

**CT-1B: Renewables: Recipients of TA, Workshops, Training**

OMB Control No. 1910-5170

*Note that this survey instrument will be used when the program database includes participant information but does not include information on the specific projects completed. This includes sample points that fall under the following sub-categories: “Generalized Workshop or Demonstration,” “Targeted Training or Certification,” or “Technical Assistance” under the Renewable Energy Market BPAC category.*

**DATABASE VARIABLES**

- &INTERVIEWER NAME ..... name of the caller
- &CONTACT ..... contact name from program database
- &SPONSOR ..... organization that sponsored the program
- &DATES ..... dates of workshop, demonstration, training funded by SEP or of research interest
- &APPOINT ..... date/time to call back
- &NAME ..... person to call back
- &PHONE..... extension or phone number to call back
- &WORKSHOP/DEMONSTRATION/TRAINING.....Name of workshop, demonstration, or training
- & TECHNICAL ASSISTANCE.....Name of technical assistance

NOTE THAT OTHER VARIABLES ARE SHOWN IN THE DOCUMENT AS THEY ARE CREATED

**INTRODUCTION AND FINDING CORRECT RESPONDENT**

**INITIAL.** Hello, this is &INTERVIEWER NAME calling on behalf of the United States Department of Energy from Opinion Dynamics Corporation.

May I please speak with &CONTACT, [IF CONTACT NAME AVAILABLE]?

[IF NEEDED] This is not a sales call.

[IF NEEDED] This is a fact-finding survey only, authorized by the U. S. Department of Energy which wants to understand how you used the information provided through the [&WORKSHOP/TRAINING/DEMONSTRATION; &TECHNICAL ASSISTANCE].

[No, that person is not available right now]	1	[GO TO APPOINT]
[Unable to refer someone who can help]	2	[GO TO APPOINT]
[Yes, that would be me]	3	[GO TO PURPOSE]
[Yes, let me transfer you to_____]	4	[GO TO INTRO3:s]
[No, that is the wrong person]	5	[GO TO INITIAL]
[No, other reason (specify)]	6	[GO TO APPOINT]
[Don't Know]	97	[GO TO APPOINT]

[Refused]	98	[GO TO APPOINT]
-----------	----	-----------------

**APPOINT.** When would be a good day and time for us to call back?

		<p>RECORD, CONTACT NAME, DAY OF THE WEEK, TIME OF DAY AND DATE TO CALL BACK</p> <p>CALL BACK AT AGREED TIME</p>
[Don't Know]	-97	THANK & TERMINATE; ASSIGN REFUSED AND REMOVE FROM CALL ORDER
[Refused]	-98	END CALL; KEEP CONTACT IN REGULAR CALL ORDER

**INTRO.** On &DATE, you [attended a &WORKSHOP/TRAINING/DEMONSTRATION]/[received &TECHNICAL ASSISTANCE] offered by &SPONSOR. In an effort to determine what actions you may have taken as a result of participating, we ask that you complete this brief survey. Your input will help &SPONSOR understand the effects of their past efforts. The survey should take no more than 60 minutes for you to complete. The responses you provide will be combined with those of many other individuals and will not be linked to you or your organization in any way.

The U.S. Department of Energy (DOE) would like to inform each individual that the information requested here is being solicited under the statutory authority of Title III of the Energy Policy and Conservation Act of 1975, as amended, which authorizes DOE to administer the State Energy Program (SEP). This information is being sought as part of a national evaluation of SEP, the purpose of which is to reliably quantify Program accomplishments and help inform decisions on future operations. The sole use of the information collected will be for an analysis of national-level Program impacts. Disclosure of this information is voluntary and there will be no adverse effects associated with not providing all or any part of the requested information.

**SCREENER**

**S1.** Do you recall [attending the &WORKSHOP/DEMONSTRATION/TRAINING/CERTIFICATION] /[receiving &TECHNICAL ASSISTANCE] on &DATE?

[Yes]	1	[GO TO AC1]
[No]	2	[THANK AND TERMINATE]
[Don't know]	98	[THANK AND TERMINATE]
[Refused]	99	[THANK AND TERMINATE]

**RESPONDENT INFO: ROLE IN THE PROJECT**

**AC1.** Which of the following best describes where you intended to apply the information you received? **[READ CATEGORIES]**

**NOTE: IF THE ANSWER IS "SOMEWHERE ELSE", SPECIFY THEN PROBE FOR WHICH OF THE FIVE CLASSIFICATIONS BEST DESCRIBES THEM.**

At my home	1	[GO TO NEXT Q]
At the facility(ies) my business occupies	2	[GO TO NEXT Q]
At the facility(ies) my business manages (e.g. Property managers)	3	[GO TO NEXT Q]
In facilities occupied or managed by customers to whom I provide services (e.g. Architects, engineering firms, contractors, code inspectors)	4	[TERMINATE]
In the classroom where I teach	5	[TERMINATE]
Somewhere else: Specify_____	6	[GO TO NEXT Q]

**RESPONDENT TYPE DEFINED FOR DISPOSITION**

**[CLASSIFY AC1=1 AS REU (RESIDENTIAL END-USE CUSTOMER)]**

**[CLASSIFY AC1=2, 3 AS CEU (COMMERCIAL END-USE CUSTOMER)]**

**[CLASSIFY AC1= 4 AS MA (MARKET ACTOR)]**

**[CLASSIFY AC1=5 AS TEA (TEACHER)]**

**INITIAL INVENTORY**

**VN1.** Since &DATE, have you installed any equipment to your [INSERT FACILITY/HOME] in any of the following areas? **[READ LIST IN THE GRID. MARK ALL THAT APPLY]**

a. Solar Photovoltaic	1	[GO TO NEXT Q]
b. Wind Turbine	2	[GO TO NEXT Q]
c. Solar Thermal	3	[GO TO NEXT Q]
d. Biomass	4	[GO TO NEXT Q]
e. Biogas	5	[GO TO NEXT Q]
f. Any other changes?	7	[GO TO NEXT Q]

**[RECORD VERIFIED MEASURES FOR MEASURE SPECIFIC QUESTIONS BELOW. RESPONDENTS WILL ONLY BE ASKED MEASURE SPECIFIC QUESTIONS IF MEASURE GROUP IS CONFIRMED]**

- [&PV]
- [&WIND]
- [&SOLAR]
- [&BIOMASS]
- [&BIOGAS]
- [&OTHER]

**EFFECT OF OTHER PROGRAMS**

**[ASK OP1 FOR EACH MEASURE TYPE IDENTIFIED IN VN1]**

**OP1** In completing the project[s] that you just discussed, did you make use of financial support such as incentives or loans offered by sponsors, such as, local utilities, industry associations, or government agencies? For this question we are not interested in commercial offers such as rebate and incentive packages from manufacturers, vendors, or retailers.

[YES]	1	[ASK OP2]
[NO]	2	[GO TO OP4]
[DON'T KNOW]	-97	[GO TO OP4]
[REFUSED]	-98	[GO TO OP4]

**OP2.** Which organization[s] sponsored the [those] program[s]?

State/ State Energy Office	1	<a href="#">[GOTO OP3]</a>
Other, Specify	2 <b>[RECORD RESPONSE]</b>	<a href="#">[GOTO OP3]</a>
[DON'T KNOW]	-97	<a href="#">[GOTO OP3]</a>
[REFUSED]	-98	<a href="#">[GOTO OP3]</a>

**OP3.** Did the [&WORKSHOP/DEMONSTRATION/TRAINING][&TECHNICAL ASSISTANCE] inform you about the assistance and support that you received?

[Yes]	1	<a href="#">[GO TO OP4]</a>
[No]	2	<a href="#">[GO TO OP4]</a>
[Don't know]	98	<a href="#">[GO TO OP4]</a>
[Refused]	99	<a href="#">[GO TO OP4]</a>

**OP4.** Did the [&WORKSHOP/DEMONSTRATION/TRAINING][&TECHNICAL ASSISTANCE] provide you with any options for assistance and support?

[Yes]	1	<a href="#">[GO TO NEXTSECTION]</a>
[No]	2	<a href="#">[GO TO NEXTSECTION]</a>
[Don't know]	98	<a href="#">[GO TO NEXTSECTION]</a>
[Refused]	99	<a href="#">[GO TO NEXTSECTION]</a>

*Note that most end-use specific sections questions are sourced from the renewables survey effort. We excluded measure verification questions. We also included additional questions within the photovoltaic, wind and solar thermal modules.*

**PV SYSTEMS QUESTIONS**

[IF &PV = YES]

**In the next section we'll be discussing the photovoltaic project that you installed after you [participated in the &WORKSHOP/DEMONSTRATION/TRAINING] / [received the [&TECHNICAL ASSISTANCE]**

**PV1.** How many photovoltaic systems were installed after the  
[&WORKSHOP/DEMONSTRATION/TRAINING][&TECHNICAL ASSISTANCE]?

