

**CT-4B-R: Renewables: Residential Sector**  
**OMB Control No. XXXXXXXX**

**DATABASE VARIABLES**

&INTERVIEWER\_NAME.....name of the caller  
&CONTACT.....contact name from program database  
&SPONSOR.....organization that sponsored the program activity  
&PROGRAM.....program activity name  
&DATES.....dates of program activities operation 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  
&SERV\_ADDR.....address where measure(s) were installed or service(s) performed  
&HOMETYPE.....Single family home or multi-family home (fill “home” or “building”)  
&CITY.....city where measure(s) were installed or service(s) performed  
&CORRECT.....corrected address  
&MEASURE\_TYPE.....photovoltaic (pv), wind turbine, solar hot water, biomass, biogas, etc.  
&QTY.....quantity of measure installed  
&MEASURE.....specific technology within measure type, e.g. CFLs  
&TARGET\_YEARS.....programs years under evaluation  
&PV.....boolean that is true if respondent installed photovoltaic measures  
&PV\_TECH.....specific photovoltaic technology,  
&PV\_NUM.....number of modules installed by pv technology  
&PVINV\_TECH.....specific pv inverter technology  
&PVINV\_NUM.....number of pv inverters installed by technology  
&WIND.....boolean that is true if respondent installed wind turbine measures  
&W\_TECH.....specific wind turbine technology,  
&W\_NUM.....number of wind turbine measures installed by technology  
&WINV\_TECH.....specific wind turbine inverter installed by technology  
&WINV\_NUM.....number of wind turbine inverters installed by technology  
&SHW.....boolean that is true if respondent installed solar heating measures  
&SHW\_TECH.....specific solar heating technology,  
&SHW\_NUM.....number of solar hot water modules installed by technology  
&BM.....boolean that is true if respondent installed biomass measures  
&BM\_TECH.....specific biomass technology,  
&BM\_NUM.....  
&BIOGAS.....boolean that is true if respondent installed biogas measures  
&BIOGAS\_CAPTECH.....specific biogas capturing technology,  
&BIOGAS\_GENTECH.....specific biogas power generation technology,  
&BIOGAS\_NUM.....  
&OTHER.....boolean that is true if respondent installed other measures

**INTRODUCTION AND FINDING CORRECT RESPONDENT**

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

May I please speak with &CONTACT, or the person at this location who is most knowledgeable about your &HOMTYPE’s participation in &SPONSOR's &PROGRAM, which operated during the period &DATES?

**[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 &PROGRAM worked.

[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 get _____]	4	[GO TO INTRO3:s]
[No, that is the wrong person]	5	[GO TO HI]
[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?

		RECORD, CONTACT NAME, DAY OF THE WEEK, TIME OF DAY AND DATE TO CALL BACK  CALL BACK AT AGREED TIME	[GO TO EXT]
[Don’t Know]	-97	THANK & TERMINATE; ASSIGN REFUSED AND REMOVE FROM CALL ORDER	[GO TO INTRO3(99)]
[Refused]	-98	END CALL; KEEP CONTACT IN REGULAR CALL ORDER	[GO TO INTRO3(99)]

**INTRO3(99).** Thank you for your time. We need to speak with the person in your &HOMTYPE that is most familiar with your participation in the &PROGRAM. Those are all of the questions I have for you today [\[TERMINATE; ASSIGN DISPOSITION & REMOVE FROM CALL ORDER\]](#)

**HI.** Who would be the person in your &HOMTYPE who is most knowledgeable about your participation in &SPONSOR's &PROGRAM?

	RECORD NAME AS &CONTACT	<a href="#">[GO TO MAY_I]</a>
[Don't Know]	-97	<a href="#">[GO TO APPOINT]</a>
[Refused]	-98	<a href="#">[GO TO INTRO3(99)]</a>

**MAY\_I.** May I speak with him/her?

[Yes]	1	<a href="#">[GO TO INTRO3:s]</a>
[No]	2	<a href="#">[GO TO EXT]</a>
[Don't know]	-97	<a href="#">[GO TO EXT]</a>
[Refused]	-98	<a href="#">[GO TO EXT]</a>

**INTRO3:s.** Hello, this is <INTERVIEWER NAME> calling on behalf of the Department of Energy from Tetra Tech. This is not a sales call. This is a fact-finding survey only. According to our records, your &HOMTYPE participated in &SPONSOR's &PROGRAM.

