
2. No

3. Don't know

[ASK IF MA5a=1 ELSE MC1A]

MA5b. Using a scale of 1 to 7 where 1 means not at all influential and 7 means very influential, how much influence did the information provided in the audit have in your decision to participate in the utility program?

1 2 3 4 5 6 7

Not At All Influential

Very Influential

[SKIP TO MC1A IF MA3=1]

BEA1 (MB1). In how many facilities did you implement these changes? If you only made changes to one facility please enter 1. [NUMERIC OPEN END]

[SKIP to MB2, IF MB1<2]

TBEA1 (TMB1). For the next set of questions, please think **only** about **one** facility **that is served by a California investor owned utility** and that has been impacted the most by the energy saving changes you implemented.

BEA2 (MB2). Please enter the zip code of the facility.

[NUMERIC OPEN END, 1-99999]

BEA3 (MB3). How many square feet is your facility? An estimate is fine.

[NUMERIC OPEN END, 1-99999]

BEA4 (MB4). How many floors are above ground in your facility?

[NUMERIC OPEN END, 0-999]

BEA5 (MB5). How many floors are below ground in your facility?

[NUMERIC OPEN END, 0-999]

BEA6 (MB6). What type of cooling equipment do you have in this facility?

1. Direct expansion air conditioner
2. Chilled water, electric
3. Chilled water, gas (absorption)
4. Evaporative cooler
5. Other, specify:
6. None
7. Don't know

BEA7 (MB7). What type of heating system do you have in this facility?

1. Gas
2. Electric
3. None
4. Other, specify
5. Don't know

BEA8 (MB8a-c). What are the operating hours of this facility?

- a. Weekdays [NUMERIC OPEN END, 0-24]
- b. Saturdays [NUMERIC OPEN END, 0-24]
- c. Sundays [NUMERIC OPEN END, 0-24]

[ASK IF MA1A- C =1 ELSE SKIP TO MA26A]

BEA9b. (MA6a) The next section asks about the technical details of the changes you made to the lighting equipment at your facility. Do you personally have knowledge of these details?

1. Yes
2. No [SKIP TO MA26A]

[ASK IF MA1a = 1, ELSE SKIP TO MA30]

BEA9c. (MA6) Which of the following types of lighting fixtures were changed in your efforts to save energy at your facility? [SELECT ALL THAT APPLY]

1. Linear Fluorescent Tube Lights
2. Exit Signs
3. High Bay Lighting
4. Incandescent Lighting
5. Other (specify) (go to MA14 if "other" ONLY)

[SHOW ONE TABLE FOR EACH FIXTURE TYPE MA6=1, 2, 3]

BEA9d (MA7-9)

You indicated that you changed some [LIGHTING TYPE FROM L1] at your facility. Please use the pull down menus below to indicate the configuration of your old lighting and your new lighting. If you replaced or installed multiple fixtures types, please provide the information for the most common one.

[Lighting Type] Lighting System Affected by Energy Saving Action

Original Configuration	Item	Current Configuration
	Lamp Type	
	Ballast	
	Lamp Length	
(Numeric Open End)	Watts per Lamp	(Numeric Open End)
	Number of lamps per fixture	
(Numeric Open End)	Number of Fixtures	(Numeric Open End)

[SHOW TABLE FOR FIXTURE TYPE MA6=4]

BEA9e (MA10)

You indicated that you changed some incandescent lighting at your facility. Please use the pull down menus below to indicate the configuration of your old lighting and your new lighting. If you replaced or installed multiple fixtures types, please provide the information for the most common one.

Changes to Incandescent lighting

Original Configuration	Item	Current Configuration
Incandescent	Bulb type	(LED, CFL, Other)
(Numeric Open End)	Number of Bulbs	(Numeric Open End)
	Watts per Bulb	(Numeric Open End)

[ASK IF MA6=1]

BEA9f.(MA11) What are the approximate hours of operation for the **fluorescent tube lighting system** that you just described? An estimate is fine.

- _____ a. Weeks per year (Enter "99" if unknown)
- _____ b. Days per week (Enter "99" if unknown)

_____ c. Hours per day (Enter "99" if unknown)

[ASK IF MA6=3]

BEA9g.(MA12) What are the approximate hours of operation for the **high bay lighting system** that you just described? An estimate is fine.

_____ a. Weeks per year (Enter "99" if unknown)

_____ b. Days per week (Enter "99" if unknown)

_____ c. Hours per day (Enter "99" if unknown)

[ASK IF MA6=4]

BEA9h.(MA13) What are the approximate hours of operation for the **incandescent lighting** that you changed? An estimate is fine.

_____ a. Weeks per year (Enter "99" if unknown)

_____ b. Days per week (Enter "99" if unknown)

_____ c. Hours per day (Enter "99" if unknown)

BEA3a. [EXTERIOR LIGHTING QUESTIONS]

[ASK IF MA1B=1, ELSE MA14]

BEA10a (MA30). You indicated that you replaced and/or installed new exterior lighting fixtures. Where were these lighting fixtures located?

Please select all that apply. [MULTIPLE RESPONSE]

1. Wall
2. Lamp-post
3. Ground
4. Other, specify

[ASK IF MA30=1 ELSE MA34]

BEA10b (MA31). What is the square footage of the area covered by the wall fixtures you installed?

[NUMERIC OPEN END, 0-999]

BEA10c (MA32). Please tell us about the wall fixtures(s) you replaced and/or installed. If the installation was not a replacement please leave the "original" column blank.

If you installed multiple fixtures and they are not identical, please provide details on just one of them.

	Original Lighting Fixtures	New Lighting Fixtures
A. Do the fixtures have reflectors?	(Yes, No, No response selected, DK)	
B. Are they controlled by a photo-sensor?	(Yes, No, No response selected, DK)	
C. What type of lighting	(Mercury Vapor, Incandescent, Metal Halide, Pulse Start Metal Halide, High Pressure Sodium, Low Pressure Sodium, Fluorescent Tube Lighting – T12, Fluorescent Tube Lighting – T8, Fluorescent Tube Lighting – T5, Fluorescent Tube Lighting – Unknown Size, Compact Fluorescent (CFL), LED, Other, No type selected, DK)	

[ASK IF MA32BB=2,3,4 ELSE MA34]

BEA10d (MA33). Approximately how many hours are the wall lighting fixtures on during the following times?

	Weekdays	Weekends	Summer	Winter
Hours per day:				

[ASK IF MA30=2 ELSE MA37]

BEA10e (MA34) What is the square footage of the area covered by the lamp-post fixtures you installed?

[NUMERIC OPEN END, 0-999]

BEA10f (MA35) Please tell us about the lamp-post fixtures(s) you replaced and/or installed. If the installation was not a replacement please leave the “original” column blank.

If you installed multiple fixtures and they are not identical, please provide details on just one of them.

	Original Lighting Fixtures	New Lighting Fixtures
A. Do the fixtures have reflectors?	(Yes, No, No response selected, DK)	
B. Are they controlled by a photo-sensor?	(Yes, No, No response selected, DK)	
C. What type of lighting	(Mercury Vapor, Incandescent, Metal Halide, Pulse Start Metal Halide, High Pressure Sodium, Low Pressure Sodium, Fluorescent Tube Lighting – T12, Fluorescent Tube Lighting – T8, Fluorescent Tube Lighting – T5, Fluorescent Tube Lighting – Unknown Size, Compact Fluorescent (CFL), LED, Other, No type selected, DK)	

[ASK IF MA35B=2,3,4 ELSE MA37]

BEA10g. (MA36) Approximately how many hours are the lamp-post lighting fixtures on during the following times?

	Weekdays	Weekends	Summer	Winter
Hours per day:				

[ASK IF MA30=3 ELSE MA40]

BEA10h (MA37). What is the square footage of the area covered by the ground fixtures you installed?

[NUMERIC OPEN END, 0-999]

BEA10j (MA38) Please tell us about the ground fixtures(s) you replaced and/or installed. If the installation was not a replacement please leave the “original” column blank.

If you installed multiple fixtures and they are not identical, please provide details on just one of them.

	Original Lighting Fixtures	New Lighting Fixtures
A. Do the fixtures have reflectors?	(Yes, No, No response selected, DK)	
B. Are they controlled by a photo-sensor?	(Yes, No, No response selected, DK)	
C. What type of lighting	(Mercury Vapor, Incandescent, Metal Halide, Pulse Start Metal Halide, High Pressure Sodium, Low Pressure Sodium, Fluorescent Tube Lighting – T12, Fluorescent Tube Lighting – T8, Fluorescent Tube Lighting – T5, Fluorescent Tube Lighting – Unknown Size, Compact Fluorescent (CFL), LED, Other, No type selected, DK)	

[ASK IF MA38BB=2,3,4 ELSE MA40]

BEA10k (MA39) Approximately how many hours are the ground lighting fixtures on during the following times?

	Weekdays	Weekends	Summer	Winter
Hours per day:				

BEA10l (MA40) Approximately what percentage of your previous lighting energy consumption are you saving? [NUMERIC OPEN END, 0-100]

Lighting Controls

[ASK IF MA1C=1, ELSE SKIP TO MA26A]

BEA9i.(MA14) You indicated that you installed lighting controls. What type of lighting controls did you install?

1. Occupancy sensors
2. Dual technology occupancy sensors
3. Day-lighting controls (Photo-sensors)
4. Occupancy sensors and photo-sensor combination
5. Other
6. Don't Know

[ASK IF MA14=5]

BEA9j.(MA14a) Please describe the lighting controls you installed at the facility your business occupies or manages. [OPEN END]

BEA9k.(MA15) What type of control did you install?

1. On/Off
2. Continuous control for top-lit space daylighting
3. Continuous control for side- lit space daylighting
4. 1-step control for top-lit space daylighting
5. 2-step control for top-lit space daylighting
6. 2-step control for side- lit space daylighting
7. Don't Know

BEA9l.(MA16) Approximately how many lighting controls did you install? An estimate is fine. [NUMERIC OPEN END]

Don't know

BEA9m.(MA17) Approximately how many lighting fixtures are controlled by the new lighting controls? An estimate is fine. [NUMERIC OPEN END]

Don't know

BEA9n.(MA18) What is the wattage of the most common type of fixture controlled by the new lighting controls? An estimate is fine. [OPEN END]

Don't know

BEA9o.(MA19) What are the approximate hours of operation for the lighting system controlled by the new controls? An estimate is fine.

- _____ a. Hours per day (*Enter "99" if unknown*)
_____ b. Days per Week (*Enter "99" if unknown*)
_____ c. Weeks per year (*Enter "99" if unknown*)

BEA9p.(MA20) What percentage of the time that the lighting system is operating is the space actually occupied? An estimate is fine.

[NUMERIC OPEN END]

Don't know

BEA9q.(MA26a) Have you performed an engineering or post-installation analysis to determine how much electricity or dollars you save annually from the lighting changes you made?

1. Yes
2. No

[ASK IF MA26A=1 ELSE SKIP TO MA29]

BEA9r.(MA26b) Did you estimate electricity savings, dollar savings, or both?

1. I have calculated dollars saved
2. I have calculated kWh saved
3. I have calculated both dollars and kWh saved

[ASK IF MA26B=1 or 3]

BEA9s (MA27) Approximately how many dollars did you save annually? [NUMERIC OPEN END, limit \$1,000,000]

[ASK IF MA26B=2 or 3]

BEA9t.(MA28) Approximately how many kWh did you save annually? [NUMERIC OPEN END, limit 1,000,000 kWh]

ASK IF MA26A=2 ELSE SKIP TO MC1]

BEA9u (MA29) Please provide a rough estimate of the annual energy savings in dollars or kilowatt hours. [OPEN END] Don't know

HVAC

[ASK IF QAT4=2 ELSE MH1A]

BEA11a (MC1). You indicated that you have made changes to your HVAC system in order to save energy at your facility. Thinking just about those facilities that are served by one of California's investor owned utilities, what were the changes to the HVAC equipment? [1=Yes, 2=No]

- a. Installed variable speed drives and optimized operation of pump and fan systems.
- b. Upgraded gas equipment including gas furnaces and/or boilers.
- c. Optimized the economizer
- d. Installed controls or set point equipment
- e. Optimized HVAC system (e.g., adjusted temperature settings, optimized controls)
- f. Changed HVAC repair and maintenance practices

[ASK IF MC1 a-f = 2, ELSE SKIP TO MC2A]

MC2. It seems we have not captured the changes you have made. Please describe the HVAC changes you have made to save energy where you applied concepts taught in the audit.
[OPEN END]

[ASK IF MC1a-f=1, ELSE SKIP TO MC3]

MC2A. Please describe any additional HVAC changes you made to save energy where you applied concepts taught in the audit.

[OPEN END]

98. Did not make any other change

MC3. In the course of making the changes you described above, did you or any party to this project receive technical or financial assistance through a utility program other than the energy audit?

1. Yes
2. No
3. Don't know

[ASK IF MC3 =1, ELSE SKIP TO MC8a]

MC4. In which program did you participate?

1. Standard Performance Contract
2. Express Efficiency
3. Savings by Design
4. Multi-Family Rebate Program
5. Low Income Energy Efficiency
6. Other, Specify
7. Don't know

MC5. Did the energy audit provide you information about the utility program in which you participated?

- a. Yes
- b. No
- c. Don't know

[ASK IF MC5 =1 ELSE MH1A]

MC6. Using a scale of 1 to 7 where 1 means not at all influential and 7 means very influential, how much influence did the information provided in the energy audit have in your decision to participate in the utility program?

1 2 3 4 5 6 7

Not At All Influential

Very Influential

[IF MC3=1 SKIP TO MH1a]

MC8a. In how many facilities did you implement these changes? If you only made changes to one facility please enter 1. [NUMERIC OPEN END, ANSWER MUST BE GREATER THAN ZERO, 1-9999]

[SAY/INSERT ONLY IF MC8 > 1]

For the next set of questions, please think **only** about **one** facility **that is served by a California investor owned utility and** that has been impacted the most by the energy saving changes you implemented.

MC9. The State of California has asked us to provide them with some idea of the energy savings of your actions. We have a number of questions about the work you performed that will help us figure this out. To help us figure out possible weather conditions, we need to know the zip code of the facility where the retrofit or new construction took place.

[NUMERIC OPEN END]

[ALLOW DON'T KNOW]

MB13. What is the approximate square footage of your facility?

[NUMERIC OPEN END, 1-99999]

MB14. How many floors are above ground?

[NUMERIC OPEN END, 0-999]

MB15. How many floors are below ground?

[NUMERIC OPEN END, 0-999]

MB16. What type of cooling equipment do you have in this facility?