[INSERT # OF SYSTEMS]	1	[GO TO PV2]
[Did not install any of that technology]	2	[GO TO &NEXT TECH]
[Don't Know]	-97	[GO TO PV2]
[Refused]	-98	[GO TO &NEXT TECH]

**PV2.** When was the system installed?

[INSERT MM/YYYY FOR EACH SYSTEM]	1	[GO TO PV3]
[Did not install any of that technology]	2	[GO TO PV3]
[Don't Know]	-97	[GO TO PV3]
[Refused]	-98	[GO TO PV3]

**PV3.** What is the manufacturer and model number of your photovoltaic modules?

**PV3a.**

RECORD MANUFACTURER		[GO TO PV3b]
[Don't Know]	-97	[GO TO PV3b]
[Refused]	-98	[GO TO PV3b]

**PV3b.**

RECORD MODEL NUMBER		[GO TO PV4]
[Don't Know]	-97	[GO TO PV4]
[Refused]	-98	[GO TO PV4]

**PV4.** How many of that type of photovoltaic module have been installed after you [participated in the &WORKSHOP/DEMONSTRATION/TRAINING] / [received the [&TECHNICAL ASSISTANCE]?

ENTER NUMBER		[GO TO PV5]
[Don't Know]	-97	[GO TO PV5]
[Refused]	-98	[GO TO PV5]

**PV5.** Are there other types of photovoltaic modules installed after you [participated in the &WORKSHOP/DEMONSTRATION/TRAINING] / [received the [&TECHNICAL ASSISTANCE]?

YES	1	<a href="#">[GO TO PV3]</a>
NO	2	<a href="#">[GO TO PV6]</a>
[Don't Know]	-97	<a href="#">[GO TO PV6]</a>
[Refused]	-98	<a href="#">[GO TO PV6]</a>

**PV6.** What is the manufacturer and model number of your photovoltaic inverter(s)?

**PV6a.**

RECORD MANUFACTURER		<a href="#">[GO TO PV6b]</a>
[Don't Know]	-97	<a href="#">[GO TO PV6b]</a>
[Refused]	-98	<a href="#">[GO TO PV6b]</a>

**PV6b.**

RECORD MODEL NUMBER		<a href="#">[GO TO PV7]</a>
[Don't Know]	-97	<a href="#">[GO TO PV7]</a>
[Refused]	-98	<a href="#">[GO TO PV7]</a>

**PV7.** How many of that type of inverter have been installed after you [participated in the &WORKSHOP/DEMONSTRATION/TRAINING] /[received the [&TECHNICAL ASSISTANCE]]?

ENTER NUMBER	___	<a href="#">[GO TO PV8]</a>
[Don't Know]	-97	<a href="#">[GO TO PV8]</a>
[Refused]	-98	<a href="#">[GO TO PV8]</a>

**PV8.** Are there other types of inverters installed you [participated in the &WORKSHOP/DEMONSTRATION/TRAINING] /[received the [&TECHNICAL ASSISTANCE]]?

YES	1	<a href="#">[GO TO PV6a]</a>
NO	2	<a href="#">[GO TO PV9]</a>
[Don't Know]	-97	<a href="#">[GO TO PV9]</a>
[Refused]	-98	<a href="#">[GO TO PV9]</a>

**PV9.** How many degrees from north are your panels facing?

[OPEN END]	___	<a href="#">[GO TO PV10]</a>
[Don't Know]	-97	<a href="#">[GO TO PV10]</a>
[Refused]	-98	<a href="#">[GO TO PV10]</a>

**PV10.** Are your panels on an automatic tracking system?

YES	1	<a href="#">[GO TO PV11]</a>
NO	2	<a href="#">[GO TO PV12]</a>
[Don't Know]	-97	<a href="#">[GO TO PV12]</a>
[Refused]	-98	<a href="#">[GO TO PV12]</a>

**PV11.** Is your tracking system DUAL axis?

YES	1	<a href="#">[GO TO PV12]</a>
NO	2	<a href="#">[GO TO PV12]</a>
[Don't Know]	-97	<a href="#">[GO TO PV12]</a>
[Refused]	-98	<a href="#">[GO TO PV12]</a>

**PV12.** Are your panels shaded at all during the year?

YES	1	<a href="#">[GO TO PV13]</a>
NO	2	<a href="#">[GO TO PV13]</a>
[Don't Know]	-97	<a href="#">[GO TO PV13]</a>
[Refused]	-98	<a href="#">[GO TO PV13]</a>

**PV12a.** Which months of the year are they shaded at least part of the day?

ENTER MONTHS	[OPEN END]	<a href="#">[GO TO PV12b]</a>
NO	2	<a href="#">[GO TO PV12b]</a>
[Don't Know]	-97	<a href="#">[GO TO PV12b]</a>
[Refused]	-98	<a href="#">[GO TO PV12b]</a>

**PV12b.** For each month that they are shaded part of the day, what times of day are they shaded?

	MONTH	TIME OF DAY	% SHADED [0 TO 100%]
ENTER MONTH			
ENTER MONTH			
ENTER MONTH			
[Don't Know]	-97		
[Refused]	-98		

**PV13.** How many of your installed photovoltaic panels... (SELECT ALL THAT APPLY)

Are fixed in place (tilt angle cannot be adjusted)	INSERT # OF SYSTEMS	<a href="#">[GO TO PV14]</a>
Have adjustable tilt angle (can be changed 204 times a year for better performance)	INSERT # OF SYSTEMS	<a href="#">[GO TO PV16]</a>
Have tracking systems (automatically adjust to follow the sun)	INSERT # OF SYSTEMS	<a href="#">[GO TO PV16]</a>
Other: Specify		<a href="#">[GO TO PV16]</a>
Don't Know		<a href="#">[GO TO PV16]</a>
Refuse		<a href="#">[GO TO PV16]</a>

**PV14.** For systems that are fixed in place, what is their average tilt angle from horizontal?

OPEN END	1	<a href="#">[GO TO PV16]</a>
No	2	<a href="#">[GO TO PV16]</a>
Don't Know: SPECIFY – Probe for Roof angle	98/[SPECIFY]	<a href="#">[GO TO PV16]</a>
Refused	99	<a href="#">[GO TO PV16]</a>

**PV16.** What is the average size of the individual photovoltaic panels you installed?

INSERT SIZE	[OPEN END]	<a href="#">[GO TO PV17]</a>
Don't Know	98	<a href="#">[GO TO PV17]</a>
Refused	99	<a href="#">[GO TO PV17]</a>

**PV17.** What is the average DC wattage rating of the photovoltaic panels you installed?

INSERT DC WATTAGE	[OPEN END]	<a href="#">[GO TO PV18]</a>
Don't Know	98	<a href="#">[GO TO PV18]</a>
Refused	99	<a href="#">[GO TO PV18]</a>

**PV18.** What is the average overall efficiency, in terms of percent, of the photovoltaic panels you installed?

INSERT OVERALL EFFICIENCY	[OPEN END]	<a href="#">[GO TO PV19]</a>
Don't Know	98	<a href="#">[GO TO PV19]</a>
Refused	99	<a href="#">[GO TO PV19]</a>

**PV19.** How many panels were installed, on average, in each project?

INSERT # OF PANELS	[OPEN END]	<a href="#">[GO TO PV19]</a>
Don't Know	98	<a href="#">[GO TO PV19]</a>
Refused	99	<a href="#">[GO TO PV19]</a>

**PV20.** When was your system installed?

ENTER MM/YYYY	[OPEN END]	<a href="#">[GO TO PV21]</a>
[Don't Know]	-97	<a href="#">[GO TO PV21]</a>
[Refused]	-98	<a href="#">[GO TO PV21]</a>

**PV21.** Did your system begin producing electricity on the date it was installed?

YES	1	<a href="#">[GO TO PV22]</a>
NO	2	<a href="#">[GO TO PV22]</a>
[Don't Know]	-97	<a href="#">[GO TO PV22]</a>
[Refused]	-98	<a href="#">[GO TO PV22]</a>

**PV22.** When did it begin producing electricity?

RECORD PRODUCTION MONTH AND YEAR DD/MM/YYYY	[OPEN END]	[GO TO PV23]
[Don't Know]	-97	[GO TO PV23]
[Refused]	-98	[GO TO PV23]

**PV23.** Has there been any major down-time (more than a few days) in the system since installation?

YES	1	[GO TO PV23a]
NO	2	[GO TO PV24]
[Don't Know]	-97	[GO TO PV24]
[Refused]	-98	[GO TO PV24]

**PV23a.** When, and for how long [record as month:days (i.e. 03:7)]? \_\_\_\_\_

	DD/MM/YYYY	DAYS	[GO TO PV24]
Incident 1	__/__/__	__	[GO TO PV24]
Incident 2	__/__/__	__	[GO TO PV24]
Incident 3	__/__/__	__	[GO TO PV24]
[Don't Know]	-97		[GO TO PV24]
[Refused]	-98		[GO TO PV24]

**PV24.** Please tell me the total kWh production of the system since it started generating power.  
**[This is an important question. If the respondent cannot answer total kWh since inception, ask for current read-out from the inverter. Ask whether the reading has been reset recently. How often do they reset the cumulative kWh on the inverter? and date of reset]**

RECORD kWh	[OPEN END]	[GO TO PV24a]
[Don't Know]	-97	[GO TO PV24a]
[Refused]	-98	[GO TO PV24a]