I was told that you are the person most knowledgeable about this program. Is this correct?

[Yes]	1	<a href="#">[GO TO PURPOSE]</a>
[No]	2	<a href="#">[GO TO HI]</a>
[No one knows about the program]	3	<a href="#">[GO TO INTRO3(99)]</a>
[Don't know]	-97	<a href="#">[GO TO HI]</a>
[Refused]	-98	<a href="#">[GO TO EXT]</a>

**EXT.** Is there a different phone number you recommend we use when we call back?

[Yes]	1	RECORD EXTENSION OR PHONE NUMBER AS &PHONE; <a href="#">[GO TO APPOINT]</a>
[No]	2	<a href="#">[GO TO APPOINT]</a>
[Don't know]	-97	<a href="#">[GO TO APPOINT]</a>
[Refused]	-98	<a href="#">[GO TO APPOINT]</a>

**PURPOSE.** 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.

We are calling you today to learn about your response to the &SPONSOR's &PROGRAM. The information we gather will be used by the Department of Energy to understand how the program has worked. The survey should take no more than 50 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 &HOMTYPE in any way.

**SC1.** First, I'd like to ask you a few questions about your &HOMTYPE. Our records show your &HOMTYPE is at &SERV\_ADDR in &CITY. Is that correct?

[Yes]	1	[GO TO COMMENT3]
[No]	2	[GO TO CORRECT]
[Don't know]	-97	[GO TO COMMENT1]
[Refused]	-98	[GO TO COMMENT1]

**COMMENT1.** We were attempting to reach the customer at &SERV\_ADDR and since you cannot confirm this address, those are all the questions that we have for you today, on behalf of the Department of Energy, thank you for your time. [TERMINATE]

**CORRECT** May I have your address?

[Yes]	1	RECORD IN &CORRECT  [GO TO COMPARE]
[No]	2	[COMMENT1]
[Don't know]	-97	[GO TO HI]
[Refused]	-98	[ GO TO COMMENT1]

**COMPARE.** [DO NOT READ] Are these addresses similar or totally different?

Computer Address - &SERV\_ADDR  
Corrected Address - &CORRECT

[Similar]	1	SET &SERV_ADDR = &CORRECT  [GO TO SC2]
[Totally different]	2	[GO TO COMMENT2]

**COMMENT2.** We were attempting to reach the customer at &SERV\_ADDR in &CITY and since that does not match your address, then we must have misdialled the telephone number. Those are all the questions that we have for you today, on behalf of the Department of Energy. Thank you for your time and cooperation. [\[TERMINATE\]](#)

**SC2.** Our records show that you received support from &PROGRAM to carry out energy efficiency improvements at &SERV\_ADDR in &CITY. Is that correct?

[Yes]	1	<a href="#">[GO TO SC3]</a>
[No]	2	<a href="#">[GO TO COMMENT4]</a>
[Don't know]	97	<a href="#">[GO TO COMMENT4]</a>
[Refused]	98	<a href="#">[GO TO COMMENT4]</a>

**COMMENT4.** Can you refer me to someone who would be likely to be familiar with such a project?

[Yes]	1	<a href="#">[GO TO HI]</a>
[No]	2	<a href="#">[GO TO INTRO3(99)]</a>
[Don't know]	-97	<a href="#">[GO TO INTRO3(99)]</a>
[Refused]	-98	<a href="#">[GO TO INTRO3(99)]</a>

**SC3.** Are you familiar with the decision to participate in &PROGRAM and the type of the energy efficiency measures carried out with its assistance?

[Yes]	1	<a href="#">[GO TO V1]</a>
[No]	2	<a href="#">[GO TO COMMENT4]</a>
[Don't know]	-97	<a href="#">[GO TO COMMENT4]</a>
[Refused]	-98	<a href="#">[GO TO COMMENT4]</a>