1. Direct expansion air conditioner
2. Chilled water, electric
3. Chilled water, gas (absorption)
4. Evaporative cooler
5. Other, specify:
6. None
7. Don't know

MB17. What type of heating system do you have in this facility?

1. Gas
2. Electric
3. Other, specify
4. None
5. Don't know

MB18. What are the operating hours of this facility?

- a. Weekdays [NUMERIC OPEN END, 0-24]
- b. Saturdays [NUMERIC OPEN END, 0-24]
- c. Sundays [NUMERIC OPEN END, 0-24]

[ASK IF MC1a-e=1 ELSE SKIP to MC80]

MC7. The next section asks about the technical details of the changes you made to the HVAC equipment at your facility. Do you personally have knowledge of these details?

1. Yes
2. No [SKIP TO MC80]

[ASK IF MC1b=1 ELSE MC54a]

BEA11b (MC18). What type of system did your retrofit go into? Is it a...

1. Single zone system or a
2. Multi-zone system
3. Other (Specify:_____)

BEA11c (MC19). Which best describes this system?

1. Constant volume
2. Variable air volume with reheat
3. Variable air volume without reheat
4. Other: (Specify:_____)

BEA11d (MC20). Did you retrofit the main cooling unit, heating unit or both?

1. Cooling unit
2. Heating unit
3. Both cooling and heating units

[ASK IF MC20=2 OR 3, ELSE SKIP TO MC54]

BEA11e (MC22). What heating unit did you replace?

1. Gas fired furnace
2. Boiler
3. Air cooled heat pump
4. Geothermal heat pump
5. Other (Specify)

[IF MC22=1 ELSE SKIP TO MC27a]

BEA11f (MC26a-f). You may have replaced one or many gas furnaces. We know that these can be of different sizes. Please fill in the number of gas furnaces you replaced of each size.

- Less than 65 kBtu/h
- 65 to 90 kBtu/h
- 91 to 135 kBtu/h
- 136 to 240 kBtu/h
- 241 to 760 kBtu/h
- Greater than 760 kBtu/h

BEA11g (MC97A-MC117). Please tell us about the gas furnaces you replaced that were SIZE. If a particular detail below was not changed, leave the box blank in the "new" column.

If you installed multiple units and they are not identical, please provide details on just one of them. Please enter "9999" if an answer is unknown.

Repeat for each size where MC26>1

a. Old Unit Btu/hrs	b. Number of units replaced that were this size	c. Approximate efficiency of these units (%)	d. New Unit Btu/hr	e. Number of new units that were this size	f. Approximate efficiency of these units (%)
1. [NUMERICA OPEN END] DK	[NUMERICA OPEN END] DK	[NUMERIC OPEN END] DK	[NUMERICA OPEN END] DK	[NUMERICA OPEN END] DK	[NUMERICA OPEN END] DK

[ASK IF MC22=2 ELSE SKIP TO MC54]

BEA11h (MC27a-f). You may have replaced one or many boilers. We know that these can be of different sizes. Please fill in the number of boilers you replaced of each size.

- Less than 100 MBh
- 100 to 200 MBh
- 201 to 300 MBh
- 301 to 600 MBh
- 601 to 1000 MBh
- Greater than 1000 MBh

BEA11i (MC223-MC258). Please tell us about the boilers you replaced that were SIZE. If a particular detail below was not changed, leave the box blank in the "new" column.

If you installed multiple units and they are not identical, please provide details on just one of them. Please enter "9999" if an answer is unknown.

Repeat for each size where MC27>1

a. Old Unit MBtu/hrs	b. Number of units replaced that were this size	c. Approximate combustion efficiency of these units (%)	d. New Unit MBtu/hr	e. Number of new units that were this size	f. Approximate combustion efficiency of these units (%)
1. [NUMERICA OPEN END] DK	[NUMERICA OPEN END] DK	[NUMERIC OPEN END] DK	[NUMERICA OPEN END] DK	[NUMERICA OPEN END] DK	[NUMERICA OPEN END] DK

[ASK IF MC1a=1, ELSE SKIP TO MC74] [BACK CODE MC50=1 MC51=3]

BEA12d (MC54). We know you may have installed multiple variable speed drives onto existing motors. Please fill out the matrix below for the motors on which these drives were installed..

a. Number of motors on which VSDs were installed	[NUMERIC OPEN END] DK
b. Average horsepower of motor on which VSDs were installed	[NUMERIC OPEN END] DK
c. Average age of motors on which VSDs were installed	[NUMERIC OPEN END] DK
d. Where installed	(On the supply fan, on the return fan, on a cooling tower fan, on a secondary fan, other, don't know)

[If MC1c = 1, ELSE SKIP TO MC55]

BEA15q (MC74). What were the steps you took to optimize your economizer?

[OPEN END]
DK

[If MC1d = 1, ELSE SKIP TO MC58]

BEA13 (MC55). Which of the following Control or Set Point Equipment did you install?
[MULTIPLE RESPONSE]

- a. Demand control ventilation
- b. Energy management system
- c. Heating/cooling time clock
- d. Other

BEA14 (MC56). Which of the heating and cooling components did you install? [MULTIPLE RESPONSE]

- a. Water side economizer
- b. Reheat coils
- c. Cooling tower for a packaged unit
- d. Direct Cooler
- e. Evaporator or Desiccant System
- f. Indirect Cooler
- g. Heat recovery
- h. Lighting
- i. Water heater
- j. Chiller
- k. Chiller expansion valves
- l. Other
- m. Don't know

[If MC1e = 1, ELSE skip to MC77a]

BEA15a (MC58). What part of the HVAC system did you optimize? (select all that apply)

- a. Controls
- b. Air Handling Equipment
- c. Other
- d. Don't know

[If MC58= a, ELSE SKIP TO MC69]

BEA15b. (MC59) Which of the following controls was optimized (select all that apply)

- a. Thermostat
- b. Occupancy sensors

- c. VAV Terminal Box
- d. Economizer Controls
- e. Raised Cooling Delivery Set point temperature
- f. Lowered heating system delivery temperature
- g. Other
- h. Don't know

If [MC59= a, else skip to MC64]

BEA15c (MC60). What type of changes did you make to your thermostat(s)? [MULTIPLE RESPONSE]

- a. Changed temperature setpoints
- b. Reduced the number of hours of operation
- c. Other
- d. Don't know

[If MC60=a, else skip to MC62]

BEA15d (MC61). What were the changes to the setpoints in Degrees F for heating and/or cooling?

a. Setpoint Type	b. Old Setpoint (Deg F)	c. New setpoint (Deg F)
1. Cooling		
2. Heating		

[If MC60=b, ELSE SKIP TO MC64]

BEA15e (MC62). How many fewer hours per week is the cooling system running?

- a. _____ Record hours per week
- b. Don't know

BEA15f (MC63). How many fewer hours per week is the heating system running?

- a. _____ Record hours per week
- b. Don't know

[If MC59=b, ELSE SKIP TO MC65]

BEA15g (MC64). What percentage of the conditioned area were occupancy sensors installed on?

- a. _____ Record percentage
- b. Don't know

[If MC59=c, ELSE SKIP TO MC69]

BEA15h (MC65). Were damper settings on your VAV system changed?

- a. Yes
- b. No
- c. Don't know

[If MC65 = a, ELSE SKIP TO MC69]

BEA15i (MC66). What is the percentage open for the old and new damper settings?

- a. Old damper setting [OPEN END]
- b. New damper setting [OPEN END]
- c. Don't know

BEA15j (MC67). Were reheat settings on your VAV system changed?

- a. Yes
- b. No
- c. Don't know

[If MC67 = a, ELSE SKIP TO MC69]

BEA15k (MC68). What are the old and new reheat setting in degrees F?

- a. Old reheat setting [OPEN END]
- b. New reheat setting [OPEN END]
- c. Don't know

[If MC58= b, ELSE SKIP TO MC77]

BEA15l (MC69). Which of the following air handling equipment operations were optimized?

- a. Ducts
- b. Filters
- d. Heat recovery system
- e. Other
- f. Don't know

[IF MC69= a, ELSE SKIP TO MC72]

BEA15m (MC70). Which of the following duct optimization measures did you perform?

- a. Duct insulation
- b. Leak reduction
- c. Pressure balancing
- d. Other
- e. Don't know

[If MC70= a, ELSE SKIP TO MC72]

BEA15n (MC71). What is the old and new R-Value level of duct insulation?

- a. Old R-value [OPEN END]
- b. New R-value [OPEN END]
- c. Don't know

[If MC70= b, ELSE SKIP TO MC73]

BEA15o (MC72). Do you know the original and new level of duct leakage or the percentage amount of duct leakage flow that was stopped?

- a. Old duct leakage _____record number in CFM per minute
- b. New duct leakage _____record number in CFM per minute
- c. Percentage of duct leakage stopped by sealing measures.._____ percentage.
- d. Don't know

[If MC69 =b, ELSE SKIP TO MC75]

BEA15p (MC73). After you optimized your filter system, what was the reduction in pressure across the filter?

- a. [OPEN END]_____ Record percentage pressure drop
- b. Don't know

[If MC69=d, ELSE SKIP TO MC76]

BEA15r (MC75). What were the steps you took to optimize your heat recovery system?

[OPEN END]
DK

[If MC69 =00, ELSE SKIP TO MC77]

BEA15s (MC76). What were the steps you took to optimize your other air handling equipment?

[OPEN END]
DK

[HVAC MAINTENANCE CHANGES]

[If MC1f = 1, ELSE SKIP TO MH1A]

BEA16. (MC77) There are many possible changes to your maintenance practices that you may have made. Below we have a list of what those changes could be. Please check the changes in maintenance practices that you made as a result of the information you learned

from the audit. Also, if you made a change, please let us know the number of times you performed that maintenance before and after the course.

Maintenance Practice	a. Change? (Y / N)	b. IF Yes to Change: How often was this performed before the course?	c. How often was this performed after the course?
1. Adjust bypass dampers		(Never, Once a year, Twice a year, Three times a year, Quarterly, Monthly)	(Once a year, Twice a year, Three times a year, Quarterly, Monthly)
2. Clean or replace filters			
3. Check fan blades for tightness			
4. Lubricate fan motor			
5. Adjust operating pressures			
6. Evaluate vent system			
7. Clean blower wheel			
8. Inspect valves			
9. Tighten electrical connections			
10. Evaluate safety controls			
11. Measure temperature difference			

Maintenance Practice	a. Change? (Y / N)	b. IF Yes to Change: How often was this performed before the course?	c. How often was this performed after the course?
12. Adjust thermostat calibration			
13. Check start and run capacitors			
14. Check start and run delays			
15. Measure voltage differences			
16. Measure amperage draw			
17. Test fan limit switch			
18. Test thermocouple			

MC80. Have you performed an engineering or post-installation analysis to determine how much electricity or dollars you save annually from the energy saving actions you have implemented?

1. Yes
2. No

[ASK IF MC80=1 ELSE SKIP TO MC84]

MC81. Did you estimate electricity savings, dollar savings, or both?

1. I have calculated dollars saved
2. I have calculated kWh saved
3. I have calculated both dollars and kWh saved

[ASK IF MC80=1 or 3]

MC82. Approximately how many dollars did you save annually?

[NUMERIC OPEN END, limit \$1,000,000]

[ASK IF MC80=2 or 3]

MC83. Approximately how many kWh did you save annually?

[NUMERIC OPEN END, limit 1,000,000 kWh]

ASK IF MC80=2 ELSE SKIP TO MK1A]

MC84. Please provide a rough estimate of the annual energy savings in dollars or kilowatt hours?

[OPEN END]

Don't know

REFRIGERATION

[ASK IF QAT4=3, ELSE MK1A]

BEA17a (MH1). You indicated that you made changes to the refrigeration system where you applied the concepts you learned from the energy audit. Thinking just about those facilities that are served by one of California's investor owned utilities, have you made any of the following changes to the commercial cooking or refrigeration equipment? [Yes =1, No =2, Ask for each]

- a. Made infiltration changes to refrigerated storerooms and/or walk-in coolers. (NH30-36)
- b. Installed anti-sweat heater controls and/or doors requiring low/no sweat heat on display refrigerators. (MH69+)
- c. Installed air cooled ice machines. (MH19+)
- d. Upgraded cooking equipment (e.g., griddles, fryers, etc) MH11
- e. Use vending machine occupancy sensors to adjust when the area is unoccupied. (MH20)
- f. Use low-flow pre-rinse sprayers for dishwashing
- g. Made changes to existing ice machines to improve energy efficiency.
- h. Made changes to the operations and/or repair and maintenance of existing cooking, ventilation, refrigeration, or water equipment (e.g. used timers or changed the operating time of equipment) (Old MH1c)

[ASK IF MH1a-h = 2]

MH2a. It seems we have not captured the changes you have made. Please describe the commercial cooking changes you made to save energy where you applied concepts taught in the energy audit.

[ASK IF MHa-h=1, ELSE SKIP TO MH3]

MH2aa. Please describe any additional commercial cooking changes you made to save energy where you applied concepts taught in the energy audit.

[OPEN END]

98. Did not make any other change

MH3. In the course of making the refrigeration changes you just described, did you or any party to this project receive technical or financial assistance through a utility program?

1. Yes
2. No
3. Don't know

[ASK IF MH3=1, ELSE SKIP TO MH2b]

MH4. In which program did you participate?

1. Standard Performance Contract
2. Express Efficiency
3. Savings by Design
4. Multi-Family Rebate Program
5. Low Income Energy Efficiency
6. A rebate program, but I don't know the name
7. Other, Specify
8. Don't know

MH5. Did the course provide you information about the utility program in which you participated?

1. Yes
2. No
3. Don't know

[ASK IF MH5=1 ELSE MK1A]

MH6. Using a scale of 1 to 7 where 1 means not at all influential and 7 means very influential, how much influence did the information provided in the energy audit have in your decision to participate in the utility program?

1 2 3 4 5 6 7

Not At All Influential

Very Influential

[SKIP TO MK1a, IF MH3=1]

MH2b. In how many facilities did you implement these refrigeration changes? If you only made changes to one facility please enter 1. [NUMERIC OPEN END]

[SKIP to MH8a, IF MH2b<2]

For the next set of questions, please think **only** about **one** facility **that is served by a California investor owned utility and** that has been impacted the most by the refrigeration changes you implemented.

MH8a. Please enter the zip code of the facility.

[NUMERIC OPEN END, 1-99999]

MH9. How many square feet is your facility? An estimate is fine.

[NUMERIC OPEN END, 1-999999]

MH10. How many years old is your facility? An estimate is fine.