**PV24a** On what date was your system reset?

RECORD reset date	[OPEN END]	[GO TO PV25]
[Don't Know]	-97	[GO TO PV25]
[Refused]	-98	[GO TO PV25]

**PV25.** What did you take this reading from? **[READ CHOICES, CIRCLE ALL THAT APPLY]**

Read-out display on inverter?	1	[GO TO PV25a]
Separate utility meter for pv electricity?	2	[GO TO PV25a]
Other: Specify	[OPEN END]	[GO TO PV25a]
[Don't Know]	-97	[GO TO PV25a]
[Refused]	-98	[GO TO PV25a]

**PV25a.** How do you track the output from the system?

Inverter	1	[GO TO PV26]
Utility meter / net meter	2	[GO TO PV26]

Reductions in my utility bill	3	[GO TO PV26]
Other means: Specify	[OPEN END]	[GO TO PV26]
[Don't Know]	-97	[GO TO PV26]
[Refused]	-98	[GO TO PV26]

**PV26.** Is the system achieving the savings you expected?

Yes	1	[GO TO PV27]
No	2	[GO TO PV26a]
[Don't Know]	-97	[GO TO PV27]
[Refused]	-98	[GO TO PV27]

**PV26a.** In your opinion, why isn't the system achieving the savings you expected?

ENTER REASON	[OPEN END]	[GO TO PV27]
[Don't Know]	-97	[GO TO PV27]
[Refused]	-98	[GO TO PV27]

**PV27.** What is zip code where most of your installations were made?

INSERT ZIP CODE	[9 TO 14 DIGITS]	[GO TO ATR1a]
Don't Know	98	[GO TO PV27a]
Refused	99	[GO TO PV27a]

**PV27a.** What is the nearest town or city where most of your installations were made?

INSERT TOWN NAME OR CITY	[OPEN END]	[GO TO ATR1a]
Don't Know	98	[GO TO ATR1a]
Refused	99	[GO TO ATR1a]

## PHOTOVOLTAIC/ATTRIBUTION

**ATR1a.** For your photovoltaic projects, what percentage of the total costs of the project were supported by the financial support that you received?

	ATR1	
<b>Measure type</b>	<b>% of Total</b>	
<b>a. Solar photovoltaic</b>		[GO TO W1]
[Don't know]	98	[GO TO W1]
[Refuse]	99	[GO TO W1]

**WIND SYSTEMS QUESTIONS**

**[IF &WIND = TRUE]**

**In the next section we'll be discussing the wind project that was installed after you [participated in the &WORKSHOP/DEMONSTRATION/TRAINING] /[received the [&TECHNICAL ASSISTANCE]**

**W1.** How many wind systems were installed after you [participated in the &WORKSHOP/DEMONSTRATION/TRAINING] /[received the [&TECHNICAL ASSISTANCE]?

[INSERT # OF WIND SYSTEMS]	1	[GO TO W2]
[Did not install any of that technology]	2	[GO TO &NEXT TECH]
[Don't Know]	-97	[GO TO W2]
[Refused]	-98	[GO TO &NEXT TECH]

**W2.** When were the system(s) installed?

[INSERT mm/yyyy for each system]	1	[GO TO W3]
[Did not install any of that technology]	2	[GO TO W3]
[Don't Know]	-97	[GO TO W3]
[Refused]	-98	[GO TO W3]

**W3.**What is the hub height of each turbine?

[INSERT HUB HEIGHT FOR EACH TURBINE]	[OPEN END]	[GO TO W4]
[Don't Know]	-97	[GO TO W4]
[Refused]	-98	[GO TO W4]

**W4.** What is the manufacturer and model number of your turbines?

**W4a.**

RECORD MANUFACTURER		[GO TO W4b]
[Don't Know]	-97	[GO TO W4b]
[Refused]	-98	[GO TO W4b]

**W4b.**

RECORD MODEL NUMBER		[GO TO W5]
[Don't Know]	-97	[GO TO W5]
[Refused]	-98	[GO TO W5]

**W5.** How many of that type of turbines have been installed after you participated in  
&WORKSHOP/DEMONSTRATION/TRAINING][&TECHNICAL ASSISTANCE]..

ENTER NUMBER		[GO TO W6]
[Don't Know]	-97	[GO TO W6]
[Refused]	-98	[GO TO W6]

**W6.** Are there other types of turbines installed after you [participated in the  
&WORKSHOP/DEMONSTRATION/TRAINING] /[received the [&TECHNICAL ASSISTANCE]]?

YES		[GO TO W4a]
NO		[GO TO W7]
[Don't Know]	-97	[GO TO W7]
[Refused]	-98	[GO TO W7]

**W7.** What is the manufacturer and model number of your inverter(s)?

**W7a.**

RECORD MANUFACTURER		[GO TO W7b]
[Don't Know]	-97	[GO TO W7b]
[Refused]	-98	[GO TO W7b]

**W7b.**

RECORD MODEL NUMBER		[GO TO W8]
[Don't Know]	-97	[GO TO W8]
[Refused]	-98	[GO TO W8]

**W8.** How many of that type of inverter have been installed after you [participated in the  
&WORKSHOP/DEMONSTRATION/TRAINING] /[received the [&TECHNICAL ASSISTANCE]]?

ENTER NUMBER		[GO TO W9]
[Don't Know]	-97	[GO TO W9]
[Refused]	-98	[GO TO W9]

**W9.** Are there other types of inverters installed after you [participated in the  
&WORKSHOP/DEMONSTRATION/TRAINING] /[received the [&TECHNICAL ASSISTANCE]]?

YES		[GO TO W7]
NO		[GO TO W10]
[Don't Know]	-97	[GO TO W10]
[Refused]	-98	[GO TO W10]

**WE10.** What applications were these wind systems used for?

Pump water	1	[GO TO WE11]
Charge batteries	2	[GO TO WE11]
Generate electricity for a home or business to use directly	3	[GO TO WE11]
Other: Specify	00	
Don't Know	98	[GO TO WE11]
Refused	99	[GO TO WE11]

**WE11.** What is the size rating in watts, on average, of the wind systems you installed?

INSERT SIZE RATING IN WATTS	[RANGE FROM 20 TO 500 W, 400 W TO 20 KW / 20,000 FOR OTHER SYSTEM TYPES]	[GO TO WE12]
Don't Know	98	[GO TO WE12]
Refused	99	[GO TO WE12]

**W12.** When was your wind turbine installed?

RECORD MM/YYYY	[OPEN END]	[GO TO WE13]
Don't Know	98	[GO TO WE13]
Refused	99	[GO TO WE13]

**W13.** Did the turbine begin producing power on the date it was installed?

YES	1	[GO TO W14]
NO: RECORD DATE	[OPEN END]	[GO TO W14]
[Don't Know]	-97	[GO TO W14]
[Refused]	-98	[GO TO W14]

**W14.** Has there been any major down-time (more than a few days) in the system since installation, other than times when the wind wasn't blowing strong enough to generate power?

YES	1	[GO TO W14a]
NO	2	[GO TO W15]
[Don't Know]	-97	[GO TO W15]
[Refused]	-98	[GO TO W15]

**W14a** – When, and for how long [(record as month:days (i.e. 03:7))]?

	DD/MM/YYYY	DAYS	[GO TO W15]
Incident 1	__/__/____	__	[GO TO W15]
Incident 2	__/__/____	__	[GO TO W15]
Incident 3	__/__/____	__	[GO TO W15]
[Don't Know]	-97		[GO TO W15]
[Refused]	-98		[GO TO W15]

**W15.** Please tell me the total kWh production of the system since it started generating power.  
**[This is an important question. If the respondent cannot answer total kWh since inception, ask for current read-out from the inverter. Ask whether the reading has been reset recently. How often do they reset the cumulative kWh on the inverter? and date of reset]**

RECORD kWh	[OPEN END]	[GO TO W15a]
[Don't Know]	-97	[GO TO W15a]
[Refused]	-98	[GO TO W15a]

**W15a** On what date was your system reset?

RECORD reset date	[OPEN END]	[GO TO W16]
[Don't Know]	-97	[GO TO W16]
[Refused]	-98	[GO TO W16]

**W16.** Did you take this reading from a .. **[READ CHOICES, CIRCLE ALL THAT APPLY]**

Read-out display on inverter?	1	[GO TO W17]
Separate utility meter for pv electricity?	2	[GO TO W17]
Reductions in the utility bill?	3	[GO TO W17]
Other: Specify	[OPEN END]	[GO TO W17]
[Don't Know]	-97	[GO TO W17]
[Refused]	-98	[GO TO W17]

**W17.** Is the [renewable –insert type ] system achieving the savings you expected?

Yes	1	[GO TO W18]
No	2	[GO TO W18]
[Don't Know]	-97	[GO TO W18]
[Refused]	-98	[GO TO W18]

**W18.** In your opinion, why isn't the system achieving the savings you expected?

ENTER REASON	[OPEN END]	[GO TO W19]
[Don't Know]	-97	[GO TO W19]
[Refused]	-98	[GO TO W19]

**W19.** What is zip code where most of your installations were made?

INSERT ZIP CODE	[9 TO 14 DIGITS]	[GO TO ATR1b]
Don't Know	98	[GO TO W19a]
Refused	99	[GO TO W19a]

**W19a.** What is the nearest town or city where most of your installations were made?

INSERT TOWN NAME OR CITY	[OPEN END]	<a href="#">[GO TO ATR1b]</a>
Don't Know	98	<a href="#">[GO TO ATR1b]</a>
Refused	99	<a href="#">[GO TO ATR1b]</a>

**WIND/ATTRIBUTION**

**ATR1b.** For your wind projects, what percentage of the total costs of the project were supported by the financial support that you received?