**INITIAL VERIFICATION INVENTORY**

**NOTE: THE SEGMENTS VY AND VN ELICIT THE SAME TYPE OF INFORMATION FROM CUSTOMERS IN PROGRAMS THAT ARE ABLE TO PROVIDE MEASURE-LEVEL DATA FOR PROJECTS SUPPORTED BY THE PROGRAM (VY) AND THOSE FOR WHICH MEASURE-LEVEL DATA ARE NOT AVAILABLE (VN). THE ANSWERS TO BOTH SEQUENCES ARE ANSWERED IN THE SAME INITIAL VERIFICATION GRID BELOW. THE OBJECTIVE OF THIS SEQUENCE IS TO PROVIDE VERIFICATION OF THE OVERALL SCOPE OF THE PROJECT, CHARACTERIZE THE SCOPE OF SUPPORT PROVIDED BY THE SEP PROGRAM AND OTHER PROGRAMS, AND ELIMINATE THE NEED FOR REPETITIVE QUESTIONS IN THE DETAILED MEASURE SECTIONS. SEQUENCE VB IS ADDRESSED TO ALL RESPONDENTS.**

**V1.** I'd like to ask you about the scope of the project at &SERV\_ADDR.

**V1b.** Was this project done to an existing &HOMETYPE or was it part of a new construction project?

[Existing/retrofit]	1	[GO TO VY1a]
[New construction]	2	[THANK AND TERMINATE]
[Don't know]	-97	[GO TO VY1a]
[Refused]	-98	[GO TO VY1a]

**SEQUENCE VY: FOR CUSTOMERS IN PROGRAMS WITH MEASURE-LEVEL DETAIL IN THE TRACKING DATABASE.**

**[REPEAT THIS SERIES FOR EACH MEASURE IN THE TRACKING DATA]**

**VY1a.** According to &SPONSOR records, you installed &QTY &MEASURE as part of the project at &SERV\_ADDR. Is this correct?

[Yes, installed that number]	1	[GO TO VY1a FOR NEXT MEASURE]
[Did not install any of that technology]	2	[GO TO VY1a FOR NEXT MEASURE]
[Technology correct, number wrong]	3	[GO TO VY1B]
[Don't Know]	-97	[GO TO VY1a FOR NEXT MEASURE]
[Refused]	-98	[GO TO VY1a FOR NEXT MEASURE]

**VY1b.** How many &MEASURE did you install?

RECORD NUMBER	_____	[GO TO VY1C]
Don't know	-97	[GO TO VY1C]
Refused	-98	[GO TO VY1C]

**VY1c.** Why did you install a different number of &MEASURE?

Have no idea why numbers differ	1	[GO TO VY1D]
Put some in storage	2	[GO TO VY1D]
Installed some at another location in the U.S.	3	[GO TO VY1D]
Insufficient financial resources to complete full amount	4	[GO TO VY1D]
[Other, Specify _____]	5	[GO TO VY1D]
[Don't know]	-97	[GO TO VY1D]
[Refused]	-98	[GO TO VY1D]

**VY1d.** Do you plan to install the remaining &MEASURE within the next year?

[Yes]	1	[GO TO VY1a FOR NEXT MEASURE]
[No]	2	[GO TO VY1a FOR NEXT MEASURE]
[Don't know]	-97	[GO TO VY1a FOR NEXT MEASURE]
[Refused]	-98	[GO TO VY1a FOR NEXT MEASURE]

[GO TO VB1 AFTER COMPLETING VY SEQUENCE FOR ALL MEASURES IN TRACKING DATABASE]

**SEQUENCE VN: FOR CUSTOMERS IN PROGRAMS WITH NO MEASURE-LEVEL DETAIL IN THE TRACKING DATABASE.**

**VN1a.** Which of the following types of equipment or services were received support from &PROGRAM? [READ LIST IN THE GRID. MARK ALL THAT APPLY]

Wind Turbine	RECORD QTY___	[GO TO VN1c]
PV Solar Panels	RECORD QTY___	[GO TO VN1c]
Solar Hot Water Panels	RECORD QTY___	[GO TO VN1c]
Solar Hot Water Tubes	RECORD QTY___	[GO TO VN1c]
Geothermal Heat Pump	RECORD QTY___	[GO TO VN1c]
Fuel Cell	RECORD QTY___	[GO TO VN1c]
Other Efficiency Measures [SPECIFY _____]	RECORD QTY___	[GO TO VN1c]

**VN1c.** Is there any equipment or services for which you received support from &PROGRAM in &TARGET\_YEARS that has not yet been installed

[Yes]	1	[GO TO VN1d]
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[No]	2	[GO TO VB1]
[Don't know]	-97	[GO TO VB1]
[Refused]	-98	[GO TO VB1]

**VN1d.** Which equipment or services received support from &PROGRAM but have not yet been installed or conducted? **[MARK ALL THAT APPLY IN LIST IN THE GRID.]**