[NUMERIC OPEN END, 1-999]

MB24. How many floors are above ground?

[NUMERIC OPEN END, 0-999]

MB25. How many floors are below ground?

[NUMERIC OPEN END, 0-999]

MB26. What type of cooling equipment do you have in this facility?

1. Direct expansion air conditioner
2. Chilled water, electric
3. Chilled water, gas (absorption)
4. Evaporative cooler
5. Other, specify:
6. None
7. Don't know

MB27. What type of heating system do you have in this facility?

1. Gas
2. Electric
3. Other, specify
4. Don't know

MB28. What are the operating hours of this facility?

- a. Weekdays [NUMERIC OPEN END, 0-24]

- b. Saturdays [NUMERIC OPEN END, 0-24]
- c. Sundays [NUMERIC OPEN END, 0-24]

[ASK IF MH1a-h=1 ELSE VH91]

MH7. The next section asks you about the technical details of the refrigeration changes you made as a result of taking the course. Do you personally have knowledge of these details?

- 1. Yes
- 2. No [SKIP TO VH91]

[ASK IF MH1d=1, ELSE SKIP TO MH69]

BEA19A (MH11). You indicated that you installed new and/or replaced existing equipment with energy efficient cooking, ventilation, refrigeration, or water equipment at your facility. Which of the following did you install in your efforts to save energy at your facility? [SELECT ALL THAT APPLY]

- 1. Fryer(s)
- 4. Griddle(s)
- 6. Oven(s)
- 8. New Refrigeration equipment
- 9. New water elements (e.g., ware washer, hot water heater)
- 10. Other, specify:

[FRYER-INSTALL] [ASK IF MH11=01 ELSE MH15A]

BEA19b (MH12). Please tell us about the fryer(s) you installed and/or replaced with an energy efficient model.

If this installation was not a replacement, please leave the “original” column blank.

If you installed multiple units and they are not identical, please provide details on just one of them. Please enter “9999” if answer is unknown.

	Original	New
Number of units installed	Not applicable	[NUMERIC OPEN END, 1-99]
Fuel type	Gas, Electric, No type selected, DK	Gas, Electric, No type selected, DK
Food Load (lb/day)	[NUMERIC OPEN END]	[NUMERIC OPEN END, 0-999]
Operating Hours per day	[NUMERIC OPEN END]	[NUMERIC OPEN END, 0-99]
Operating Days per week	[NUMERIC OPEN END]	[NUMERIC OPEN END, 0-99]

Operating Weeks per year	[NUMERIC OPEN END]	[NUMERIC OPEN END, 0-99]
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ADDED: If applicable, what was your primary reason for this replacement?

1. To save energy or money
2. Other reason (e.g., unit failed and/or wanted different size)
3. No reason selected
4. Not applicable
5. Don't Know

[GRIDDLE-INSTALL] [ASK IF MH11=04 ELSE MH17]

BEA19c (MH15). Please tell us about the griddle(s) you installed and/or replaced with an energy efficient model.

If this installation was not a replacement, please leave the "original" column blank.

If you installed multiple units and they are not identical, please provide details on just one of them. Please enter "9999" if answer is unknown.

	Original	New
Number of units installed	Not applicable	[NUMERIC OPEN END, 1-99]
Fuel type	Gas, Electric, No type selected, DK	Gas, Electric, No type selected, DK
Heavy Load efficiency	[NUMERIC OPEN END, 1-99]%	[NUMERIC OPEN END, 1-99]%

A. Number of Units Installed: [NUMERIC OPEN END, 1-99]

B. Old/New Fuel Type: Gas or Electric [Drop down]

C. Old/New Heavy Load efficiency: [NUMERIC OPEN END, 1-99]%

ADDED: If applicable, what was your primary reason for this replacement?

1. To save energy or money
2. Other reason (e.g., unit failed and/or wanted different size)
3. No reason selected
4. Not applicable
5. Don't Know

[OVEN-INSTALL] [ASK IF MH11=06 ELSE MH19]

MH17. Please tell us about the oven(s) you installed and/or replaced with an energy efficient model.

If this installation was not a replacement, please leave the “original” column blank.

If you installed multiple units and they are not identical, please provide details on just one of them. Please enter “9999” if answer is unknown.

	Original	New
Number of units installed	Not applicable	[NUMERIC OPEN END, 1-99]
Fuel type	Gas, Electric, No type selected, DK	Gas, Electric, No type selected, DK
Oven Type	Combination, Convection, Conveyor, Gas rack, DK, No type selected	Combination, Convection, Conveyor, Gas rack, DK, No type selected
Operating Hours per day	[NUMERIC OPEN END]	[NUMERIC OPEN END, 0-99]
Operating Days per week	[NUMERIC OPEN END]	[NUMERIC OPEN END, 0-99]
Operating Weeks per year	[NUMERIC OPEN END]	[NUMERIC OPEN END, 0-99]

ADDED: If applicable, what was your primary reason for this replacement?

1. To save energy or money
2. Other reason (e.g., unit failed and/or wanted different size)
3. No reason selected
4. Not applicable
5. Don't Know

ASK IF MH11=08 OR MH1C=1

BEA20 (MH19). You indicated that you installed new energy efficient refrigeration equipment at your facility. How many of each type of refrigeration system did you install? [SELECT ALL THAT APPLY]

- a. Display Refrigerators
- b. Refrigerated Storerooms/Walk-ins
- c. Refrigerated Cabinets (e.g., Reach-ins, Roll-ins)
- d. Vending Machines
- e. Ice Machines
- f. Preparation Tables
- g. Other, specify:

[WATER ELEMENTS-INSTALL] [ASK IF MH11=09 ELSE MH69]

BEA22a (MH21). You indicated that you installed new water elements at your facility. Which of the following types of water elements did you install? [SELECT ALL THAT APPLY]

1. Low flow or energy efficient ware washer(s)
2. Ultra-high efficiency instantaneous hot water heater(s)
3. Other, specify:

[INSTANTANEOUS HOT WATER HEATER-INSTALL] [ASK IF MH21=02 ELSE MH69]

BEA22b (MH23A).

Please provide the following information regarding the instantaneous hot water heater(s) you installed at your facility.

If you installed multiple units and they are not identical, please provide details on just one of them.

Number of units installed

[NUMERIC OPEN END, 1-9999]gallons (*Enter "9999" if unknown*)

Old Tank size (in gallons)

[NUMERIC OPEN END, 1-9999] (*Enter "9999" if unknown*)

New Tank size (in gallons)

[NUMERIC OPEN END, 1-9999] (*Enter "9999" if unknown*)

ADDED: If applicable, what was your primary reason for this replacement?

1. To save energy or money
2. Other reason (e.g., unit failed and/or wanted different size)
3. No reason selected
4. Not applicable
5. Don't Know

[INSTANTANEOUS HOT WATER HEATER-INSTALL]

BEA22d (MH24). What is the floor area (in square feet) of the facility where the instantaneous hot water heater was installed?

[NUMERIC OPEN END 1-999999] square feet (*Enter "9999" if unknown*)

[ASK IF MH1b=1 ELSE NH30]

BEA23A (MH69). Which of the following infiltration changes did you make to your display refrigerator(s)?

1. Installed night covers or night doors
2. Installed glass doors with low anti sweat heat
3. Other, specify

[NIGHT COVERS] [ASK IF MH69=01] ELSE MH72a]

BEA23B (MH70). Please tell us about the display cases in your facility where you installed night covers.

	Number of Cases	Average Length of case (ft)
Total display cases	[NUMERIC OPEN END]	[NUMERIC OPEN END]
Open display cases	[NUMERIC OPEN END]	[NUMERIC OPEN END]
Display cases that previously had night covers	[NUMERIC OPEN END]	[NUMERIC OPEN END]
Display cases with new night covers	[NUMERIC OPEN END]	[NUMERIC OPEN END]

ADDED: If applicable, what was your primary reason for this replacement?

1. To save energy or money
2. Other reason (e.g., unit failed and/or wanted different size)
3. No reason selected
4. Not applicable
5. Don't Know

-[GLASS DOOR WITH ANTI SWEAT] [ASK IF MH69=02 ELSE NH30]

BEA23C (MH72A). How many glass doors with low anti sweat heat did you install? (MH72B)
 [ADDED NEW REPLACEMENT QUESTION]

(MH72B) If you replaced any existing doors, what was your primary reason for this replacement?

1. To save energy or money
2. Other reason (e.g., unit failed and/or wanted different size)
3. Don't know
4. Not applicable

[GLASS DOOR WITH ANTI SWEAT]

BEA23D (MH73). What was the average square feet of the display case or reach in which the glass doors were installed?

[GLASS DOOR WITH ANTI SWEAT]

BEA23E (MH74). Did you eliminate door heaters when you installed glass doors with low anti sweat heat?

1. Yes
2. No
3. Don't know

[ASK IF MH1a=1 ELSE MB29]

BEA24a (NH30). Which of the following infiltration changes did you make to your refrigerated storeroom(s)/walk-ins(s)? [SELECT ALL THAT APPLY]

1. Installed strip curtain on walk-in boxes
2. Installed auto door-closers
3. Other, specify

[STRIP CURTAINS] [ASK IF NH30=01 ELSE NH36A]

BEA24b (NH32). Please tell us about the walk-ins in your facility where you installed strip curtains.

	Number of walk ins	Average square feet of walk in
Total Walk ins at your facility	[NUMERIC OPEN END]	[NUMERIC OPEN END]
Walk ins that previously had an infiltration barrier	[NUMERIC OPEN END]	[NUMERIC OPEN END]
Walk ins with new strip curtains	[NUMERIC OPEN END]	[NUMERIC OPEN END]

ADDED: If applicable, what was your primary reason for this replacement?

1. To save energy or money
2. Other reason (e.g., unit failed and/or wanted different size)
3. No reason selected
4. Not applicable
5. Don't Know

[AUTO DOOR CLOSERS] [ASK IF NH30=02, ELSE MB29]

BEA24c (NH36). How many auto door closers did you install to walk-in coolers and walk-in freezers?

- _____ a. Walk-in cooler doors *(Enter "9999" if unknown)*
- _____ b. Walk-in freezer doors *(Enter "9999" if unknown)*
- _____ c. Other auto door closers *(Enter "9999" if unknown)*

[VENDING MACHINE SENSOR INSTALL] [ASK IF MH1e=1 ELSE TH59a]

BEA21 (MB29). You indicated that you installed new passive infrared occupancy sensors to your vending machine(s). How many sensors did you install? [NUMERIC OPEN END, 0-999]

[ASK IF MH1F=1 ELSE TH61]

BEA25A (TH59). Please provide the following information regarding the low flow pre-rinse spray valve you installed at your facility.

If you installed multiple units and they are not identical, please provide details on just one of them. Please enter "9999" if answer is unknown.

a. Number of units installed	[NUMERIC OPEN END]
a. Water heater fuel type	_____ <i>(Drop down list Gas or Electric)</i>
b. Water heater efficiency	_____ % <i>(Enter "99" if unknown)</i>
c. Flow rate of previous valve (if applicable)	_____ <i>(Enter "99" if unknown)</i> [ALLOW DECIMALS, 0.00-99.99]
c. Flow rate of new valve	_____ <i>(Enter "99" if unknown)</i> [ALLOW DECIMALS, 0.00-99.99]

ADDED: If applicable, what was your primary reason for this replacement?

1. To save energy or money
2. Other reason (e.g., unit failed and/or wanted different size)
3. No reason selected
4. Not applicable
5. Don't Know

[PRE-RINSE SPRAY VALVE-CHANGE]

BEA25C (TH60). What are the approximate hours of operation for the low flow pre-rinse spray valve that you just described? An estimate is fine.

If this installation was not a replacement, please leave the “original” column blank.

- _____ a. Hrs per day (Enter “9999” if unknown)
_____ b. Days per week (Enter “9999” if unknown)
_____ c. Weeks per year (Enter “9999” if unknown)

BEA26. [REFRIGERATION SYSTEMS QUESTIONS TH61-YH31 ALL REPRESENT BEA26, BUT IT DOES NOT CURRENTLY HAVE BEA NUMBERING]

[ASK IF MH1h=1 ELSE YH2]

BEA26/TH61. You indicated that you made changes to the operations, repair and/or maintenance of existing cooking, or refrigeration equipment. Which of the following areas did you make a change to in your efforts to save energy at your facility? [SELECT ALL THAT APPLY]

1. Cooking equipment
5. Refrigeration system
6. Other, specify:

[ASK IF TH61=01 ELSE UH1]

BEA26/TH62. You indicated that you made changes to the operations, repair, and/or maintenance of existing cooking equipment. Please describe the changes you made and any savings that resulted from these changes. [OPEN END]

[ASK IF TH61=05 ELSE YH2]

BEA26/UH1. You indicated that you made changes to the operations, repair, and/or maintenance of existing refrigeration system equipment. Please identify which refrigeration systems were affected by these changes. [SELECT ALL THAT APPLY]

1. Display Refrigerator(s)
2. Refrigerated Storeroom(s)/Walk-in(s)
5. Ice Machine(s)
7. Other, specify:

[ASK IF UH1=01 ELSE VH2]

BEA26/UH2. Which of the following operations or maintenance changes did you make to your display refrigerator(s) ? [SELECT ALL THAT APPLY]

1. Made changes to the compressor
2. Made changes to the condenser
3. Made changes to the evaporator
4. Reduced temperature lift and/or lower approach temperatures
5. Installed refrigeration timer
6. Perform commissioning
7. Implemented microprocessor-based control system

8. Made other operational or maintenance changes (e.g., changes to infiltration barriers, calibration)

[GENERAL REFRIGERATION SYSTEM]

BEA26/UH 3. For the next set of questions please think about the DISPLAY REFRIGERATOR(s) to which you made the changes that you just mentioned.

[GENERAL REFRIGERATION SYSTEM]

BEA26/UH 4. Please use the pull down menus to tell us about the DISPLAY REFRIGERATOR(s).

If multiple units were affected and they are not identical, please provide details on just one of them. Please enter "9999" if answer is unknown.

Number of units affected	[NUMERIC OPEN END]
Refrigerator Capacity (in Tons)	[NUMERIC OPEN END]
Age (in years)	[NUMERIC OPEN END]
Type of cooling	(Evaporative or Air, No type selected, DK)
Type of system	(Single or Multiplex, No type selected, DK)

[GENERAL REFRIGERATION, IF CAPACITY UNKNOWN][ASK IF UH4B=0 OR 9999 ELSE UH7]

BEA26/UH5 What is the size of the DISPLAY REFRIGERATOR(s) in which you made changes? [NUMERIC OPEN END] (linear feet)

If multiple units were affected and they are not identical, please provide details on just one of them. Please enter "9999" if answer is unknown.