	ATR1	
Measure type	% of Total	
<b>a. Wind</b>		<a href="#">[GO TO SHW1a]</a>
[Don't know]	<b>98</b>	<a href="#">[GO TO SHW1a]</a>
[Refuse]	<b>99</b>	<a href="#">[GO TO SHW1a]</a>

## SOLAR HOT WATER QUESTIONS

**[IF &SHW = TRUE]**

**In the next section we'll be discussing the solar hot water project that was installed after you [participated in the &WORKSHOP/DEMONSTRATION/TRAINING] /[received the [&TECHNICAL ASSISTANCE]].**

**SHW1a.** How many solar hot water systems were installed after you [participated in the &WORKSHOP/DEMONSTRATION/TRAINING] /[received the [&TECHNICAL ASSISTANCE]]?

[ENTER NUMBER INSTALLED]	1	[GO TO SHW1b]
[Did not install any of that technology]	2	[GO TO &NEXT TECH]
[Don't Know]	-97	[GO TO SHW1b]
[Refused]	-98	[GO TO &NEXT TECH]

**SHW1b.** When were [INSERT NUMBER OF SYSTEMS] solar hot water heater systems installed?

[ENTER DATE OF INSTALLATION IN &MM/YYYY]	1	[GO TO ST2]
[Did not install any of that technology]	2	[GO TO ST2]
[Don't Know]	-97	[GO TO ST2]
[Refused]	-98	[GO TO ST2]

**ST2.** What are the solar thermal systems you installed used for?

Domestic hot water heating	1	[GO TO ST3]
Interior space heating	2	[GO TO ST3]
Hot water AND space heating	3	[GO TO ST3]
Pool heating	4	[GO TO ST3]
Other: specify _____	5	[GO TO ST3]
Don't Know	98	[GO TO ST3]
Refused	99	[GO TO ST3]

**ST3.** What is the average size of the collectors of the solar thermal systems you have installed?

INSERT SIZE	[OPEN END]	[GO TO ST4]
Don't Know	98	[GO TO ST4]
Refused	99	[GO TO ST4]

**ST4.** What type of collectors do the solar thermal systems you installed have?

Flat-plate collector (dark absorber plate covered by glass)	1	[GO TO ST5]
Integral collector-storage system, also called an ICS or batch system (tanks or tubes in a glass box)	2	[GO TO ST5]
Evacuated-tube collector (parallel rows of glass tubes)	3	[GO TO ST5]
Don't Know	98	[GO TO ST5]

Refused	99	<a href="#">[GO TO ST5]</a>
---------	----	-----------------------------

**ST5.** What size is the average storage tank for the solar thermal systems you installed?

INSERT SIZE	[OPEN END]	<a href="#">[GO TO ST7]</a>
Don't Know	98	<a href="#">[GO TO ST7]</a>
Refused	99	<a href="#">[GO TO ST7]</a>

**ST7.** What is the Solar Energy Factor (SEF), on average, of the systems you installed?

INSERT SEF	[OPEN END]	<a href="#">[GO TO ST8]</a>
Don't Know	98	<a href="#">[GO TO ST8]</a>
Refused	99	<a href="#">[GO TO ST8]</a>

**ST8.** What is the Solar Fraction (SF), on average, of the systems you installed?

INSERT SF	[RANGE FROM 0 TO 1]	<a href="#">[GO TO SHW2a]</a>
Don't Know	98	<a href="#">[GO TO SHW2a]</a>
Refused	99	<a href="#">[GO TO SHW2a]</a>

**SHW2a.** What is the manufacturer and model number of your solar hot water module?

**SHW2a1.**

RECORD MANUFACTURER		<a href="#">[GO TO SHW2a2]</a>
[Don't Know]	-97	<a href="#">[GO TO SHW2a2]</a>
[Refused]	-98	<a href="#">[GO TO SHW2a2]</a>

**SHW2a2.**

RECORD MODEL NUMBER		<a href="#">[GO TO SHW2b]</a>
[Don't Know]	-97	<a href="#">[GO TO SHW2b]</a>
[Refused]	-98	<a href="#">[GO TO SHW2b]</a>

**SHW2b.** How many of that type of solar hot water module have been installed?

ENTER NUMBER		<a href="#">[GO TO SHW2c]</a>
[Don't Know]	-97	<a href="#">[GO TO SHW2c]</a>
[Refused]	-98	<a href="#">[GO TO SHW2c]</a>

**SHW2c.** Are there other types of solar hot water modules installed?

YES		<a href="#">[GO TO SHW2a]</a>
NO		<a href="#">[GO TO SHW3a]</a>
[Don't Know]	-97	<a href="#">[GO TO SHW3a]</a>
[Refused]	-98	<a href="#">[GO TO SHW3a]</a>

**SHW3a.** How many tanks are heated using the system?

INSERT NUMBER OF TANKS	[OPEN END]	[GO TO SHW3b]
[Don't Know]	-97	[GO TO SHW3b]
[Refused]	-98	[GO TO SHW3b]

**SHW3b.** What is the capacity of each of these tanks?

INSERT CAPACITY FOR EACH TANK	[OPEN END]	[GO TO SHW3c]
[Don't Know]	-97	[GO TO SHW3c]
[Refused]	-98	[GO TO SHW3c]

**SHW3c.** Do you use the system to heat one or more swimming pools?

Yes	1	[GO TO SHW3c1]
No	2	[GO TO SHW4]
[Don't Know]	-97	[GO TO SHW4]
[Refused]	-98	[GO TO SHW4]

**SHW3c1.** How many pools are heated?

INSERT NUMBER OF POOLS	[OPEN END]	[GO TO SHW3c1]
No	2	[GO TO SHW4]
[Don't Know]	-97	[GO TO SHW4]
[Refused]	-98	[GO TO SHW4]

**HW3c2.** Is this pool:

	Capacity?	Indoor?	Outdoor above ground?	Outdoor in ground?
[POOL #1]				
[POOL #2]				
[POOL #3]				
[Don't know]	97	97	97	97
[Refused]	98	98	98	98

**SHW4.** How many degrees from north do your panels face?

[OPEN END]	_____	[GO TO SHW5]
[Don't Know]	-97	[GO TO SHW5]
[Refused]	-98	[GO TO SHW5]

**SHW5.** What is your tilt angle was [ANGLE] when it was installed?

[OPEN END]	_____	[GO TO SHW6]
[Don't Know]	-97	[GO TO SHW6]
[Refused]	-98	[GO TO SHW6]

**SHW6.** Are your panels shaded at all during the year?

YES	1	[GO TO SHW6a]
NO	2	[GO TO SHW7]
[Don't Know]	-97	[GO TO SHW7]
[Refused]	-98	[GO TO SHW7]

**SHW6a.** Which months of the year are they shaded at least part of the day?

ENTER MONTHS	[OPEN END]	[GO TO SHW6b]
NO	2	[GO TO SHW6c]
[Don't Know]	-97	[GO TO SHW6b]
[Refused]	-98	[GO TO SHW6b]

**SHW6b.** For each month that they are shaded part of the day, what times of day are they shaded?

	MONTH	TIME OF DAY	% SHADED [0 TO 100%]
ENTER MONTH			
ENTER MONTH			
ENTER MONTH			
[Don't Know]	-97		
[Refused]	-98		

**SHW6c.** Most solar hot water systems have a pump that circulates water within the panels. What is the manufacturer and model number of your system's pump?

**SHW6c.**

RECORD MANUFACTURER		[GO TO SHW6d]
[Don't Know]	-97	[GO TO SHW6e]
[Refused]	-98	[GO TO SHW6e]

**SHW6d.**

RECORD MODEL NUMBER		[GO TO SHW6e]
[Don't know]	-97	[GO TO SHW6e]
[Refused]	-98	[GO TO SHW6e]

**SHW6e.** How is your pump powered? Did you install a small solar electric panel to power the pump, does the pump run off your regular electricity, or something else?

PHOTOVOLTAIC	1	[GO TO SHW6f]
Plug In	2	[GO TO SHW6f]
Other	3	[GO TO SHW6f]
[Don't know]	-97	[GO TO SHW6f]
[Refused]	-98	[GO TO SHW6f]

**SHW6f.** What is the power source?

POWER SOURCE		[GO TO SHW8]
[Don't know]	-97	[GO TO SHW8]
[Refused]	-98	[GO TO SHW8]

**SHW8.** What is the temperature of your hot water?

[ENTER TEMPERATURE] _____		[GO TO SHW9a]
[Don't know]	-9997	[GO TO SHW9a]
[Refused]	-9998	[GO TO SHW9a]

**SHW9a.** About how much hot water do you use per month? (If they don't know that ask how much water they use per month).