Wind Turbine	RECORD QTY NOT INSTALLED____	[GO TO VN2a]
PV Solar Panels	RECORD QTY NOT INSTALLED____	[GO TO VN2a]
Solar Hot Water Panels	RECORD QTY NOT INSTALLED____	[GO TO VN2a]
Solar Hot Water Tubes	RECORD QTY NOT INSTALLED____	[GO TO VN2a]
Geothermal Heat Pump	RECORD QTY NOT INSTALLED____	[GO TO VN2a]
Fuel Cell	RECORD QTY NOT INSTALLED____	[GO TO VN2a]
Other Efficiency Measures [MULTIPLE "OTHER" POSSIBLE]	RECORD QTY NOT INSTALLED____	[GO TO VN2a]

**FOR EACH MEASURE TYPE MARKED IN VN1c, ASK VN2a THROUGH VN2c.**

**VN2a.** Why was &MEASURE\_TYPE not installed at &SERV\_ADDR? **[DO NOT READ, MARK ALL THAT APPLY]**

Put some in storage	1	[GO TO VN2b]
Installed some at another location in the U.S.	2	[GO TO VN2b]
Insufficient financial resources to complete full amount	3	[GO TO VN2b]
[Other, Specify_____]	4	[GO TO VN2b]
[Don't know]	-97	[GO TO VN2b]
[Refused]	-98	[GO TO VN2b]

**VN2b.** Do you plan to install the remaining &MEASURE within the next year?

[Yes]	1	[GO TO VN2a FOR NEXT MEASURE]
[No]	2	[GO TO VN2a FOR NEXT MEASURE]
[Don't know]	-97	[GO TO VN2a FOR NEXT MEASURE]
[Refused]	-98	[GO TO VN2a FOR NEXT MEASURE]

**[GO TO VB1 AFTER COMPLETING VN2a – VN2c SEQUENCE FOR ALL APPLICABLE MEASURES]**

**VY AND VN SEQUENCE RESPONSE GRID FOR SEP SUPPORTED EFFORTS**

	1a	1c (N only)	2a	2b
Measure type	Installed?	Not Installed	Why not installed?	Plan to install in Yr?
<b>Efficiency Measures</b>				
Wind Turbine				
PV Solar Panels				
Solar Hot Water Panels				
Solar Hot Water Tubes				
Geothermal Heat Pump				
Fuel Cell				
<b>Other Efficiency Measures</b> [SPECIFY _____]				

**SEQUENCE VB: DIRECTED TO ALL CUSTOMERS.**

**VB1.** What kinds of assistance and support did you receive from &SPONSOR's &PROGRAM in completing the project at &HOMTYPE? **[DO NOT READ, MARK ALL THAT APPLY. PROMPT IF NEEDED.]**

Financial grant or rebate for measures installed	1	[GO TO VB2]
Subsidy for design or engineering work	2	[GO TO VB2]

Reduced interest loan or loan interest subsidy	3	<a href="#">[GO TO VB2]</a>
Loan guarantee	4	<a href="#">[GO TO VB2]</a>
Assistance in entering into performance contracts	5	<a href="#">[GO TO VB3]</a>
Energy audit or other technical assistance in identifying & characterizing opportunities	6	<a href="#">[GO TO VB3]</a>
Referrals to qualified vendors	7	<a href="#">[GO TO VB3]</a>
General information on energy efficiency opportunities	8	<a href="#">[GO TO VB3]</a>
Other (Specify in enough detail to understand the support received to use in attribution analysis) _____	9	<a href="#">[GO TO VB3]</a>
[Don't know]	97	<a href="#">[GO TO VB3]</a>
[Refused]	98	<a href="#">[GO TO VB3]</a>

**[IF VB1 INCLUDES 1, 2, 3, OR 4 ASK VB2, ELSE VB3]**

**VB2.** What was the amount of the incentive, subsidy, or loan provided by the &SPONSOR's &PROGRAM? Your best approximation will be fine.