[GENERAL REFRIGERATION]

BEA26/UH7. What are the approximate hours of operation for the display refrigerator(s)? An estimate is fine.

- _____ a. Hrs per day (Enter "99" if unknown)
- _____ b. Days per week (Enter "99" if unknown)
- _____ c. Weeks per year (Enter "99" if unknown)

[COMPRESSOR CHANGES] [UH2=1 ELSE UH10]

BEA26/UH8. Which of the following operational or maintenance changes did you make to the compressor(s) in your display refrigerator(s)? [SELECT ALL THAT APPLY]

1. Implement subcooling
2. Implement heat reclaim to utilize heat given off by the compressor(s)
3. Other, specify

[HEAT RECLAIM] [ASK IF UH8=02 ELSE UH10]

BEA26/UH9. Please describe the changes you made to implement heat reclaim.

[OPEN END]

[COMPRESSOR SUBCOOLING: NOTE COVERED IN ABOVE GENERAL QS]

[CONDENSER] [ASK IF UH2=2 ELSE UH16]

BEA26/UH10. Which of the following operational or maintenance changes did you make to the condenser(s) in your display refrigerator(s)? [SELECT ALL THAT APPLY]

1. Implement subcooling of the condenser
2. Implement floating condenser head pressure
3. Lower condensing temperature on cycle efficiency
4. Check the cleanliness of condenser coils
5. Other, specify

[CONDENSER SUBCOOLING: NOTE COVERED IN ABOVE GENERAL QS]

[FLOATING CONDENSER HEAD PRESSURE OR LOWER CONDENSING TEMP] [ASK IF UH10=02 OR 03 ELSE UH15]

BEA26/UH11. What is the capacity of the DISPLAY REFRIGERATOR condenser(s) to which you made operational changes? [NUMERIC OPEN END, in tons]

[FLOATING CONDENSER HEAD PRESSURE] [ASK IF UH10=02 ELSE UH13]

UH12. What is the Saturated Suction Temperature (SST) reset or Saturated Condensing Temperature (SCT) controlled by the floating condenser head pressure?

- a. SST reset: [OPEN END]
- b. SCT: [OPEN END]

[LOWER CONDENSING TEMP] [ASK IF UH10=03 ELSE UH15]

BEA26/UH13. Is there a variable speed condenser fan in the condenser(s) to which you lowered the condensing temperature on cycle?

1. Yes
2. No

3. Don't know

[LOWER CONDENSING TEMP] [ASK IF UH13=01 ELSE UH15]

BEA26/UH14. What was the temperature default before and after you lowered the condensing temperature on cycle?

- a. Temperature default before: [NUMERIC OPEN END]
- b. Temperature default after: [NUMERIC OPEN END]

[CHECK CLEANLINESS OF CONDENSER COILS] [ASK IF UH10=04 ELSE UH16]

BEA26/UH15. How often do you check the cleanliness of condenser coils?

[SCALE: Once a day or more, 2-3 times a week, Once a week, 2-3 times a month, Once a month, 2-3 times a year, Once a year or less]

[EVAPORATOR] [ASK IF UH2=3 ELSE UH20]

BEA26/UH16. Which of the following operational or maintenance changes did you make to the evaporator(s) in your display refrigerator(s)? [SELECT ALL THAT APPLY]

1. Use evaporator fan controller (cycling)
2. Implement evaporator pressure reset
3. Check the cleanliness of evaporator coils
4. Other, specify

[EVAPORATOR FAN CONTROLLER] [ASK IF UH16=01 ELSE UH18A]

BEA26/UH17. You indicated that you installed an evaporator fan controller(s). How many evaporator fans and how many refrigerated storerooms/walk-ins were affected?

- a. Number of evaporator fans: [NUMERIC OPEN END]
- b. Number of display refrigerators: [NUMERIC OPEN END]

[EVAPORATOR PRESSURE RESET] [ASK IF UH16=02 ELSE UH19]

BEA26/UH18. Please tell us about the evaporator pressure reset.

- a. Pressure drop before reset: [NUMERIC OPEN END, 1-9999]
- b. Pressure drop after reset: [NUMERIC OPEN END, 1-9999]
- c. Delta (CFM) before reset: [NUMERIC OPEN END, 1-9999]
- d. Delta (CFM) after reset: [NUMERIC OPEN END, 1-9999]
- e. Compressor capacity (EER): [NUMERIC OPEN END, 1-9999]
- f. Heating set point in degrees Fahrenheit: [NUMERIC OPEN END, 1-99]
- g. Cooling set point in degrees Fahrenheit: [NUMERIC OPEN END, 1-99]
- h-j. Operating hours:

- h. Hrs per day [NUMERIC OPEN END, 0-99]
- i. Days per week [NUMERIC OPEN END, 0-99]
- j. Weeks per year [NUMERIC OPEN END, 0-99]

[CHECK CLEANLINESS OF EVAPORATOR COILS] [ASK IF UH16=03 ELSE UH20]

BEA26/UH 19. How often do you check the cleanliness of evaporator coils?

[SCALE: Once a day or more, 2-3 times a week, Once a week, 2-3 times a month, Once a month, 2-3 times a year, Once a year or less]

[REDUCT TEMP LIFT] [ASK IF UH2=4 ELSE UH21]

BEA26/UH20. When you reduced the temperature lift how many degrees was it lowered?

[NUMERIC OPEN END]

[USE TIMER] [ASK IF UH2=5 ELSE UH23]

BEA26/UH21. You indicated that you installed a refrigeration system timer(s). How many machines were affected by this change? [NUMERIC OPEN END]

[USE TIMER]

BEA26/UH22. What was the demand load of the machines before and after refrigeration timers were installed?

- _____ a. kW/yr Before Change (*Enter "9999" if unknown*)
- _____ b. kW/yr After Change (*Enter "9999" if unknown*)

[COMMISSIONING] [ASK IF UH2=6 ELSE UH31A]

BEA26/UH23. Please describe the changes you made when you performed commissioning and any savings that resulted. [OPEN END]

[ADDITIONAL GENERAL CHANGES] [ASK IF UH2=8 ELSE UH2]

BEA26/UH31. You indicated that you made additional operational changes to the refrigeration system at your facility. How often do you employ them?

Refrigeration system changes	Frequency
a. Load products properly (e.g. don't block return air grille, don't overload shelves, etc.)	(Drop down: Once a day or more, 2-3 times a week, Once a week, 2-3 times a month, Once a month, 2-3 times a year, Once a year or less)
b. Verify sequence of operations	
c. Provide diagnostics for operator	
d. Calibrate sensors	
e. Monitor all critical refrigeration pressures and temperatures	
i. Check fans and look for worn belts and failed motors	
j. Check suction line insulation	
k. Check refrigerant charge	
l. Check moisture barriers	
m. Check infiltration barriers	
n. Check for misaligned reach-in glass doors or broken hinges	

[MICROPROCESSOR-BASED CONTROL SYSTEM: NOTE COVERED IN ABOVE GENERAL QS]

[ASK IF UH1=02 ELSE YH2]

BEA26/VH2. Which of the following operations or maintenance changes did you make to your refrigerated storeroom(s)/walk-in(s) ? [SELECT ALL THAT APPLY]

1. Made changes to the compressor
2. Made changes to the condenser
3. Made changes to the evaporator
4. Reduced temperature lift and/or lower approach temperatures
5. Installed refrigeration timer
6. Perform commissioning
7. Install occupancy sensors
8. Implemented microprocessor-based control system

9. Made other operational or maintenance changes (e.g., changes to infiltration barriers, calibration)

[GENERAL REFRIGERATION SYSTEM]

BEA26/VH3. For the next set of questions please think about the refrigerated storeroom(s)/walk-in(s) to which you made the changes that you just mentioned.

[GENERAL REFRIGERATION SYSTEM]

BEA26/VH4. Please use the pull down menus to tell us about the refrigerated storeroom(s)/walk-in(s).

If multiple units were affected and they are not identical, please provide details on just one of them. Please enter "9999" if answer is unknown.

Number of units affected	[NUMERIC OPEN END]
Refrigerator Capacity (in Tons)	[NUMERIC OPEN END]
Age (in years)	[NUMERIC OPEN END]
Type of cooling	(Evaporative or Air, No type selected, DK)
Type of system	(Single or Multiplex, No type selected, DK)

[GENERAL REFRIGERATION, IF CAPACITY UNKNOWN] [ASK IF VH4B=0 OR 9999 ELSE VH7]

BEA26/VH5 What is the size of the refrigerated storeroom(s)/walk-in(s) in which you made changes? [NUMERIC OPEN END] (square feet)

If multiple units were affected and they are not identical, please provide details on just one of them. Please enter "9999" if answer is unknown.

[GENERAL REFRIGERATION]

BEA26/VH7. What are the approximate hours of operation for the refrigerated storeroom(s)/walk-in(s)? An estimate is fine.

- _____ a. Hrs per day (Enter "99" if unknown)
- _____ b. Days per week (Enter "99" if unknown)
- _____ c. Weeks per year (Enter "99" if unknown)

[COMPRESSOR CHANGES] [ASK IF VH2=1 ELSE VH10]

BEA26/VH8. Which of the following operational or maintenance changes did you make to the compressor(s) in your refrigerated storeroom(s)/walk-in(s)? [SELECT ALL THAT APPLY]

1. Implement subcooling
2. Implement heat reclaim to utilize heat given off by the compressor(s)
3. Other, specify

[HEAT RECLAIM] [ASK IF VH8=02 ELSE VH10]

BEA26/VH9. Please describe the changes you made to implement heat reclaim.

[OPEN END]

[COMPRESSOR SUBCOOLING: NOTE COVERED IN ABOVE GENERAL QS]

[CONDENSER] [ASK IF VH2=2 ELSE VH16]

BEA26/VH10. Which of the following operational or maintenance changes did you make to the condenser(s) in your refrigerated storeroom(s)/walk-in(s)? [SELECT ALL THAT APPLY]

1. Implement subcooling of the condenser
2. Implement floating condenser head pressure
3. Lower condensing temperature on cycle efficiency
4. Check the cleanliness of condenser coils
5. Other, specify

[CONDENSER SUBCOOLING: NOTE COVERED IN ABOVE GENERAL QS]

[FLOATING CONDENSER HEAD PRESSURE OR LOWER CONDENSING TEMP] [ASK IF VH10=02 OR 03 ELSE UH15]

BEA26/VH11. What is the capacity of the refrigerated storeroom/walk-in condenser(s) to which you made operational changes? [NUMERIC OPEN END, in tons]

[FLOATING CONDENSER HEAD PRESSURE] [ASK IF VH10=02 ELSE VH15]

BEA26/VH12. What is the Saturated Suction Temperature (SST) reset or Saturated Condensing Temperature (SCT) controlled by the floating condenser head pressure?

- c. SST reset: [OPEN END]
- d. SCT: [OPEN END]

[LOWER CONDENSING TEMP] [ASK IF VH10=03 ELSE V15]

BEA26/ VH13. Is there a variable speed condenser fan in the condenser(s) to which you lowered the condensing temperature on cycle?

1. Yes
2. No
3. Don't know

[LOWER CONDENSING TEMP]

BEA26/VH14. What was the temperature default before and after you lowered the condensing temperature on cycle?

- a. Temperature default before: [NUMERIC OPEN END]
- b. Temperature default after: [NUMERIC OPEN END]

[CHECK CLEANLINESS OF CONDENSER COILS] [ASK IF VH10=04 ELSE VH16]

BEA26/VH15. How often do you check the cleanliness of condenser coils?

[SCALE: Once a day or more, 2-3 times a week, Once a week, 2-3 times a month, Once a month, 2-3 times a year, Once a year or less]

[EVAPORATOR] [ASK IF VH2=3 ELSE VH20]

BEA26/VH16. Which of the following operational or maintenance changes did you make to the evaporator in your refrigerated storeroom(s)/walk-in(s)? [SELECT ALL THAT APPLY]

1. Use evaporator fan controller (cycling)
2. Implement evaporator pressure reset
3. Check the cleanliness of evaporator coils
4. Other, specify

[EVAPORATOR FAN CONTROLLER] [ASK IF VH 16=01 ELSE VH18A]

BEA26/VH17. You indicated that you installed an evaporator fan controller(s). How many evaporator fans and how many display refrigerators were affected?

- a. Number of evaporator fans: [NUMERIC OPEN END]
- b. Number of refrigerated storerooms/walkins: [NUMERIC OPEN END]

[EVAPORATOR PRESSURE RESET] [ASK IF VH16=02 ELSE VH19]

BEA26/VH18. Please tell us about the evaporator pressure reset.

- a. Pressure drop before reset: [NUMERIC OPEN END, 1-9999]
- b. Pressure drop after reset: [NUMERIC OPEN END, 1-9999]
- c. Delta (CFM) before reset: [NUMERIC OPEN END, 1-9999]
- d. Delta (CFM) after reset: [NUMERIC OPEN END, 1-9999]
- e. Compressor capacity (EER): [NUMERIC OPEN END, 1-9999]
- f. Heating set point in degrees Fahrenheit: [NUMERIC OPEN END, 1-99]
- g. Cooling set point in degrees Fahrenheit: [NUMERIC OPEN END, 1-99]
- h-j. Operating hours:
 - h. Hrs per day [NUMERIC OPEN END, 0-99]
 - i. Days per week [NUMERIC OPEN END, 0-99]
 - j. Weeks per year [NUMERIC OPEN END, 0-99]

[CHECK CLEANLINESS OF EVAPORATOR COILS] [ASK IF VH16=03 ELSE VH20]

BEA26/VH19. How often do you check the cleanliness of evaporator coils?

[SCALE: Once a day or more, 2-3 times a week, Once a week, 2-3 times a month, Once a month, 2-3 times a year, Once a year or less]

[REDUCT TEMP LIFT] [ASK IF VH 2=4 ELSE VH21]

BEA26/VH20. When you reduced the temperature lift how many degrees was it lowered?

[NUMERIC OPEN END]

[USE TIMER] [ASK IF VH2=5 ELSE VH23]

BEA26/VH21. You indicated that you installed a refrigeration system timer(s). How many machines were affected by this change? [NUMERIC OPEN END]

[USE TIMER]

BEA26/VH22. What was the demand load of the machines before and after refrigeration timers were installed?

_____ a. kW/yr Before Change (*Enter "9999" if unknown*)

_____ b. kW/yr After Change (*Enter "9999" if unknown*)

[COMMISSIONING] [ASK IF VH2=6 ELSE VH24]

BEA26/VH23. Please describe the changes you made when you performed commissioning and any savings that resulted.