[ENTER HOT WATER USAGE] _____		[GO TO SHW9b]
[Don't know] [ENTER WATER USAGE]-----	-9997	[GO TO SHW10]
[Refused]	-9998	[GO TO SHW10]

**SHW9b.** What is this estimate based on? **[RECORD RESPONSE]**

[OPEN END] _____		[GO TO SHW10]
[Don't know]	-97	[GO TO SHW10]
[Refused]	-98	[GO TO SHW10]

**SHW10.** Is your system used year round?

YES	1	[GO TO SHW12]
NO	2	[GO TO SHW11]
[Don't know]	-97	[GO TO SHW11]
[Refused]	-98	[GO TO SHW11]

**SHW11.** In what months is it used?

[ENTER MONTHS] _____		[GO TO SHW12]
[Don't know]	-97	[GO TO SHW12]
[Refused]	-98	[GO TO SHW12]

**SHW12.** What is your supplemental source for hot water heating?

GAS	1	[GO TO ST9]
OIL	2	[GO TO ST9]
ELECTRIC	3	[GO TO ST9]
OTHER	4	[GO TO SHW12a]
[Don't know]	-97	[GO TO ST9]
[Refused]	-98	[GO TO ST9]

**SHW12a. [DESCRIBE OTHER]**

[OPEN END] _____		[GO TO SHW12]
[Don't know]	-97	[GO TO SHW12]
[Refused]	-98	[GO TO SHW12]

**ST9.** What is the nearest zip code where most of your installations were made?

INSERT ZIP CODE	[9 TO 14 DIGITS]	[GO TO &NEXT TECH]
Don't Know	98	[GO TO ST9a]
Refused	99	[GO TO ST9a]

**ST9a.** What is the nearest town or city where most of your installations were made?

INSERT TOWN NAME OR CITY	[OPEN END]	[GO TO ATR1c]
Don't Know	98	[GO TO ATR1c]
Refused	99	[GO TO ATR1c]

## SOLAR THERMAL /ATTRIBUTION

**ATR1c.** For your solar thermal projects, what percentage of the total costs of the project were supported by the financial support that you received?

	ATR1	
Measure type	% of Total	
<b>a. Solar thermal</b>		[GO TO BM1]
[Don't know]	98	[GO TO BM1]
[Refuse]	99	[GO TO BM1]

## BIOMASS QUESTIONS

**[IF &BM = TRUE]**

**In the next section we'll be discussing the BIOMASS SYSTEM that was installed after you [participated in the &WORKSHOP/DEMONSTRATION/TRAINING] / [received the [&TECHNICAL ASSISTANCE]**

**I am going to discuss some technical information about the system. The paperwork from the original site survey, design study, or installation may help you answer these questions.** [If they do not have this information handy, attempt the questions anyway, and ask them to give their best estimate].

**BM1.** I am first interested in learning more about the type of biomass system you have. What type of fuel do you use?

Wood logs	1	<a href="#">[GO TO BM2]</a>
Wood chips	2	<a href="#">[GO TO BM2]</a>
Biomass pellets	3	<a href="#">[GO TO BM2]</a>
Corn pellets	4	<a href="#">[GO TO BM2]</a>
[Other, Specify_____]	5	<a href="#">[GO TO BM2]</a>
[Don't know]	-97	<a href="#">[GO TO BM2]</a>
[Refused]	-98	<a href="#">[GO TO BM2]</a>

**BM2.** What do you use this biomass system to do?

Space heating	1	<a href="#">[GO TO BM3]</a>
Water Heating	2	<a href="#">[GO TO BM3]</a>
[Other, Specify_____]	3	<a href="#">[GO TO BM3]</a>
[Don't know]	-97	<a href="#">[GO TO BM3]</a>
[Refused]	-98	<a href="#">[GO TO BM3]</a>

**BM3.** How do you describe the biomass system you use? Is it a:

Pellet stove or furnace	1	<a href="#">[GO TO BM6]</a>
Wood chip boiler or furnace	2	<a href="#">[GO TO BM6]</a>
Logwood boiler	3	<a href="#">[GO TO BM6]</a>
Biomass/wood furnace	4	<a href="#">[GO TO BM6]</a>
Wood stove/heater	5	<a href="#">[GO TO BM6]</a>
Other	6	<a href="#">[GO TO BM6]</a>
Don't know	-97	<a href="#">[GO TO BM6]</a>
Refused	-98	<a href="#">[GO TO BM6]</a>

**BM6.** What percent of your fuel do you get from the following sources?

By products from another process produced on-site	___	<a href="#">[GO TO BM6a]</a>
Purchased from vendor	___	<a href="#">[GO TO BM6a]</a>
Some other source [Specify:_____]	___	<a href="#">[GO TO BM6a]</a>
[Don't know]	-97	<a href="#">[GO TO BM7]</a>
[Refused]	-98	<a href="#">[GO TO BM7]</a>

**[IF 100% of fuel produced onsite skip to BM4]**

**BM6a.** Who is the [supplier/manufacturer] of the fuel you purchase?

[Supplier 1] _____	1	[GO TO BM7]
[Supplier 2] _____	2	[GO TO BM7]
[Don't know]	-97	[GO TO BM7]
[Refused]	-98	[GO TO BM7]

**BM7.** What is your annual biomass fuel usage?

	<b>BM7a. ANNUAL USAGE</b>	<b>BM7b. UNITS (e.g. tons, btuh)</b>
OPEN END	_____	_____
[Don't know]	-97 [GO TO BM8]	-97 [GO TO BM8]
[Refused]	-98 [GO TO BM8]	-98 [GO TO BM8]

**BM8.** **[SKIP TO BM11 IF FUEL IS not WOOD]** What species of wood do you burn?

[SPECIES] _____	1	[GO TO BM9]
Primarily (over 90%) Hardwood (oak, maple)	2	[GO TO BM9]
Primarily (over 90%) softwood (pines; alders)	3	[GO TO BM9]
Mix of both	4	[GO TO BM9]
Don't know	-97	[GO TO BM9]
Refused	-98	[GO TO BM9]

**BM9.** Do you dry the [fuel] at all before using it?

YES	1	[GO TO BM10]
NO	2	[GO TO BM10]
[Don't know]	-97	[GO TO BM10]
[Refused]	-98	[GO TO BM10]

**BM10.** Do you know the moisture content of the fuel when burned?

YES	1	[GO TO BM10a]
NO	2	[GO TO BM10b]
[Don't know]	-97	[GO TO BM11]
[Refused]	-98	[GO TO BM11]

**BM10a.** What is the moisture content of the fuel when burned?

MOISTURE CONTENT	1	[GO TO BM10b]
[Don't know]	-97	[GO TO BM10b]
[Refused]	-98	[GO TO BM10b]

**BM10b.** If you harvest the wood you burn, how long do you let it dry before burning?

less than 6 months (consider this wood has moisture content of 50-30%	1	[GO TO BM11]
6-12 months (fully dry wood (unless kiln dried) probably has a moisture content of around 20%.	2	[GO TO BM11]
[Don't know]	-97	[GO TO BM11]
[Refused]	-98	[GO TO BM11]

**BM11.** How much energy do you use to dry the fuel?

RECORD ENERGY (kWh/month	1	[GO TO BM11a]
[Don't know]	-97	[GO TO BM12]
[Refused]	-98	[GO TO BM12]

**BM11a.** How did you estimate this?

RECORD ANSWER VERBATIM IF POSSIBLE	1	[GO TO BM12]
[Don't know]	-97	[GO TO BM12]
[Refused]	-98	[GO TO BM12]

**BM12.** Is there any electrical or mechanical device that assists in feeding fuel to your system?

YES	1	[GO TO BM12a]
NO	2	[GO TO BM13]
[Don't know]	-97	[GO TO BM13]
[Refused]	-98	[GO TO BM13]

**BM12a** How do you feed the fuel into the biomass system? [Ex: conveyor, chute, shovels]

RECORD ANSWER VERBATIM IF POSSIBLE	1	[GO TO BM12b]
[Don't know]	-97	[GO TO BM12b]
[Refused]	-98	[GO TO BM12b]

**BM12b.** Considering all the devices powered to operate your biomass system, How much power would you estimate is used by the feed system?

kWh per month	_____	[GO TO BM12c]
[Don't know]	-9997	[GO TO BM12c]
[Refused]	-9998	[GO TO BM12c]

**BM12c.** How did you estimate this? [If they don't have metered data to support kWh then try to get the following: 1) kW rating of fuel system, 2) Hours/day or Hours/month that system is operating]

RECORD ANSWER VERBATIM IF POSSIBLE	_____	[GO TO BM13]
[Don't know]	-9997	[GO TO BM13]
[Refused]	-9998	[GO TO BM13]

**BM13.** Is there an air circulation system for this biomass system?

YES	1	<a href="#">[GO TO BM113a]</a>
NO	2	<a href="#">[GO TO BM14]</a>
[Don't know]	-97	<a href="#">[GO TO BM14]</a>
[Refused]	-98	<a href="#">[GO TO BM14]</a>