[RECORD AMOUNT]	\$_____	<a href="#">[GO TO VB3]</a>
[Don't know]	-97	<a href="#">[GO TO VB3]</a>
[Refused]	-98	<a href="#">[GO TO VB3]</a>

**VB3.** And, what was the total overall cost of the project supported by &PROGRAM including equipment and labor *before* any incentives or subsidies were applied? Again, your best approximation will be fine

[RECORD AMOUNT]	\$_____	<a href="#">[GO TO VB4]</a>
[Don't know]	-97	<a href="#">[GO TONEXT SECTION]</a>
[Refused]	-98	<a href="#">[GO TO NEXT SECTION]</a>

**[IF MULTIPLE MEASURES INSTALLED ASK VB4 THROUGH VB6, ELSE NEXT SECTION.]**

**VB4.** Can you recall how these costs were allocated among the different equipment or services installed or conducted?

[Yes]	1	<a href="#">[GO TO VB5]</a>
[No]	2	<a href="#">[GO TO NEXT SECTION]</a>
[Don't know]	-97	<a href="#">[GO TO NEXT SECTION]</a>
[Refused]	-98	<a href="#">[GO TO NEXT SECTION]</a>

**VB5.** Can you tell me the cost of purchasing and installing &MEASURE **[STARTING FROM FIRST IN GRID OR DATABASE]?**

**VB6. [IF RESPONDENT CANNOT PROVIDE A COST AMOUNT:]** What percentage of the total overall costs of the project supported by &PROGRAM did &MEASURE\_TYPE account for?

	<b>VB5</b>	<b>VB6</b>
<b>Measure type</b>	<b>Cost</b>	<b>% of Total</b>
Wind Turbine		
PV Solar Panels		
Solar Hot Water Panels		
Solar Hot Water Tubes		
Geothermal Heat Pump		
Fuel Cell		
<b>Other Efficiency Measures</b>		

[RECORD VERIFIED MEASURES FOR MEASURE SPECIFIC QUESTIONS BELOW. RESPONDENTS WILL ONLY BE ASKED MEASURE SPECIFIC QUESTIONS FOR MEASURE GROUPS CONFIRMED]

[&WIND]  
 [&PV]  
 [&SHW]  
 [&BIOGAS]  
 [&OTHER]

**PV SYSTEMS QUESTIONS**

[IF &PV = TRUE]

In the next section we'll be discussing the photovoltaic project that received support from &SPONSOR &PROGRAM.

[IF MEASURE-LEVEL RECORDS ARE AVAILABLE ASK PV1a THROUGH PV2c.  
 IF MEASURE-LEVEL RECORDS ARE NOT AVAILABLE, ASK PV3a THROUGH PV3c.]

**PV1a.** Our records indicate that you installed &PV\_NUM of &PV\_TECH through the &PROGRAM, is this correct?

[Yes, installed that number]	1	[GO TO PV1A FOR NEXT &PV_TECH]
[Did not install any of that technology]	2	[GO TO PV1A FOR NEXT &PV_TECH]
[Technology correct, number wrong]	3	[GO TO PV1num]
[Don't Know]	-97	[GO TO PV1A FOR NEXT &PV_TECH]
[Refused]	-98	[GO TO PV1A FOR NEXT &PV_TECH]

**PV1num.** What is the correct number of &PV\_TECH that you installed through the &PROGRAM?

ENTER NUMBER		[GO TO PV1c]
[Don't Know]	-97	[GO TO PV1A FOR NEXT &PV_TECH]
[Refused]	-98	[GO TO PV1A FOR NEXT &PV_TECH]

**PV1c.** Why did you install a different number of &PV\_TECH?

Have no idea why numbers differ	1	[GO TO PV1A FOR NEXT &PV_TECH]
Put some in storage	2	[GO TO PV1A FOR NEXT &PV_TECH]
Installed somewhere else	3	[GO TO PV1A FOR NEXT &PV_TECH]
Insufficient financial resources to complete full amount	4	[GO TO PV1A FOR NEXT &PV_TECH]
[Other, Specify _____]	5	[GO TO PV1A FOR NEXT &PV_TECH]
[Don't know]	-97	[GO TO PV1A FOR NEXT &PV_TECH]
[Refused]	-98	[GO TO PV1A FOR NEXT &PV_TECH]

**PV2.** Our records indicate that you installed &PVINV\_NUM of &PVINV\_TECH through the &PROGRAM, is this correct?

[Yes, installed that number]	1	[GO TO PV2A FOR NEXT
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		&PVINV_TECH]
[Did not install any of that technology]	2	[GO TO PV2A FOR NEXT &PVINV_TECH]
[Technology correct, number wrong]	3	[GO TO PV2num]
[Don't Know]	-97	[GO TO PV2A FOR NEXT &PVINV_TECH]
[Refused]	-98	[GO TO PV2A FOR NEXT &PVINV_TECH]