[OPEN END]

[OCCUPANCY SENSORS]

[ASK IF VH2=7 ELSE VH31A]

BEA26/VH24. You indicated that you installed occupancy sensors for walk-ins, break rooms, or store rooms. How many occupancy sensors were installed?

[NUMERIC OPEN END]

[OCCUPANCY SENSORS]

BEA26/VH25. What types of lamps were installed?

[OPEN END]

[OCCUPANCY SENSORS]

BEA26/VH26. How many lamps are controlled by the occupancy sensors?

[OPEN END]

[OCCUPANCY SENSORS]

BEA26/VH27. How many months old are the lamps controlled by the occupancy sensors?

[NUMERIC OPEN END]

[OCCUPANCY SENSORS]

BEA26/VH28. What is the square feet of the area affected by the occupancy sensors you installed?

[NUMERIC OPEN END]

[ADDITIONAL GENERAL CHANGES] [ASK IF VH2=9 ELSE YH2]

BEA26/VH31. You indicated that you made additional operational changes to the refrigeration system at your facility. How often do you employ them?

Refrigeration system changes	Frequency
a. Load products properly (e.g. don't block return air grille, don't overload shelves, etc.)	(Drop down: Once a day or more, 2-3 times a week, Once a week, 2-3 times a month, Once a month, 2-3 times a year, Once a year or less)
b. Verify sequence of operations	
c. Provide diagnostics for operator	
d. Calibrate sensors	
b. Monitor all critical refrigeration pressures and temperatures	
f. Check fans and look for worn belts and failed motors	
g. Check suction line insulation	
h. Check refrigerant charge	
i. Check moisture barriers	
i. Check infiltration barriers	
d. Check for misaligned reach-in glass doors or broken hinges	

[MICROPROCESSOR-BASED CONTROL SYSTEM: NOTE COVERED IN ABOVE GENERAL QS]

[ASK IF UH1=05 OR MH1G=1 ELSE VH91]

BEA26/YH2. Which of the following operations or maintenance changes did you make to your ice machine(s)? [SELECT ALL THAT APPLY]

1. Made changes to the compressor
2. Made changes to the condenser
3. Made changes to the evaporator
7. Made ice during off peak hours or at night
9. Made other operational or maintenance changes (e.g., changes to infiltration barriers, calibration)

[GENERAL REFRIGERATION SYSTEM]

BEA26/YH3. For the next set of questions please think about the ice machine(s) to which you made the changes that you just mentioned.

[GENERAL REFRIGERATION SYSTEM]

BEA26/YH4. Please use the pull down menus to tell us about the ice machine(s).

If multiple units were affected and they are not identical, please provide details on just one of them. Please enter "9999" if answer is unknown.

Number of units affected	[NUMERIC OPEN END]
Refrigerator Capacity (in Tons)	[NUMERIC OPEN END]
Age (in years)	[NUMERIC OPEN END]
Type of cooling	(Evaporative or Air, No type selected, DK))
Type of system	(Single or Multiplex, No type selected, DK))

[GENERAL REFRIGERATION, IF CAPACITY UNKNOWN] [ASK IF YH4B=0 OR 9999 ELSE YH7]

BEA26/YH5 What is the size of the ice machine(s) in which you made changes? [NUMERIC OPEN END] (lbs ice/day)

If multiple units were affected and they are not identical, please provide details on just one of them. Please enter "9999" if answer is unknown.

[GENERAL REFRIGERATION]

BEA26/YH7. What are the approximate hours of operation for the ice machine(s)? An estimate is fine.

- _____ a. Hrs per day (*Enter "99" if unknown*)
- _____ b. Days per week (*Enter "99" if unknown*)
- _____ c. Weeks per year (*Enter "99" if unknown*)

[COMPRESSOR CHANGES] [ASK IF YH2=1 ELSE YH10]

BEA26/YH8. Which of the following operational or maintenance changes did you make to the compressor(s) in your ice machine(s)?

1. Implement subcooling
2. Implement heat reclaim to utilize heat given off by the compressor(s)
3. Other, specify

[HEAT RECLAIM] [ASK IF YH8=02 ELSE YH10]

BEA26/YH9. Please describe the changes you made to implement heat reclaim.

[OPEN END]

[COMPRESSOR SUBCOOLING: NOTE COVERED IN ABOVE GENERAL QS]

[CONDENSER] [ASK IF YH2=2 ELSE YH16]

BEA26/YH10. Which of the following operational or maintenance changes did you make to the condenser(s) in your ice machine(s)?

1. Implement subcooling of the condenser
2. Implement floating condenser head pressure
3. Lower condensing temperature on cycle efficiency
4. Check the cleanliness of condenser coils
5. Other, specify

[CONDENSER SUBCOOLING: NOTE COVERED IN ABOVE GENERAL QS]

[FLOATING CONDENSER HEAD PRESSURE OR LOWER CONDENSING TEMP] [ASK IF YH10=02 OR 03 ELSE YH15]

BEA26/YH11. What is the capacity of the ice machine condenser(s) to which you made operational changes? [NUMERIC OPEN END, in tons]

[FLOATING CONDENSER HEAD PRESSURE] [ASK IF YH10=02 ELSE YH13]

BEA26/YH12. What is the Saturated Suction Temperature (SST) reset or Saturated Condensing Temperature (SCT) controlled by the floating condenser head pressure?

- a. SST reset: [OPEN END]

b. SCT: [OPEN END]

[LOWER CONDENSING TEMP] [ASK IF YH10=03 ELSE YH15]

BEA26/YH13. Is there a variable speed condenser fan in the condenser(s) to which you lowered the condensing temperature on cycle?

1. Yes
2. No
3. Don't know

[LOWER CONDENSING TEMP]

BEA26/YH14. What was the temperature default before and after you lowered the condensing temperature on cycle?

- a. Temperature default before: [NUMERIC OPEN END]
- b. Temperature default after: [NUMERIC OPEN END]

[CHECK CLEANLINESS OF CONDENSER COILS]

BEA26/YH15. How often do you check the cleanliness of condenser coils?

[SCALE: Once a day or more, 2-3 times a week, Once a week, 2-3 times a month, Once a month, 2-3 times a year, Once a year or less]

[EVAPORATOR] [ASK IF YH2=3 ELSE YH20]

BEA26/YH16. Which of the following operational or maintenance changes did you make to the evaporator in your ice machine(s)? [SELECT ALL THAT APPLY]

1. Use evaporator fan controller (cycling)
2. Implement evaporator pressure reset
3. Check the cleanliness of evaporator coils
4. Other, specify

[EVAPORATOR FAN CONTROLLER] [ASK IF YH16=01 ELSE YH18A]

BEA26/YH17. You indicated that you installed an evaporator fan controller(s). How many evaporator fans and how many display refrigerators were affected?

- a. Number of evaporator fans: [NUMERIC OPEN END]
- b. Number of display refrigerators: [NUMERIC OPEN END]

[EVAPORATOR PRESSURE RESET] [ASK IF YH16=02 ELSE YH19]

BEA26/YH18. Please tell us about the evaporator pressure reset.

a. Pressure drop before reset: [NUMERIC OPEN END, 1-9999]

- b. Pressure drop after reset: [NUMERIC OPEN END, 1-9999]
- c. Delta (CFM) before reset: [NUMERIC OPEN END, 1-9999]
- d. Delta (CFM) after reset: [NUMERIC OPEN END, 1-9999]
- e. Compressor capacity (EER): [NUMERIC OPEN END, 1-9999]
- f. Heating set point in degrees Fahrenheit: [NUMERIC OPEN END, 1-99]
- g. Cooling set point in degrees Fahrenheit: [NUMERIC OPEN END, 1-99]
- h-j. Operating hours:
 - h. Hrs per day [NUMERIC OPEN END, 0-99]
 - i. Days per week [NUMERIC OPEN END, 0-99]
 - j. Weeks per year [NUMERIC OPEN END, 0-99]

[CHECK CLEANLINESS OF EVAPORATOR COILS] [ASK IF YH16=03 ELSE YH24]

BEA26/YH19. How often do you check the cleanliness of evaporator coils?

[SCALE: Once a day or more, 2-3 times a week, Once a week, 2-3 times a month, Once a month, 2-3 times a year, Once a year or less]

[MAKE ICE OFF PEAK] [ASK IF YH2=7 ELSE YH31A]

BEA26/YH24. You indicated that you began making ice during off peak hours. How many machines were affected by this change? [NUMERIC OPEN END]

[MAKE ICE OFF PEAK]

BEA26/YH25. What was the demand load of the machines before and after you began making ice during off peak hours?

- _____ a. kW/yr Before Change (*Enter "9999" if unknown*)
- _____ b. kW/yr After Change (*Enter "9999" if unknown*)

[ADDITIONAL GENERAL CHANGES] [ASK IF YH2=9 ELSE ZH2]

BEA26/YH31. You indicated that you made additional operational changes to the refrigeration system at your facility. How often do you employ them?

Refrigeration system changes	Frequency
a. Load products properly (e.g. don't block return air grille, don't overload shelves, etc.)	(Drop down: Once a day or more, 2-3 times a week, Once a week, 2-3 times a month, Once a month, 2-3 times a year, Once a year or less)
b. Verify sequence of operations	
c. Provide diagnostics for operator	
d. Calibrate sensors	
b. Monitor all critical refrigeration pressures and temperatures	
f. Check fans and look for worn belts and failed motors	
g. Check suction line insulation	
h. Check refrigerant charge	
i. Check moisture barriers	
i. Check infiltration barriers	
d. Check for misaligned reach-in glass doors or broken hinges	

VH91. Have you performed an engineering or post-installation analysis to determine how much electricity or dollars you save annually from the energy saving actions you have implemented?

1. Yes
2. No

[ASK IF VH 91=1 ELSE SKIP TO VH95]

VH92. Did you estimate electricity savings, dollar savings, or both?

1. I have calculated dollars saved
2. I have calculated kWh saved
3. I have calculated both dollars and kWh saved

[ASK IF VH92 =1 or 3]

VH93. Approximately how many dollars did you save annually? [NUMERIC OPEN END, limit \$1,000,000]

[ASK IF VH92 =2 or 3]

VH94. Approximately how many kWh did you save annually? [NUMERIC OPEN END, limit 1,000,000 kWh]

ASK IF VH91=2 ELSE SKIP TO MK1A]

VH95. Please provide a rough estimate of the annual energy savings in dollars or kilowatt hours. [OPEN END]

Boilers and Hot water

[HOT WATER TEMPERATURE REDUCTION]

[QAT4D=1 ELSE MV1]

BEA27A (NEW MK1). You indicated that you made changes to your hot water system where you applied concepts you learned from the energy audit to save energy at your facility. Thinking just about those facilities that are served by one of California's investor owned utilities, have you made any of the following changes to the hot water system at your facility? [1=Yes, 2=No]

- a. Installed energy efficient measures on existing plumbing system including insulation, low flow showerheads, or aerators.
- b. Installed new and/or upgraded existing units with decentralized high efficiency hot water tanks or decentralized tankless water heaters
- c. Installed a control system or strategy on your new or existing hot water system, or made operational changes such as boiler tuning, installing combustion efficiency controls, or controlling flow or temperature of water.

[ASK IF MK1A-C= 2 ELSE SKIP TO MK3B]

MK3a. It seems we have not captured the changes you have made. Please describe the changes you have made to your hot water system to save energy where you applied concepts taught in the course.

[ASK IF MK1A-C=1, ELSE SKIP TO MK4]

MK3b. Please describe any additional changes you made to your hot water system to save energy where you applied concepts taught in the course.

[OPEN END]

98. Did not make any other change

MK4. In the course of making the changes you described above, did you or any party to this project receive technical or financial assistance through a utility program other than the course?

1. Yes
2. No
3. Don't know

[ASK IF MK4 =1, ELSE MK11]

MK5. In which program did you participate?

1. Standard Performance Contract
2. Express Efficiency
3. Savings by Design
4. Multi-Family Rebate Program
5. Low Income Energy Efficiency
6. A rebate program, but I don't know the name]
7. Other, Specify
8. Don't know

MK6. Did the energy audit provide you information about the utility program in which you participated?

1. Yes
2. No
3. Don't know

[ASK IF MK6 =1, ELSE MV1E]

MK7. Using a scale of 1 to 7 where 1 means not at all influential and 7 means very influential, how much influence did the information provided in the energy audit have in your decision to participate in the utility program?

1 2 3 4 5 6 7

Not At All Influential

Very Influential

[SKIP TO MV1E IF MK4=1]

MK11. In how many facilities did you implement these water heating measures? If you only made changes to one facility please enter 1. [NUMERIC OPEN END]

[SKIP to MK9, IF MK11<2]

TMK11. For the next set of questions, please think **only** about **one** facility **that is served by a California investor owned utility and** has been impacted the most by the energy saving changes you implemented.

MK9. What is the approximate square footage of your facility?

[NUMERIC OPEN END, 1-99999]

MK12. Please enter the zip code of the facility.

[NUMERIC OPEN END, 1-99999]

MB34. How many floors are above ground?

[NUMERIC OPEN END, 0-999]

MB35. How many floors are below ground?

[NUMERIC OPEN END, 0-999]

MB36. What type of cooling equipment do you have in this facility?

1. Direct expansion air conditioner
2. Chilled water, electric
3. Chilled water, gas (absorption)
4. Evaporative cooler
5. Other, specify:
6. None
7. Don't know

MB37. What type of heating system do you have in this facility?

1. Gas
2. Electric
3. Other, specify
4. Don't know

MB38. What are the operating hours of this facility?

- a. Weekdays [NUMERIC OPEN END, 0-24]
- b. Saturdays [NUMERIC OPEN END, 0-24]
- c. Sundays [NUMERIC OPEN END, 0-24]

[ASK IF MK2A-H=1, ELSE SKIP TO MK75]

MK8. The next section asks about the technical details of the changes you made to the boilers and/or hot water heaters at your facility. Do you personally have knowledge of these details?

1. Yes
2. No (MK75)

[IfMK1a=1, ask otherwise skip to MK42a]

BEA27E (MK34). You indicated that you installed energy efficient measures on an existing plumbing system. Which of the following did you install: insulation, low flow showerheads, and/or aerators? [ALLOW MULTIPLE RESPONSE]

- a. Pipe insulation
- b. Low flow showerheads
- c. Aerators
- d. Other, specify

[If MK34a=1 ask, otherwise skip to MK39]

BEA27F (MK35). What is the average insulation level surrounding the old and new pipe in inches? [4 CHARACTER NUMERIC RESPONSE ALLOWING DECIMALS]

- a. Old insulation level: [NUMERIC OPEN END] (Enter "99" if unknown)
- b. New insulation level: [NUMERIC OPEN END] (Enter "99" if unknown)

BEA27G (MK37). How many linear feet of new pipe did you reinsulate?