**BM13a.** Considering all the devices powered to circulate air, how much power would you estimate is used by the circulation system?

kWh per month	_____	<a href="#">[GO TO BM13b]</a>
[Don't know]	-9997	<a href="#">[GO TO BM14]</a>
[Refused]	-9998	<a href="#">[GO TO BM14]</a>

**BM13b.** How did you estimate this? [If they don't have metered data to support kWh then try to get the following: 1) kW rating of fuel system, 2) Hours/day or Hours/month that system is operating]

RECORD ANSWER VERBATIM IF POSSIBLE	_____	<a href="#">[GO TO BM14]</a>
[Don't know]	-9997	<a href="#">[GO TO BM14]</a>
[Refused]	-9998	<a href="#">[GO TO BM14]</a>

**BM14.** Is there a water circulation system for this biomass system?

YES	1	<a href="#">[GO TO BM14a]</a>
NO	2	<a href="#">[GO TO BM15]</a>
[Don't know]	-97	<a href="#">[GO TO BM15]</a>
[Refused]	-98	<a href="#">[GO TO BM15]</a>

**BM14a.** Considering all the devices powered to circulate water, how much power would you estimate is used by the circulation system?

kWh per month	_____	<a href="#">[GO TO BM14b]</a>
[Don't know]	-9997	<a href="#">[GO TO BM15]</a>
[Refused]	-9998	<a href="#">[GO TO BM15]</a>

**BM14b.** How did you estimate this? [If they don't have metered data to support kWh then try to get the following: 1) kW rating of fuel system, 2) Hours/day or Hours/month that system is operating]

RECORD ANSWER VERBATIM IF POSSIBLE	_____	<a href="#">[GO TO BM15]</a>
[Don't know]	-9997	<a href="#">[GO TO BM15]</a>
[Refused]	-9998	<a href="#">[GO TO BM15]</a>

**BM15.** What is the nearest zip code where most of your installations were made?

INSERT ZIP CODE	[9 TO 14 DIGITS]	<a href="#">[GO TO ATR1d]</a>
Don't Know	98	<a href="#">[GO TO ST9a]</a>
Refused	99	<a href="#">[GO TO ST9a]</a>

**BM15a.** What is the nearest town or city where most of your installations were made?

INSERT TOWN NAME OR CITY	[OPEN END]	[GO TO ATR1d]
Don't Know	98	[GO TO ATR1d]
Refused	99	[GO TO ATR1d]

## BIOMASS /ATTRIBUTION

**ATR1d.** For your biomass projects, what percentage of the total costs of the project were supported by the financial support that you received?

	ATR1	
Measure type	% of Total	
<b>a. Biomass</b>		[GO TO BG1]
[Don't know]	98	[GO TO BG1]
[Refuse]	99	[GO TO BG1]

## BIOGAS QUESTIONS

### [IF & MEASURE = BIOGAS]

In the next section we'll be discussing the biogas system that was installed after you [participated in the &WORKSHOP/DEMONSTRATION/TRAINING] /[received the [&TECHNICAL ASSISTANCE]

I am going to discuss some technical information about the system The paperwork from the original site survey, design study, or installation may help you answer these questions.

**BG1.** What is the manufacturer and model number of the generator run by the biogas?

BG1a.

RECORD MANUFACTURER		[GO TO BG1b]
[Don't Know]	-97	[GO TO BG1b]
[Refused]	-98	[GO TO BG1b]

BG1b.

RECORD MODEL NUMBER		[GO TO BG2]
[Don't Know]	-97	[GO TO PV4]
[Refused]	-98	[GO TO BG2]

**BG2.** Do you use [Waste] for your biodigester?

YES	1	[GO TO BG2a]
NO	2	[GO TO BG3]
[Don't know]	-97	[GO TO BG3]
[Refused]	-98	[GO TO BG3]

**BG2a.**

Waste Type		[GO TO BG3]
[Don't Know]	-97	[GO TO BG3]
[Refused]	-98	[GO TO BG3]

**BG3.** Do you add any other substrates to the waste stream?

YES	1	[GO TO BG3a]
NO	2	[SKIP TO BG4]
[Don't know]	-97	[SKIP TO BG4]
[Refused]	-98	[SKIP TO BG4]

**Bg3a.** Added Substrates type \_\_\_\_\_

Added Substrates type_____		[GO TO BG3b]
[Don't Know]	-97	[GO TO BG4]

[Refused]	-98	[GO TO BG4]
-----------	-----	-------------

**BG3b.** Quantity of Added Substrate \_\_\_\_\_

Quantity of Added Substrate _____		[GO TO BG4]
[Don't Know]	-97	[GO TO BG4]
[Refused]	-98	[GO TO BG4]

**BG4.** Is this system used at an agricultural facility?

Yes	1	[GO TO BG5]
No	2	[GO TO BG6]
Don't Know	97	[GO TO BG6]
Refused	98	[GO TO BG6]

**BG5.** Do you have any livestock providing waste for the system? Is this correct?

Yes	1	[GO TO BG5b]
No	2	[GO TO BG6]
Don't Know	97	[GO TO BG6]
Refused	98	[GO TO BG6]

**BG5b.** What type(s) of livestock?

What type(s) of livestock_1 _____		[GO TO BG5c]
What type(s) of livestock_2 _____		[GO TO BG5c]
What type(s) of livestock_3 _____		[GO TO BG5c]
[Don't Know]	-97	[GO TO BG6]
[Refused]	-98	[GO TO BG6]

**BG5c.** FOR EACH TYPE LISTED ASK: How many?

How many &TYPE _1 _____		[GO TO BG6]
How many &TYPE _2 _____		[GO TO BG6]
How many &TYPE _3 _____		[GO TO BG6]
[Don't Know]	-97	[GO TO BG6]
[Refused]	-98	[GO TO BG6]

**BG6.** Does the biogas system produce the same amount of energy steadily over the course of a year, or are there seasonal differences in energy production?

YEAR-ROUND		[GO TO BG7]
SEASONAL		[GO TO BG6b]
OTHER		[GO TO BG6a]
[Don't Know]	-97	[GO TO BG7]
[Refused]	-98	[GO TO BG7]

**BG6a. DESCRIBE OTHER**

Other___	1	[GO TO BG7]
Don't Know	97	[GO TO BG7]
Refused	98	[GO TO BG7]

**BG6b.** Describe the seasonal use of the system [possible reasons: seasonal effects of the herd, weather, regular maintenance. If possible find out what the seasonal difference is – e.g. the system produces twice as much energy during a summer day than a winter day].

OPEN END___	1	[GO TO BG7]
Don't Know	97	[GO TO BG7]
Refused	98	[GO TO BG7]

**BG7.** Which of the following ways are you using the gas produced by the digester system - are you using it on site in a genset, burning it on site for heat, flaring it, or selling it off site? [ACCEPT MULTIPLE ANSWERS]

Using it on site in a genset		[GO TO BG7a]
Burning it on site for heat		[GO TO BG7a]
Flaring it on site		[GO TO BG7a]
Selling it off site		[GO TO BG7a]
[Don't Know]	-97	[GO TO BG8]
[Refused]	-98	[GO TO BG8]

**BG7a.** What percentage of the gas are you...

Using it on site in a genset	___%	[GO TO BG8]
Burning it on site for heat	___%	[GO TO BG8]
Flaring it on site	___%	[GO TO BG8]
Selling it off site	___%	[GO TO BG8]
[Don't Know]	-97	[GO TO BG8]
[Refused]	-98	[GO TO BG8]

**BG8.** Has there been any unscheduled downtime in the biodigester system?

Yes	1	[GO TO BG8a]
No	2	[GO TO BG9]
Don't Know	97	[GO TO BG9]
Refused	98	[GO TO BG9]

**BG8a.** How long was the system down unexpectedly? \_\_\_\_\_[record as month:days (i.e. 03:7)]

	DD/MM/YYYY	DAYS	
Incident 1	__/__/__	__	[GO TO BG9]
Incident 2	__/__/__	__	[GO TO BG9]

Incident 3	__/__/____	__	[GO TO BG9]
[Don't Know]	-97		[GO TO BG9]
[Refused]	-98		[GO TO BG9]

**BG9. [SKIP TO BG13 IF NONE USED IN THE GENSET]**

What date did you started running the genset?

**[BEGINNING GENERATION DATE]**

BEGINNING GENERATION DATE	__/__/____	[GO TO BG10]
Don't Know	97	[GO TO BG10]
Refused	98	[GO TO BG10]

**BG10. Has there been any unscheduled downtime in the genset system?**

Yes	1	[GO TO BG10a]
No	2	[GO TO BG11]
Don't Know	97	[GO TO BG11]
Refused	98	[GO TO BG11]

**BG10a.** How long was the system down unexpectedly? \_\_\_\_\_ [record as month:days (i.e. 03:7)]

	DD/MM/YYYY	DAYS	
Incident 1	__/__/____	__	[GO TO BG11]
Incident 2	__/__/____	__	[GO TO BG11]
Incident 3	__/__/____	__	[GO TO BG11]
[Don't Know]	-97		[GO TO BG11]
[Refused]	-98		[GO TO BG11]

**BG11. Please tell me the total kWh production of the system since it started generating power.**

[This is an important question. If the respondent cannot answer total kWh since inception, ask for current read-out and date of reset]

**BG11a** kWh \_\_\_\_\_

kWh	_____	[GO TO BG11a]
Don't Know	-9997	[GO TO BG12]
Refused	-9998	[GO TO BG12]

**BG11b** RESET DATE \_\_\_\_\_

RESET DATE	_____	[GO TO BG12]
Don't Know	-9997	[GO TO BG12]
Refused	-9998	[GO TO BG12]

**BG12.** Did you make this reading from a . . . ? [READ CHOICES, CIRCLE ALL THAT APPLY]

Read-out display on inverter?	1	[GO TO BG13]
Separate utility meter for biogas genset?	2	[GO TO BG13]
[OTHER]	3	[GO TO BG13]
Don't Know	-9997	[GO TO BG13]
Refused	-9998	[GO TO BG13]

**BG13.** What is the nearest zip code where most of your installations were made?

INSERT ZIP CODE	[9 TO 14 DIGITS]	[GO TO &NEXT TECH]
Don't Know	98	[GO TO ST9a]
Refused	99	[GO TO ST9a]

**BG13a.** What is the nearest town or city where most of your installations were made?

INSERT TOWN NAME OR CITY	[OPEN END]	[GO TO &NEXT TECH]
Don't Know	98	[GO TO &NEXT TECH]
Refused	99	[GO TO &NEXT TECH]

## BIOGAS /ATTRIBUTION

**ATR1e.** For your biogas projects, what percentage of the total costs of the project were supported by the financial support that you received?

	ATR1	
Measure type	% of Total	
<b>a. Biogas</b>		[GO TO OE2b]
[Don't know]	<b>98</b>	[GO TO OE2b]
[Refuse]	<b>99</b>	[GO TO OE2b]

**OTHER EQUIPMENT BATTERY**

**[IF & OTHER = TRUE]**

**You mentioned that you installed another renewable energy project after you [participated in the &WORKSHOP/DEMONSTRATION/TRAINING] /[received the [&TECHNICAL ASSISTANCE]?**

**OE2b.** Which kinds of renewable energy technologies did you install through the program?

INSERT RENEWABLE TECH	[OPEN END]	[GO TO OE2d]
Don't Know	98	[GO TO OE2d]
Refused	99	[GO TO OE2d]

**OE2d.** Approximately what percentage of your facility's total square footage was served by these purchases?

INSERT PERCENTAGE	[OPEN END]	[GO TO OE2e]
Don't Know	98	[GO TO OE2e]
Refused	99	[GO TO OE2e]

**OE2e.** How many of the units installed were used to replace existing units?

**RESPONSE GRID FOR OE1 AND OE2**

	OE_TECH	OE2d % Space Served	OE2e # replacing existing units
1	Specify:		
2	Specify:		
3	Specify:		
4	Specify:		
5	Specify:		
6	Specify:		

**OE3.** Please tell me the total energy production of the system since it started generating power.  
**[This is an important question. If the respondent cannot answer total kWh since inception, ask for current read-out. Ask whether the reading has been reset recently. How often do they reset the cumulative? and date of reset]**

**OE3a.** Energy \_\_\_\_\_

Energy	[OPEN END]	[GO TO OE3b]
Don't Know	98	[GO TO OE3c]
Refused	99	[GO TO OE3c]

**OE3b. kWh and Therms**

kWh	1	[GO TO OE3c]
Therms	2	[GO TO OE3c]
Don't Know	98	[GO TO OE3c]
Refused	99	[GO TO OE3c]

**OE3c.** When was the reset date? .....

RESET DATE	[DD/MM/YYYY]	[GO TO OE4]
Don't Know	98	[GO TO OE4]
Refused	99	[GO TO OE4]

**OE4.** Did you make this reading from a . . . ? **[READ CHOICES, CIRCLE ALL THAT APPLY]**

Read-out display on inverter?	1	[GO TO OE5]
Separate utility meter?	2	[GO TO OE5]
Reductions in my utility bill	3	[GO TO OE5]
[OTHER]	77	[GO TO OE5]
Don't Know	-9997	[GO TO OE5]
Refused	-9998	[GO TO OE5]

**OE5.** What is the nearest zip code where most of your installations were made?

INSERT ZIP CODE	[9 TO 14 DIGITS]	[GO TO &NEXT TECH]
Don't Know	98	[GO TO ST9a]
Refused	99	[GO TO ST9a]

**OE5a.** What is the nearest town or city where most of your installations were made?

INSERT TOWN NAME OR CITY	[OPEN END]	[GO TO &NEXT TECH]
Don't Know	98	[GO TO &NEXT TECH]
Refused	99	[GO TO &NEXT TECH]

**OTHER RENEWABLE MEASURE /ATTRIBUTION**

**ATR1d.** For this project, what percentage of the total costs of the project were supported by the financial support that you received?

	<b>ATR1</b>	
<b>Measure type</b>	<b>% of Total</b>	
<b>a. Other renewable measure</b>		[GO TO OE2b]
[Don't know]	<b>98</b>	[GO TO OE2b]
[Refuse]	<b>99</b>	[GO TO OE2b]

## DIRECT ATTRIBUTION

Now, I'd like to ask you a few questions about the effect that the [&WORKSHOP/DEMONSTRATION/TRAINING/ [&TECHNICAL ASSISTANCE] had on your organization's decision to undertake the project we have been discussing.

[FOR EACH MEASURE GROUP COVERED ABOVE REPEAT DA0 THROUGH DA]

**DA0.** Without the &SPONSOR [&WORKSHOP/DEMONSTRATION/TRAINING/&TECHNICAL ASSISTANCE], would you say the likelihood of [installing / performing] the &ACTION was... [READ LIST]

RESPONSE	DAT0_MID1	DAT0_MID2	DAT0_MID3	DAT0_MID4
<b>Very likely</b>	1	1	1	1
<b>Somewhat likely</b>	2	2	2	2
<b>Not very likely</b>	3	3	3	3
<b>Or very unlikely</b>	4	4	4	4
[Don't know]	-97	-97	-97	-97
[Refused]	-98	-98	-98	-98

## TIMING

**ASK TIMING QUESTIONS ONLY FOR MEASURES WHERE DAT0 = 1 OR 2 (VERY LIKELY OR SOMEWHAT LIKELY TO HAVE IMPLEMENTED IN THE ABSENCE OF THE PROGRAM).**

AT11a. I'd like to know about the effect, if any, that [&WORKSHOP/DEMONSTRATION/TRAINING or &TECHNICALASSISTANCE] had on the timing of your project. Without attending the [&WORKSHOP/DEMONSTRATION/TRAINING or &TECHNICALASSISTANCE], would you have implemented &MEASURE at the same time as you actually did through the project, earlier than you did, later than you did ... or would you not have installed the measure at all?

RESPONSE	DAT0_MID1	DAT0_MID2	DAT0_MID3	DAT0_MID4
<b>Same time</b>	1	1	1	1
<b>Earlier</b>	2	2	2	2
<b>Later</b>	3	3	3	3
<b>Would never have installed</b>	4	4	4	4
[Don't know]	-97	-97	-97	-97
[Refused]	-98	-98	-98	-98

**[IF DAT1a ≠ LATER, SKIP]**

**AT11b.** Approximately how many months later?  
 [Try to get a number. Try bracketing if necessary by beginning with more or less than four years later.]

	<b>DAT1b_ &amp;MEASURE</b>
[RECORD # OF MONTHS]	_____
[Don't know]	-97

**QUANTITY**

**ASK QUANTITY QUESTIONS ONLY FOR MEASURES WHERE DAT0 = 1 OR 2 (VERY LIKELY OR SOMEWHAT LIKELY TO HAVE IMPLEMENTED IN THE ABSENCE OF THE PROGRAM.**

**Finally, I'd like to know about the effect, if any, that your participation in the [&WORKSHOP/DEMONSTRATION/TRAINING or &TECHNICALASSISTANCE] had on the scale of the project you completed.**

**AQ1a.** Without the support from [&WORKSHOP/DEMONSTRATION/TRAINING or &TECHNICALASSISTANCE] would you have installed more or/a larger sized <measure>, less, about the same amount, or would you not have installed any quantity of the measure at all?

RESPONSE	DAT0_MID1	DAT0_MID2	DAT0_MID3	DAT0_MID4
Same amount	1	1	1	1
Less or smaller	2 [READ AQ3a]	2 [READ AQ3a]	2 [READ AQ3a]	2 [READ AQ3a]
More or larger	3 [READ AQ3a]	3 [READ AQ3a]	3 [READ AQ3a]	3 [READ AQ3a]
Would not have installed any	4	4	4	4
[Not Applicable]	5	5	5	5
[Don't know]	-97	-97	-97	-97
[Refused]	-98	-98	-98	-98

**AQ1b.** Why do you say that? **[RECORD VERBATIM]** \_\_\_\_\_

**[IF AQ1 = SAME or NOT INSTALLED ANY, SKIP TO OP9]**

**AQ3a.** By what percentage do you think you increased or decreased the amount of <&MEASURE installed?

Calculate percent:  $\text{abs}([(amount\ installed) / (amount\ would\ have\ installed)] - 100\%)$

The response can be greater or less than 100 percent. Two examples:

- Example 1. Organization installed 8, but would have installed 2 without the program. Change is 300 percent.
- Example 2. Organization installed 4, would have installed 3 without the program. Change is 33 percent.