[NUMERIC OPEN END, 0-9999]
DK

BEA27H (MK38). What is the average diameter of the pipe in inches?

[NUMERIC OPEN END, 0.00-99.99]
DK

[IF MK34B=1]

BEA28 (MK39). How many low flow showerheads did you install?

[NUMERIC OPEN END, 0-9999]
DK

[IF MK34C=1]

BEA28 (MK40). How many aerators did you install?

[NUMERIC OPEN END, 0-9999]
DK

[ASK IF MK1B=1, ELSE SKIP TO MK65]

BEA29B (MK42). You indicated that you installed new and/or replaced existing units with decentralized water heaters and/or tankless water heaters. How many units of each type did you install?

[NUMERIC OPEN END]

- a. Tankless [NUMERIC OPEN END]
- b. High efficiency water heaters with tank storage [NUMERIC OPEN END]
- c. Other [NUMERIC OPEN END]

[ASK IF MK42A>0 ELSE MK44B]

BEA29C (MK44a). Were the tankless water heaters you installed replacements for existing units, conversion from a centralized system, and/or for a new application? [ALLOW MULTIPLE RESPONSE]

1. Replacement of old units
2. Conversion from a centralized system
3. New Application
4. DK

[ASK IF MK42B>0 ELSE MK45]

BEA29D (MK44b). Were the water heaters with tank storage you installed replacements for existing units, conversion from a centralized system, and/or for a new application? [ALLOW MULTIPLE RESPONSE]

1. Replacement of old units
2. Conversion from a centralized system
3. New Application
4. DK

[If MK44a=1 OR MK44b=1 ask ELSE MK46]

BEA29E (MK45). What was the average energy factor of the old water heaters?

[NUMERIC OPEN END, 0-9999]

DK

[If MK44a=2 OR MK44b=2 ask ELSE MK47]

BEA29F (MK46). What was the overall efficiency of the centralized water heating system you replaced?

[NUMERIC OPEN END, 0-9999]

DK

[ASK ALL MK44a OR MK44b]

BEA29G (MK47). What is the average energy factor of the new water heaters?

[NUMERIC OPEN END, 0-9999]

DK

[If MK44a=1 OR MK44b=1 ask ELSE MK49]

BEA29H (MK48). What was the storage capacity, in gallons, of your old water heater units?

[NUMERIC OPEN END, 0-9999]

DK

[if MK42b>0 ask ELSE MK50]

BEA29I (MK49). What is the average storage capacity of your new water heater units?

[NUMERIC OPEN END, 0-9999]

DK

[ASK ALL MK44a OR MK44b=1-3]

BEA29J (MK50). Are the new units kept in conditioned or unconditioned space?

1. Conditioned space
2. Unconditioned space
3. Partially conditioned space
4. DK

[ASK IFMK1C=1, ELSE SKIP TO MK73]

BEA30A (MK65). You indicated that you installed a control system or strategy on your new or existing hot water system. Which of the following control strategies did you undertake?

[ALLOW MULTIPLE RESPONSE]

- a. Reduced temperature setpoint
- b. Changed mix water temperature
- c. Fuel/air control
- d. Oxygen trim controls
- e. Excess combustion air controls
- f. Flow rate controls
- g. Demand controls
- h. Other

[if MK65a=1 or MK65b=1, ask otherwise skip to MK66C]

BEA30B (MK66). What are the old and new water temperature setpoints that you deliver?

a. Old setpoint:[NUMERIC OPEN END, 0-9999] (Enter "9999" if unknown)

b. New setpoint:[NUMERIC OPEN END, 0-9999] (Enter "9999" if unknown)

BEA30 [MAXIMIZE EFFICIENCY OF HEATING SYSTEMS]

[If MK65d=1 or MK65e=1, ask otherwise skip to MK72]

BEA31A. (MK66c). How many heater(s) or boiler(s) are you controlling?

[NUMERIC OPEN END 0-9999]

DK

BEA31B (MK68). What is the average size of the water heater(s) or boiler(s) you are controlling?

a. size: [NUMERIC OPEN END, 0-9999] (Enter "9999" if unknown)

b. Units:

- a. Gallons of hot water produced
- b. Btus
- c. Pounds of steam
- d. Other
- e. No units selected
- f. DK

BEA31C (MK70). What was the average efficiency of the heater(s)/boiler(s) before the controls were changed?

[NUMERIC OPEN END, 0-9999]

DK

BEA31D (MK71). Please describe in detail the control strategy that you have implemented.

[record verbatim]

BEA31E (MK72). Please describe in detail (including the value and the units) the impact of the changes you made to the control strategy. For example, raised boiler efficiency by 2%, or reduced excess oxygen level from 30% to 14%.

[record verbatim]

MK75. Have you performed an engineering or post-installation analysis to determine how much electricity, gas, and/or dollars you save annually from the energy saving actions you have implemented?

1. Yes
2. No

[ASK IF MK75=1 ELSE SKIP TO MK79]

MK76. Did you estimate electricity savings, therm savings, dollar savings, or both energy and dollar savings? Please select all that apply

1. I have calculated dollars saved
2. I have calculated kWh saved
3. I have calculated therms saved

[ASK IF MK76=1]

MK77. Approximately how many dollars did you save annually?

[NUMERIC OPEN END, limit \$999,999]

[ASK IF MK76=2]

MK78. Approximately how many kWh did you save annually?

[NUMERIC OPEN END, limit 999,999 kWh]

[ASK IF MK76=3]

MK78b. Approximately how many therms did you save annually?

[NUMERIC OPEN END, limit 999,999 therms]

ASK IF MK75=2 ELSE SKIP TO MV1E]

MK79. Please provide a rough estimate of the annual energy savings in dollars kilowatt hours or therms.

[OPEN END]

Don't know

Compressed air

BEA32 [IMPROVE COMPRESSED AIR SYSTEM]

[ASK IF QAT4E=1 ELSE ME1A]

BEA33A (MV1). You indicated that you made changes to your compressed air system where you applied concepts you learned from the energy audit to save energy at your facility(ies). Thinking just about those facilities that are served by one of California's investor owned utilities, have you made any of the following changes to the compressed air system at your facility(ies)? [Yes=1 No=2]

- E. Made changes to the operation of the compressed air systems operation to reduce the system demand or overall system pressure (e.g. changed end use equipment, sequenced compressors, adjusted manual staging, installed control system)

F. Changed compressed air system repair and maintenance practices (e.g. fixed leaks, changed air filters)

[ASK IF MV1e-f = 2 ELSE SKIP TO MV3]

MV2. It seems we have not captured the changes you have made. Please describe the changes you have made to your compressed air system to save energy where you applied concepts learned from the energy audit.

[ASK IF MV1e-f=1, ELSE SKIP TO MV4]

MV3. Please describe any additional changes you made to your compressed air system to save energy where you applied concepts learned from the energy audit.

[OPEN END]

98. Did not make any other change

MV4. How many compressed air systems were affected by the changes you made? If you only made changes to one system please enter 1. [NUMERIC OPEN END, 1-9999]

[SKIP to MV5, IF MV4<2]

For the next set of questions, please think about the largest compressed air system that has been affected by the changes you made.

MV5. In the course of making the changes you described above, did you or any party to this project receive technical or financial assistance through a utility program other than the course?

1. Yes
2. No
3. Don't know

[ASK IF MV5 =1, ELSE SKIP TO MB41]

MV6. In which program did you participate?

1. Standard Performance Contract
2. Express Efficiency
3. Savings by Design
4. Multi-Family Rebate Program
5. Low Income Energy Efficiency
6. A rebate program, but I don't know the name]
7. Other, Specify
8. Don't know

MV7. Did the energy audit provide you information about the utility program in which you participated?

1. Yes
2. No
3. Don't know

[ASK IF MV7 =1, ELSE ME1A]

MV8. Using a scale of 1 to 7 where 1 means not at all influential and 7 means very influential, how much influence did the information provided in the energy audit have in your decision to participate in the utility program?

1 2 3 4 5 6 7

Not At All Influential

Very Influential

[SKIP TO ME1A IF MV5=1]

MB41. In how many facilities did you implement these changes? If you only made changes to one facility please enter 1. [NUMERIC OPEN END]

[SKIP to MB42, IF MB41<2]

TMB41. For the next set of questions, please think **only** about **one** facility **that is served by a California investor owned utility and** has been impacted the most by the energy saving changes you implemented.

MB42. Please enter the zip code of the facility.

[NUMERIC OPEN END, 1-99999]

MB43. How many square feet is your facility? An estimate is fine.

[NUMERIC OPEN END, 1-99999]

MB44. How many floors are above ground?

[NUMERIC OPEN END, 0-999]

MB45. How many floors are below ground?

[NUMERIC OPEN END, 0-999]

MB46. What type of cooling equipment do you have in this facility?

1. Direct expansion air conditioner
2. Chilled water, electric
3. Chilled water, gas (absorption)

4. Evaporative cooler
5. Other, specify:
6. None
7. Don't know

MB47. What type of heating system do you have in this facility?

1. Gas
2. Electric
3. Other, specify
4. None
5. Don't know

MB48. What are the operating hours of this facility?

- a. Weekdays [NUMERIC OPEN END, 0-24]
- b. Saturdays [NUMERIC OPEN END, 0-24]
- c. Sundays [NUMERIC OPEN END, 0-24]

[ASK IF MV1e-f=1, ELSE SKIP TO MV43]

MV9. The next section asks about the technical details of the changes you made to the compressed air system at your facility. Do you personally have knowledge of these details?

1. Yes
2. No (MV43)

[ASK IF MV9=1, ELSE MV43]

MV10. The State of California has asked us to provide them with some idea of the energy savings of your actions. We have a number of questions that will help us estimate these savings. First, we need to know about your compressed air system and the compressors that are part of it. What type of product or service is your compressed air system used for?

1. Food
2. Textiles
3. Lumber
4. Paper
5. Chemicals
6. Petroleum
7. Stone/clay/glass
8. Primary metals (e.g. steel, aluminum)
9. Metal fabrication or machinery
10. Other (specify)

MV11. How many compressors are currently in your system?

[NUMERIC OPEN END]

MV12. Please fill in the following grid with the requested information on each of the compressors in your system. If you have more than 5 compressors in your system, please give information on the 5 that supply the largest percentage of compressed air to the system.

If horsepower is unknown, please enter "9999."

If operating hours are unknown, please enter the operating hours of facility.

Compressor	Manufactured after 1997?	Horsepower	Total Hours of Operation per Day
1	Yes/No/DK	[NUMERIC OPEN END] DK	[NUMERIC OPEN END] DK
2	Yes/No/DK	[NUMERIC OPEN END] DK	[NUMERIC OPEN END] DK
3	Yes/No/DK	[NUMERIC OPEN END] DK	[NUMERIC OPEN END] DK
4	Yes/No/DK	[NUMERIC OPEN END] DK	[NUMERIC OPEN END] DK
5	Yes/No/DK	[NUMERIC OPEN END] DK	[NUMERIC OPEN END] DK

[ASK IF MV1e=1, ELSE SKIP TO MV39]

Section 5 Changed Operation of System

MV22. You indicated that you made changes to the operations of your compressed air system. Have you made any of the following changes? [MULTIPLE RESPONSE]

- a. Reduced overall system run time
- b. Reduced overall system pressure
- c. Eliminated or reduced unnecessary compressed air uses
- d. Replaced end-use equipment with new equipment that operates at lower pressure
- e. Replaced end-use equipment with new equipment that uses a source of energy other than compressed air
- f. Sequenced compressors
- g. Adjusted manual staging of compressors
- h. Changed use of existing storage capacity to reduce demand
- i. Installed individual or multiple compressor control system

- j. Changed source of air from room air to outside air when the outside air is cooler than the room air
- k. Other (specify)

[ASK IF MV22a=1, ELSE SKIP TO MV24]

MV23. Please indicate the daily old and new hours of operation.

Total old hours: [NUMERIC OPEN END] DK
Total new hours: [NUMERIC OPEN END] DK

[ASK IF MV22b=1, ELSE SKIP TO MV25]

MV24. Please indicate the old and new operating pressure.

Old operating pressure: [NUMERIC OPEN END] *psig* DK
New operating pressure: [NUMERIC OPEN END] *psig* DK
DK

[ASK IF MV22c=1, ELSE SKIP TO MV26]

MV25. What was percentage reduction in either air pressure, air volume or compressor energy consumption after you eliminated unnecessary compressed air uses?

- a. [NUMERIC OPEN END] Percentage reduction in air pressure
- b. [NUMERIC OPEN END] Percentage reduction in air volume
- c. [NUMERIC OPEN END] Percentage reduction in compressor energy consumption

[ASK IF MV22d=1 or MV22e=1, ELSE SKIP TO MV30]

MV26. What end-use equipment was affected by the changes?

[OPEN END]
DK

[ASK IF MV22d=1, ELSE SKIP TO MV28]

MV27. What is the old and new operating pressure after the change to the end-use equipment?

Old Operating Pressure: [NUMERIC OPEN END] *psig* DK
New Operating Pressure: [NUMERIC OPEN END] *psig* DK

[ASK IF MV22e=1, ELSE SKIP TO MV30]

MV28. What is the percentage reduction either air pressure, air volume or compressor energy consumption after you replaced the equipment?

- a. [NUMERIC OPEN END] Percentage reduction in air pressure

- b. [NUMERIC OPEN END] Percentage reduction in air volume
- c. [NUMERIC OPEN END] Percentage reduction in compressor energy consumption

MV29. What is the energy source of the new equipment?

[OPEN END]

DK

[ASK IF MV22f=1, ELSE SKIP TO MV31]

MV30. How many base and trim compressors does your system have?

Base compressors: [NUMERIC OPEN END] DK

Trim compressors: [NUMERIC OPEN END] DK

[ASK IF MV22g=1, ELSE SKIP TO MV32]

MV31. How many compressors were affected by the adjustment of the manual staging?

[ASK IF MV22i=1, ELSE SKIP TO MV39]

MV32. Did you install an individual or multiple control system?

1. Individual
2. Multiple
3. Don't Know

MV33. How many compressors are affected by the new control system?

[NUMERIC OPEN END] DK

MV34. Did the installation of the new control system result in a change in either the total hours of operation or a shift in operation hours from on-peak to off-peak for the compressed air system? (CHECK ALL THAT APPLY)

1. Yes, change in total hours of operation
2. Yes, shift in time of operation from on-peak to off-peak
3. No change in operating hours [SKIP TO MV37]
4. Don't know [SKIP TO MV37]

[ASK IF MV34=1, ELSE SKIP TO MV36]

MV35. What are the daily old and new hours of operation?

Old Hours: [NUMERIC OPEN END] DK

New Hours: [NUMERIC OPEN END] DK

[ASK IF MV34=2, ELSE SKIP TO MV37A]

MV36. How many hours per day were shifted from on-peak to off-peak?

Enter "99" if unknown.

[NUMERIC OPEN END] DK

[ASK IF MV32=1, ELSE SKIP TO MV38A]

MV37. Which of the following describe your individual control system before and after the change? (Select all that apply)

	Old Control System	New Control System
No control system	[CHECK BOXES]	[CHECK BOXES]
Simple start/stop		
Load/unload (or Constant-Speed Control)		
Modulating controls		
Dual-control/Auto-dual control		
Variable displacement		
Variable speed drive		
Other		

[ASK IF MV32=2, ELSE SKIP TO MV39]

MV38. Which of the following describe your multiple control system before and after the change? (Select all that apply)

	Old Control System	New Control System
No control system	[CHECK BOXES]	[CHECK BOXES]
Network control system		
System master controls		
Other		

[ASK IF MV1F=1, ELSE SKIP TO MV43]

Section 6 Changed Maintenance Practices

MV39. You indicated that you changed your compressed air system repair and maintenance practices. Have you made any of the following changes? [MULTIPLE RESPONSE]

- a. Performed preventative maintenance on compressors
- b. Performed preventative maintenance on auxiliary components
- c. Changed air filters or upgraded to higher performance filters
- d. Fixed system leaks
- e. Other (specify)

[ASK IF MV39a=1, ELSE SKIP TO MV41]

MV40. On how many compressors did you perform this maintenance?

[NUMERIC OPEN END]

DK

[ASK IF MV39c=1, ELSE SKIP TO MV42]

MV41. How many air filters did you replace or upgrade?

[NUMERIC OPEN END]

DK

[ASK IF MV39d=1, ELSE SKIP TO MV43]

MV42. Thinking about the air leaks that you fixed, how would you describe the reduction in air leakage?

1. Very significant
2. Somewhat significant
3. Not very significant
4. Don't know

MV43. Have you performed an engineering or post-installation analysis to determine how much electricity or dollars you save annually from the energy saving actions you have implemented?

1. Yes
2. No

[ASK IF MV43=1 ELSE SKIP TO MV47]

MV44. Did you estimate electricity savings, dollar savings, or both?

1. I have calculated dollars saved

2. I have calculated kWh saved
3. I have calculated both dollars and kWh saved

[ASK IF MV44=1 or 3]

MV45. Approximately how many dollars did you save annually?

[NUMERIC OPEN END, limit \$1,000,000]

[ASK IF MV44=2 or 3]

MV46. Approximately how many kWh did you save annually?

[NUMERIC OPEN END, limit 1,000,000 kWh]

ASK IF MV43=2 ELSE SKIP TO ME1]

MV47. Please provide a rough estimate of the annual energy savings in dollars or kilowatt hours.

[OPEN END]

Don't know

BUILDING ENVELOPE

[USE REFLECTIVE WINDOW FILM]

[ASK IF QAT4F=1 ELSE MD1]

BEA34A (ME1). You indicated that you have made changes to the shell of your building where you learned from the energy audit to save energy at your facility. Thinking just about those facilities that are served by one of California's investor owned utilities, have you made any of the following changes to the shell of your building? [Yes =1, No =2, Ask for each]

- a. Installed temperature barriers in the floor, wall, roof, and/or ceiling (e.g. floor insulation, radiant barrier)
- b. Installed roof framing or a cool roof
- c. Installed new energy efficient windows or upgraded existing windows
- d. Installed window framing
- e. Installed window film
- f. Installed window shading with fins, awnings, or overhangs
- g. Added weather-stripping and/or caulking to windows, roofs, walls, or floors
- h. Performed a cost-benefit analysis
- i. Went through the process of NFRC Site-Built Certification

[ASK IF ME1a-i = 2]

ME2a. It seems we have not captured the changes you have made. Please describe the changes you have made to the building's shell in order to save energy where you applied concepts taught in the energy audit.

[ASK IF ME1a-i=1, ELSE SKIP TO ME3]

ME2ab. Please describe any additional changes you made to save energy where you applied concepts taught in the energy audit.

[OPEN END]

98. Did not make any other change

ME2b. In how many facilities did you implement these changes? If you only made changes to one facility please enter 1. [NUMERIC OPEN END]

[SKIP to ME3, IF ME2b<2]

For the next set of questions, please think about the facility that has been impacted the most by the energy saving changes you implemented.

ME3. In the course of making the changes you described, did you or any party to this project receive technical or financial assistance through a utility program?

1. Yes
2. No
3. Don't know

[ASK IF ME3=1, ELSE SKIP TO ME8A]

ME4. In which program did you participate?

1. Standard Performance Contract
2. Express Efficiency
3. Savings by Design
4. Multi-Family Rebate Program
5. Low Income Energy Efficiency
6. A rebate program, but I don't know the name
7. Other, Specify
8. Don't know

ME5. Did the energy audit provide you information about the utility program in which you participated?

1. Yes
2. No
3. Don't know

[ASK IF ME5=1 ELSE MD1A]

ME6. Using a scale of 1 to 7 where 1 means not at all influential and 7 means very influential, how much influence did the information provided in the energy audit have in your decision to participate in the utility program?

1 2 3 4 5 6 7

Not At All Influential

Very Influential

[SKIP TO MD1A if ME3=1]

ME8a. Please enter the zip code of your facility (or the facility impacted the most by changes to the building shell):

ME9. How many square feet is your facility? An estimate is fine.

___ Square Feet [NUMERIC OPEN END]

ME10. How many years old is your facility? An estimate is fine.

___ Years [NUMERIC OPEN END]

MB54. How many floors are above ground in your facility?

[NUMERIC OPEN END, 0-999]

MB55. How many floors are below ground in your facility?

[NUMERIC OPEN END, 0-999]

MB56. What type of cooling equipment do you have in this facility?

1. Direct expansion air conditioner
2. Chilled water, electric
3. Chilled water, gas (absorption)
4. Evaporative cooler
5. Other, specify:
6. None
7. Don't know

MB57. What type of heating system do you have in this facility?

1. Gas
2. Electric
3. Other, specify
4. None
5. Don't know

MB58. What are the operating hours of this facility?

- a. Weekdays [NUMERIC OPEN END, 0-24]
- b. Saturdays [NUMERIC OPEN END, 0-24]
- c. Sundays [NUMERIC OPEN END, 0-24]

[ASK IF ME1E=1 ELSE ME52]

ME7. The next section asks about the technical details of the changes you made to the shell of your building. Do you personally have knowledge of these details?

1. Yes
2. No (ME52)

BEA34B (ME34). You indicated that you installed window film at your facility. Which type of window film was installed in your efforts to save energy at your facility(ies)? [SELECT ALL THAT APPLY]

1. Reflective
2. Spectrally selective
3. Other, specify:
4. Don't Know

[ASK IF ME34=1]

BEA34C (ME65). You indicated that you installed reflective window film at your facility. Were all of the windows on which you installed reflective window film the same type and with the same framing?

1. Yes
2. No
3. Don't know

[ASK IF ME65=1, ELSE ME35]

BEA34D (ME66). If you know the solar heat gain coefficient (SHGC) and U-value of the windows before and after you installed reflective window film please enter them below, otherwise please select "Don't Know."

	SHGC (Before upgrade)	SHGC (After upgrade)	U-value (Before upgrade)	U-value (After upgrade)
Windows	[NUMERIC OPEN END]	[NUMERIC OPEN END]	[NUMERIC OPEN END]	[NUMERIC OPEN END]
	Don't Know		Don't Know	

[ASK IF ME65=2 or 3, ELSE ME67]

BEA34E (ME35). If you know the solar heat gain coefficient (SHGC) and U-value of the windows before and after you installed reflective window film please enter them below, otherwise please select "Don't Know."

Upgraded Windows:	SHGC (Before upgrade)	SHGC (After upgrade)	U-value (Before upgrade)	U-value (After upgrade)
North (or mainly north)	[NUMERIC OPEN END]	[NUMERIC OPEN END]	[NUMERIC OPEN END]	[NUMERIC OPEN END]
East (or mainly east)				
South (or mainly south)				
West (or mainly west)				
	Don't Know		Don't Know	

[ASK IF ME66=DK AND ME65=1, ELSE ME36]

BEA34F (ME67). Please use the pull down menus below to tell us about the windows before and after you installed reflective window film.

	Windows
Windows Panels	Choices (none selected, single, double, triple, quadruple, Don't know)

Glass Type	Choices (none selected, clear, tinted, low-e, reflective, low-e and argon filled, argon filled, spectrally selective, Don't know)
Window Framing	Choices (none selected, aluminum with thermal break, aluminum without thermal break, aluminum thermal break unknown, vinyl, wood, insulated fiberglass/vinyl, structural, Don't know)
Square footage of North facing windows	
Square footage of East facing windows	
Square footage of South facing windows	
Square footage of West facing windows	

[ASK IF ME35=DK AND ME62=2 or 3, ELSE ME52]

BEA34G (ME36-39). Please use the pull down menus below to tell us about the windows before and after you installed reflective window film.

Direction	ME36. North (or mainly north)	ME37, East (or mainly east)	ME38. South (or mainly south)	ME39. West (or mainly west)
Window Panes	(Same choices as ME67)			
Glass type				
Window Framing				
Square foot of windows				

ME52. Have you performed an engineering or post-installation analysis to determine how much electricity or dollars you save annually from the energy saving actions you have implemented?

1. Yes
2. No

[ASK IF ME52=1 ELSE SKIP TO ME56]

ME53. Did you estimate electricity savings, dollar savings, or both?

1. I have calculated dollars saved
2. I have calculated kWh saved
3. I have calculated both dollars and kWh saved

[ASK IF ME53=1 or 3]

ME54. Approximately how many dollars did you save annually?

[NUMERIC OPEN END, limit \$1,000,000]

[ASK IF ME53=2 or 3]

ME55. Approximately how many kWh did you save annually?

[NUMERIC OPEN END, limit 1,000,000 kWh]

ASK IF ME52=2 ELSE SKIP TO MD1A]

ME56. Please provide a rough estimate of the annual energy savings in dollars or kilowatt hours? [NUMERIC OPEN END]

DRYERS

BEA35 [ASSESS IMPROVING DRYERS]

[ASK IF QAT4=7 ELSE MN1]

BEA35A (MD1). You indicated that you improved the efficiency of your dryer system. Thinking just about those facilities that are served by one of California's investor owned utilities, have you made any of the following changes to your dryer system?

- a. Improved dryer system controls
- b. Replaced dryers

[ASK IF MD1a-b = 2, ELSE SKIP TO MD2B]

(MD2A) It seems we have not captured the changes you have made. Please describe the changes you have made to the dryers in order to save energy where you applied concepts taught in the energy audit.

[ASK IF MD1a-b = 1, ELSE SKIP TO MD3]

MD2B. Please describe any additional changes you made to save energy where you applied concepts taught in the course.

[OPEN END]

96. Did not make any other change

MD3 In the course of making the changes you just described, did you or any party to this project receive technical or financial assistance through a utility program other than the course?

1. Yes
2. No
3. Don't know

[ASK IF MD3=1, ELSE SKIP TO MB61]

MD4. In which program did you participate?

1. Standard Performance Contract
2. Express Efficiency
3. Savings by Design
4. Multi-Family Rebate Program
5. Low Income Energy Efficiency
6. A rebate program, but I don't know the name
7. Other, Specify
8. Don't know

MD5. Did the energy audit provide you information about the utility program in which you participated?

1. Yes
2. No
3. Don't know

[ASK IF MA5a=1, ELSE MN1]

MA6. Using a scale of 1 to 7 where 1 means not at all influential and 7 means very influential, how much influence did the information provided in the energy audit have in your decision to participate in the utility program?

1 2 3 4 5 6 7

Not At All Influential

Very Influential

[SKIP TO MN1 IF MD3=1]

MB61. In how many facilities did you implement these dryer changes? If you only made changes to one facility please enter 1. [NUMERIC OPEN END]

[SKIP to MB62, IF MB61<2]

TMB61. For the next set of questions, please think **only** about **one** facility **that is served by a California investor owned utility and** has been impacted the most by the energy saving changes you implemented.

MB62. Please enter the zip code of the facility.

[NUMERIC OPEN END, 1-99999]

MB63. What is the approximate square footage of your facility?

[NUMERIC OPEN END, 1-99999]

MB64. How many floors are above ground?

[NUMERIC OPEN END, 0-999]

MB65. How many floors are below ground?

[NUMERIC OPEN END, 0-999]

MB66. What type of cooling equipment do you have in this facility?

1. Direct expansion air conditioner
2. Chilled water, electric
3. Chilled water, gas (absorption)
4. Evaporative cooler
5. Other, specify:
6. None
7. Don't know

MB67. What type of heating system do you have in this facility?

1. Gas
2. Electric

3. Other, specify
4. None
5. Don't know

MB68a-c. What are the operating hours of this facility?

- a. Weekdays [NUMERIC OPEN END, 0-24]
- b. Saturdays [NUMERIC OPEN END, 0-24]
- c. Sundays [NUMERIC OPEN END, 0-24]

[ASK IF MD1a-b = 1, ELSE SKIP MD16]

MD7. The next section asks about the technical details of the changes you made to the dryers at your facility. Do you personally have knowledge of these details?

1. Yes
2. No (MN1)

[ASK IF MD1A=1 ELSE MD12]

MD8. Which of the following controls did you improve?

1. Temperature sensing control
2. Moisture sensing control
3. Other, specify

MD9. How many dryers were affected by the improved controls? [NUMERIC OPEN END, 0-999]

MD10. What is the average size of the dryers with improved controls? [NUMERIC OPEN END, 0-999]

MD11. Are the dryers where you improved controls gas or electric?

1. Natural gas
2. Electric
3. Other, specify

[ASK IF MD1B=1 ELSE MD16]

MD12. Which of the following dryer replacements did you make to the dryer system at your facility?