Record a positive % even if they decreased the amount that they installed.

- Example 3. Organization installed 8 but would have installed 10 w/out the program. Change is 20 percent.
- Example 4. Organization installed 4 but would have installed 6 without the program. Change is 33 percent.

RESPONSE	DAT0_MID1	DAT0_MID2	DAT0_MID3	DAT0_MID4
[RECORD %]	_____ %	_____ %	_____ %	_____ %
Don't know	-97	-97	-97	-97
Refused	-98	-98	-98	-98

**OVERALL INFLUENCE CHECK IF RECEIVED FUNDING FROM ANY SOURCE**

*This battery has been shortened from the renewables survey given that this survey is for an information or technical assistance effort that does not offer incentives. Will just be used to over context to overall attribution.*

**[ASK ONLY IF OP1=1]**

**OP9.** In your opinion, was the &SPONSOR’s [&WORKSHOP/DEMONSTRATION/TRAINING/ &TECHNICAL ASSISTANCE], more important in encouraging and enabling [your organization] to carry out the renewable energy project we have been discussing; was the rebate more important; or were they both equally important?

SEP PA &WORKSHOP/DEMONSTRATION/TRAINING/&TRAINING	1
Rebate	2
Both equally important	3
[Don’t know]	-97
[Refused]	-98

**OP10** Why do you say that?

**[RECORD VERBATIM]** \_\_\_\_\_

**ATTRIBUTION – MARKET CONTEXT**

**TRAINING OBJECTIVES**

**TO1.** The [&WORKSHOP/DEMONSTRATION/TRAINING/ &TECHNICAL ASSISTANCE], was designed to achieve the following objectives: &USE COURSE SPECIFIC BELOW.

**NOTE: WE WILL PROVIDE COURSE SPECIFICS BASED UPON A REVIEW OF CURRICULA, PARTICIPANT DATABASES AND INPUTS FROM INSTRUCTOR SURVEY DATA.**

**[INSERT TWO SENTENCE OR LESS DESCRIPTIONS OF EACH SPECIFIC EFFORT]**

**[ASK IF RESPONDENT ATTENDED &WORKSHOP/DEMONSTRATION/TRAINING.**

**TO2.** Prior to taking this course, had you searched for courses with similar curricula content?

[Yes]	1	[GO TO TO3]
[No]	2	[GO TO KA1]
[Don’t know]	98	[GO TO KA1]
[Refused]	99	[GO TO KA1]

**TO3.** Using a scale of 1 to 10 where 1 is no courses available and 10 is many courses available, how would you rate the availability of courses with similar curricula prior to &DATE?

None Available	1	[GO TO KA1]
	2	[GO TO KA1]
	3	[GO TO KA1]
	4	[GO TO KA1]
	5	[GO TO KA1]
	6	[GO TO KA1]
	7	[GO TO KA1]
	8	[GO TO KA1]
	9	[GO TO KA1]
Many Available	10	[GO TO KA1]
Don't know	98	[GO TO KA1]
Refused	99	[GO TO KA1]

**KNOWLEDGE AND AWARENESS EFFECTS**

**NOTE: IN THIS SECTION, WE IDENTIFY ANY CHANGES TO KNOWLEDGE AND AWARENESS AS A RESULT OF PARTICIPATION IN THE &WORKSHOPS/DEMONSTRATIONS/TRAININGS OR &TECHNICAL ASSISTANCE. NOTABLY, THIS SECTION WILL GATHER INFORMATION TO UNDERSTAND OTHER EFFECTS OF THE SEP TRAINING EFFORTS.**

**KA1.** Did the [&WORKSHOP/DEMONSTRATION/TRAINING/ &TECHNICAL ASSISTANCE], provide you with any new information?

[Yes]	1	[GO TO KA2a]
[No]	2	[GO TO KA2a]
[Don't know]	98	[GO TO KA2a]
[Refused]	99	[GO TO KA2a]

**KA2a.** Using a scale of 1 to 10 where 1 is no knowledge and 10 is significant knowledge, how would you rate your level of knowledge regarding the [&WORKSHOP/DEMONSTRATION/TRAINING/ &TECHNICAL ASSISTANCE], objectives prior to your participation in &DATE?

No Knowledge	1	[GO TO KA2b]
	2	[GO TO KA2b]
	3	[GO TO KA2b]
	4	[GO TO KA2b]
	5	[GO TO KA2b]
	6	[GO TO KA2b]
	7	[GO TO KA2b]
	8	[GO TO KA2b]
	9	[GO TO KA2b]
Significant Knowledge	10	[GO TO KA2b]

Don't know	98	<a href="#">[GO TO KA2b]</a>
Refused	99	<a href="#">[GO TO KA2b]</a>

**[SKIP IF KA1=2]**

**KA2b.** On the same scale, how would you rate your [&WORKSHOP/DEMONSTRATION/TRAINING/ &TECHNICAL ASSISTANCE], objectives knowledge after your participation?

No Knowledge	1	<a href="#">[GO TO KA3]</a>
	2	<a href="#">[GO TO KA3]</a>
	3	<a href="#">[GO TO KA3]</a>
	4	<a href="#">[GO TO KA3]</a>
	5	<a href="#">[GO TO KA3]</a>
	6	<a href="#">[GO TO KA3]</a>
	7	<a href="#">[GO TO KA3]</a>
	8	<a href="#">[GO TO KA3]</a>
	9	<a href="#">[GO TO KA3]</a>
Significant Knowledge	10	<a href="#">[GO TO KA3]</a>
Don't know	98	<a href="#">[GO TO KA3]</a>
Refused	99	<a href="#">[GO TO KA3]</a>

**KA3.** Did the [&WORKSHOP/DEMONSTRATION/TRAINING/ &TECHNICAL ASSISTANCE] increase your awareness of ways to adopt renewable energy at your &INSERT HOME, FACILITY, JOBS, CLASSROOM?

[Yes]	1	<a href="#">[GO TO KA4]</a>
[No]	2	<a href="#">[GO TO KA4]</a>
[Don't know]	98	<a href="#">[GO TO KA4]</a>
[Refused]	99	<a href="#">[GO TO KA4]</a>

**KA4.** Did your participation in the [&WORKSHOP/DEMONSTRATION/TRAINING/ &TECHNICAL ASSISTANCE], make you more likely to adopt renewable energy projects?

[Yes]	1	<a href="#">[GO TO FIN1]</a>
[No]	2	<a href="#">[GO TO FIN1]</a>
[Don't know]	98	<a href="#">[GO TO FIN1]</a>
[Refused]	99	<a href="#">[GO TO FIN1]</a>

**CAPACITY BUILDING**

**NOTE: IN THIS SECTION, WE IDENTIFY ANY CAPACITY BUILDING THAT RESULTED FROM PARTICIPATION IN THE &WORKSHOP/DEMONSTRATION/TRAINING OR &TECHNICAL ASSISTANCE. NOTABLY, THIS SECTION WILL GATHER INFORMATION TO UNDERSTAND OTHER EFFECTS OF THE SEP TRAINING EFFORTS.**

**[ASK IF AC1=2, 3, ELSE ASK BC1]**

**CPC2.** Please tell me if you would agree with any of the following statements. As a result of the  
[&WORKSHOP/DEMONSTRATION/TRAINING/ &TECHNICAL ASSISTANCE]

**CPC2a.** I have acquired additional renewable energy skills that I can apply at the facility or the facilities I manage.

**CPC2b.** I have received a certification or accreditation that is relevant to my profession.

**CPC2c.** I have shared the information with colleagues or decision makers at my job.

**CPC2d.** The quality of the maintenance and operation of renewable energy equipment at my business has increased as a result of participating..

**CPC2e.** I have received access to financing sources to facilitate renewable energy offerings for my clients.

**CPC2f.** &INSERT TRAINING SPECIFIC CAPACITY AREA

	CAPACITY BUILDING	CPC2a EE Skills	CPC2b Certification	CPC2c Shared Info	CPC2d Maintenance	CPC2e Financing	CPC2f &INSERT TRAINING SPECIFIC CAPACITY AREA
1	Yes						
2	Somewhat agree						
3	No						
5	[Don't know]						
6	[Refused]						

**[ASK IF CPM2a-f <3]**

**CPM2.** You indicated that you agreed with &[READ IN CPM2a-f]. How specifically did the  
&WORKSHOP/DEMONSTRATION/TRAINING/CERTIFICATION/&TECHNICAL ASSISTANCE  
allow you to &[READ IN CPM2a-f]?

**BUILDING CHARACTERISTICS**

*We will insert the renewable survey building characteristics battery when it becomes available.*