1. Switched from electric to natural gas
2. Switched from natural gas to electric
3. Switched from electric to more efficient electric
4. Switched from natural gas to more efficient natural gas

MD13. How many dryers were affected by this replacement? [NUMERIC OPEN END, 0-999]

MD14. What is the average size (in cubic feet) of the dryers that you replaced? [NUMERIC OPEN END, 0-999]

MD15. What percentage of operating hours are your dryers in use? [NUMERIC OPEN END, 0-100]

MD16. Have you performed an engineering or post-installation analysis to determine how much electricity or dollars you save annually from the energy saving actions you have implemented?

1. Yes
2. No

[ASK IF MD16=1 ELSE SKIP TO MD20]

MD17. Did you estimate electricity savings, dollar savings, or both?

1. I have calculated dollars saved
2. I have calculated kWh saved
3. I have calculated both dollars and kWh saved

[ASK IF MD17=1 or 3]

MD18. Approximately how many dollars did you save annually?

[NUMERIC OPEN END, limit \$1,000,000]

[ASK IF MD17=2 or 3]

MD19. Approximately how many kWh did you save annually?

[NUMERIC OPEN END, limit 1,000,000 kWh]

ASK IF MD16=2 ELSE SKIP TO MN1]

MD20. Please provide a rough estimate of the annual energy savings in dollars or kilowatt hours. [NUMERIC OPEN END]

[ASK IF QAT4 = 8 ELSE QACT7]

MN1. You indicated that you made additional changes with regards to how you use energy. What changes you have made? [MULTIPLE RESPONSE]

1. Improved the air-tightness of air-conditioned spaces by closing doors or windows
2. Enabled the Energy Saver mode on office equipment (computers, copiers, printers, etc.)
3. Turned off equipment when not needed (such as after hours and on weekends)
4. Modified maintenance procedures to include regular energy-efficiency checks (such as cleaning filters on HVAC systems)

5. Recycled waste heat
6. Maximized energy demand and use lower-priced energy rates
7. Develop a process for managing energy bills and consumption, and track how they are trending
8. Tell staff about ways they can reduce energy costs at work
9. Regularly advise staff of organizational changes in energy use
10. Develop a plan to reduce energy costs for the next year
11. Conduct energy conservation awareness activities (e.g. signage, newsletters)
12. Take a free SDG&E energy audit
13. Reduce hot water temperature
14. Other

MN1A. Please describe any additional changes you made to save energy where you applied concepts taught in the course.

[OPEN END]

96. Did not make any other change

MN1B In the course of making the changes you just described, did you or any party to this project receive technical or financial assistance through a utility program other than the course?

1. Yes
2. No
3. Don't know

[ASK IF MN1B=1, ELSE SKIP TO MB71]

MN1C. In which program did you participate?

1. Standard Performance Contract
2. Express Efficiency
3. Savings by Design
4. Multi-Family Rebate Program
5. Low Income Energy Efficiency
6. A rebate program but I don't know the name
7. Other, Specify
8. Don't know

MN1D. Did the course provide you information about the utility program in which you participated?

1. Yes
2. No
3. Don't know

[ASK IF MN1D=1, ELSE AT7]

MN1E. Using a scale of 1 to 7 where 1 means not at all influential and 7 means very influential, how much influence did the information provided in the energy audit have in your decision to participate in the utility program?

1 2 3 4 5 6 7

Not At All Influential

Very Influential

[ASK IF MN1B=2,3 ELSE AT7]

MB71. In how many facilities did you implement these changes? If you only made changes to one facility please enter 1. [NUMERIC OPEN END]

[SKIP to MB72, IF MB71<2]

TMB71. For the next set of questions, please think **only** about **one** facility **that is served by a California investor owned utility and** has been impacted the most by the energy saving changes you implemented.

MB72. Please enter the zip code of the facility.

[NUMERIC OPEN END, 1-99999]

MB73. What is the approximate square footage of your facility?

[NUMERIC OPEN END, 1-99999]

MB74. How many floors are above ground?

[NUMERIC OPEN END, 0-999]

MB75. How many floors are below ground?

[NUMERIC OPEN END, 0-999]

MB76. What type of cooling equipment do you have in this facility?

1. Direct expansion air conditioner
2. Chilled water, electric
3. Chilled water, gas (absorption)
4. Evaporative cooler
5. Other, specify:
6. None
7. Don't know

MB77. What type of heating system do you have in this facility?

1. Gas
2. Electric

3. None
4. Other, specify
5. Don't know

MB78a-c. What are the operating hours of this facility?

- a. Weekdays [NUMERIC OPEN END, 0-24]
- b. Saturdays [NUMERIC OPEN END, 0-24]
- c. Sundays [NUMERIC OPEN END, 0-24]

BEA38 [CHECK THAT ENERGY STAR MODE IS ENABLED]

[ASK IF MN1=2 ELSE MN11]

BEA38A (MN2). You indicated that you enabled the Energy Star mode for all of your equipment at your facility. Which of the following types of equipment were affected by this change? (MULTIPLE RESPONSE)

1. Desktop computer
2. Copier
3. Fax Machine
4. Scanner
5. Notebook computer
6. Computer monitors
7. Printer
8. All-in-one (scanner, copier, fax machine, and printer)
9. Other, specify:

[ASK IF MN2=1]

BEA38B (MN3a-e). Please tell us about the desktop computer where you turned on the Energy Star mode.

Number of units affected	
Percentage of units that previously had Energy star mode turned off	
Business hours per day with Energy star mode on	
After business hours per day with Energy star mode on	

[ASK IF MN2=2]

BEA38C (MN4a-e). Please tell us about the copier where you turned on the Energy Star mode.

Number of units affected	
Tabletop or full size?	
Percentage of units that previously had Energy star mode turned off	
Business hours per day with Energy star mode on	
After business hours per day with Energy star mode on	

[ASK IF MN2=3]

BEA38D (MN5a-e). Please tell us about the fax machine where you turned on the Energy Star mode.

Number of units affected	
Percentage of units that previously had Energy star mode turned off	
Business hours per day with Energy star mode on	
After business hours per day with Energy star mode on	

[ASK IF MN2=4]

BEA38E (MN6a-e). Please tell us about the scanner where you turned on the Energy Star mode.

Number of units affected	
Percentage of units that previously had Energy star	

mode turned off	
Business hours per day with Energy star mode on	
After business hours per day with Energy star mode on	

[ASK IF MN2=5]

BEA38F (MN7a-e). Please tell us about the notebook computer where you turned on the Energy Star mode.

Number of units affected	
Percentage of units that previously had Energy star mode turned off	
Business hours per day with Energy star mode on	
After business hours per day with Energy star mode on	

[ASK IF MN2=6]

BEA38G (MN8a-e). Please tell us about the computer monitor where you turned on the Energy Star mode.

Number of units affected	
Screen size (in diagonal inches)	
Percentage of units that previously had Energy star mode turned off	
Business hours per day with Energy star mode on	
After business hours per day with Energy star mode on	

[ASK IF MN2=7]

BEA38H. (MN9a-e). Please tell us about the printer where you turned on the Energy Star mode.

Number of units affected	
Tabletop or full size?	
Percentage of units that previously had Energy star mode turned off	
Business hours per day with Energy star mode on	
After business hours per day with Energy star mode on	

[ASK IF MN2=8]

BEA38I (MN10a-e). Please tell us about the all-in-one where you turned on the Energy Star mode.

Number of units affected	
Tabletop or full size?	
Percentage of units that previously had Energy star mode turned off	
Business hours per day with Energy star mode on	
After business hours per day with Energy star mode on	

BEA39. [TURN OFF EQUIPMENT WHEN NOT IN USE]

BEA39 [CONTROLS TO TURN OFF EQUIPMENT WHEN NOT IN USE]

[ASK IF MN1=3 ELSE MN20]

BEA39A (MN11). You indicated that you turn off equipment when it is not in use. How many units of each of the following types of equipment were affected by this change? Please select all that apply. [MULTIPLE RESPONSE]

1. Lights
2. Computer monitors
3. Computers
4. Copiers
5. Printers
6. Air conditioning/heating
7. Other, specify:

[LIGHTS] [ASK IF MN11=1]

BEA39B (MN12). What percentage of the lighting in your facility has been affected by this operational change? [NUMERIC OPEN END, 0-100]

[COMPUTER MONITORS] [ASK IF MN11=2]

BEA39C. (MN13). How many computer monitors are affected by this change? [NUMERIC OPEN END, 0-999]

[COMPUTERS] [ASK IF MN11=3]

BEA39D. (MN14). How many computers are affected by this change? [NUMERIC OPEN END, 0-999]

[COPIERS] [ASK IF MN11=4]

BEA39E(MN15). How many copiers are affected by this change? [NUMERIC OPEN END, 0-999]

[PRINTERS] [ASK IF MN11=5]

BEA39F. (MN16). How many printers are affected by this change? [NUMERIC OPEN END, 0-999]

[AIR CONDITIONING/HEATING] [ASK IF MN11=6]

BEA39G. (MN17). What percentage of the air conditioning and/or heating in your facility has been affected by this operational change? [NUMERIC OPEN END, 0-100]

[ASK IF MN11=1-6]

BEA39H. (MN18). How many hours per day during business hours is the equipment now turned off when it previously was not? [NUMERIC OPEN END 0-24]

[ASK IF MN11=1-6]

BEA39I (MN19). How many hours per day after hours or on weekends is the equipment now turned off when it previously was not? [NUMERIC OPEN END 0-24]

BEA40. [CONTRACTS REQUIRING CHECKS AND INCENTIVES]

[ASK IF MN1=4 ELSE MN37]

BEA40A. (MN20). You indicated that you performed regular maintenance and energy-efficiency check on the equipment at your facility. Which of the following systems receive more frequent maintenance? Please select all that apply. [MULTIPLE RESPONSE]

1. Boilers
2. Air compressors
3. HVAC
4. Steam Traps
5. Refrigeration systems
6. Other, specify:

BEA40B (MN21). How often were these actions *previously* performed?

1. 2-3 times a week
2. Once a week
3. 2-3 times a month
4. Once a month
5. 2-3 times a year
6. Once a year
7. Never
8. Don't know

BEA40C (MN22). How often are these actions *currently* performed?

1. 2-3 times a week
2. Once a week
3. 2-3 times a month
4. Once a month
5. 2-3 times a year
6. Once a year

[NOT MN20=01 ELSE MN28]

BEA40E (MN24). Please describe how the boiler(s) you perform regular maintenance on is used.

[OPEN END]

BEA40F (MN25). What is the size (in Btu/h) of the boiler(s) on which you perform regular maintenance? [NUMERIC OPEN END 0-9999999]

BEA40G (MN26). Is the boiler(s) on which you perform regular maintenance a high efficiency model?

1. Yes
2. No
3. Don't know

BEA40H (MN27). What is the primary fuel source of the boiler(s)?

1. Natural gas
2. Propane
3. Oil
4. Electricity
5. Coal
6. Other, specify:

[NOT MN20=02 ELSE MN32]

BEA40G (MN28). What type of application is the compressed air system(s) where you perform regular maintenance used for? [OPEN END]

BEA40H (MN29). How many compressors are in your system(s)?

[NUMERIC OPEN END 0-999]

BEA40I (MN30). What is the average horsepower of these compressors?

[NUMERIC OPEN END, ALLOW DECIMALS 0.00-99.99]

BEA40J (MN31). Approximately what percentage of your business hours are the compressors running?

[NUMERIC OPEN END, 0-100]

[NOT MN20=04 ELSE MN36A]

BEA40K (MN32). Please describe how the steam trap(s) you perform regular maintenance on is used.

[OPEN END]

BEA40L (MN33). What is the size (in million Btus) of the boiler on with you perform regular maintenance to the steam trap(s)? [NUMERIC OPEN END 0-9999]

BEA40M (MN34). Is the boiler on which you perform regular steam trap maintenance a high efficiency model?

1. Yes
2. No

3. Don't know

BEA40N (MN35). What is the primary fuel source of the boiler on which you perform regular of the steam trap(s)?

1. Natural gas
2. Propane
3. Oil
4. Electricity
5. Coal
6. Other, specify:

[NOT MN20=05 ELSE MN37]

BEA400 (MN36). Please tell us about the refrigeration systems that were affected by the maintenance changes you made. If a particular refrigeration type was not affected please leave the row blank.

Refrigeration types	Number of units affected	Average Capacity
Display refrigerators	[NUMERIC OPEN END 0-9999]	[NUMERIC OPEN END 0-9999] (in tons)
Refrigerated Storerooms/Walk-ins	[NUMERIC OPEN END 0-9999]	[NUMERIC OPEN END 0-9999] (in tons)
Refrigerated Cabinets (reach-in/roll-in)	[NUMERIC OPEN END 0-9999]	[NUMERIC OPEN END 0-9999] (in tons)
Vending Machines	[NUMERIC OPEN END 0-9999]	[NUMERIC OPEN END 0-9999] (in tons)
Ice Machines	[NUMERIC OPEN END 0-9999]	[NUMERIC OPEN END 0-9999] (in tons)
Preparation Tables	[NUMERIC OPEN END 0-9999]	[NUMERIC OPEN END 0-9999] (in # of pans)

BEA41 [ASSESSMENT OF RECYCLING WASTE HEAT]

[ASK IF MN1=5 ELSE MN44]

BEA41A (MN37). You indicated that you made changes at your facility in order to save waste heat. What type of equipment is the waste heat from?

1. Boiler
2. Compressor

3. Refrigeration system
4. Cogeneration
5. Other, specify

BEA41B (MN38). Please describe the total capacity (size) of this equipment. Please provide the units for the sizes you describe. [NUMERIC OPEN END, 0-9999]

BEA41C (MN39). What percentage of business hours is the equipment running? [NUMERIC OPEN END, 0-100]

BEA41D (MN40). What percentage of after business hours is the equipment running? [NUMERIC OPEN END, 0-100]

BEA41E (MN41). How many days per year is the equipment with reduced waste heat run? [NUMERIC OPEN END 0-365]

BEA41F (MN42). What percentage of waste heat that could be captured is used? [NUMERIC OPEN END, 0-100]

BEA41G (MN43). What application is the waste heat used for? [OPEN END]

BEA42 [MAXIMIZE ENERGY DEMAND AND USE LOWER-PRICED ENERGY RATES]

[ASK IF MN1=6 ELSE QAT7]

BEA42A (MN44). You indicated that you made changes to reduce your maximum energy demand. Please describe the changes you made. [OPEN END]

BEA42B (MN45). How many total units were affected by the changes you made to reduce maximum energy demand?[NUMERIC OPEN END 0-999]

BEA42C (MN46). Please describe the average size of the units affected. [NUMERIC OPEN END 0-9999]

BEA42D (MN47). Please provide an estimate of your peak demand reduction (in KW)? [NUMERIC OPEN END, 0-9999]

[BACK TO QAT7]