**PV2a.** What is the correct number of &PVINV\_TECH that you installed through the &PROGRAM?

ENTER NUMBER		[GO TO LI1c]
[Don't Know]	-97	[GO TO LI1A FOR NEXT &PV_TECH]
[Refused]	-98	[GO TO LI1A FOR NEXT &PV_TECH]

**PV3a.** What is the manufacturer and model number of your PV modules?

**PV3a1.**

RECORD MANUFACTURER		[GO TO PV3a2]
[Don't Know]	-97	[GO TO PV3a2]
[Refused]	-98	[GO TO PV3a2]

**PV3a2.**

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

**PV3b.** How many of that type of PV module have been installed through the &PROGRAM.

ENTER NUMBER		[GO TO PV3c]
[Don't Know]	-97	[GO TO PV3c]
[Refused]	-98	[GO TO PV3c]

**PV3c.** Are there other types of PV modules installed through the &PROGRAM?

YES		[GO TO PV3a]
NO		[GO TO PV3d]
[Don't Know]	-97	[GO TO PV3d]
[Refused]	-98	[GO TO PV3d]

**PV3d.** What is the manufacturer and model number of your PV inverter(s)?

**PV3d1.**

RECORD MANUFACTURER		[GO TO PV3d2]
[Don't Know]	-97	[GO TO PV3d2]
[Refused]	-98	[GO TO PV3d2]

**PV3d2.**

RECORD MODEL NUMBER		[GO TO PV3e]
[Don't Know]	-97	[GO TO PV3e]
[Refused]	-98	[GO TO PV3e]

**PV3e.** How many of that type of inverter have been installed through the &PROGRAM.

ENTER NUMBER		[GO TO PV3f]
[Don't Know]	-97	[GO TO PV3f]
[Refused]	-98	[GO TO PV3f]

**PV3f.** Are there other types of inverters installed through the &PROGRAM?

YES		[GO TO PV3d]
NO		[GO TO PV4]
[Don't Know]	-97	[GO TO PV4]
[Refused]	-98	[GO TO PV4]

**PV4.** How many degrees from north are your panels facing?

[ENTER NUMBER]

[DON'T KNOW] .....-97

[REFUSED] .....-98

**PV5.** Are your panels on an automatic tracking system?

[YES].....1

[NO].....[SKIP TO PV7] 2

[DON'T KNOW].....[SKIP TO PV7] -97

[REFUSED].....[SKIP TO PV7] -98

**PV6.** Is your tracking system DUAL axis?

- [YES].....1
- [NO].....[SKIP TO PV7] 2
- [DON'T KNOW].....-9997
- [REFUSED].....-9998

**PV7.** Are your panels shaded at all during the year?

- [YES]..... 1
- [NO].....[SKIP TO PV9] 2
- [DON'T KNOW].....[SKIP TO PV9] -97
- [REFUSED].....[SKIP TO PV9] -98

**PV8a.** Which months of the year are they shaded at least part of the day?

**PV8b.** For each month that they are shaded part of the day, what times of day are they shaded?

- [RECORD MONTH, TIME OF DAY AND PERCENT SHADED]
- [RECORD MONTH, TIME OF DAY AND PERCENT SHADED]
- [RECORD MONTH, TIME OF DAY AND PERCENT SHADED]



**PV9.** Have you modified the system since it was first installed? (ex: equipment changes such as replacing panels or an inverter or additions, such as adding panels?)

- [YES]..... 1
- [NO].....[SKIP TO PV10] 2
- [DON'T KNOW].....[SKIP TO PV10] -97
- [REFUSED].....[SKIP TO PV10] -98

**PV9a.** Was the modification an addition or an equipment replacement?  
**[CIRCLE ALL THAT APPLY]**

- [Addition].....[SKIP TO PV9b] 1
- [Replacement].....[SKIP TO PV9c] 2
- [DON'T KNOW].....[SKIP TO PV10] -97
- [REFUSED].....[SKIP TO PV10] -98

**PV9b.** What have you [added]?  
**[RECORD RESPONSE – note changes to capacity]**

- [DON'T KNOW].....[SKIP TO PV10] -97
- [REFUSED].....[SKIP TO PV10] -98

**PV9c.** What components of your system have required repair or replacement?

- [Inverter].....1
- [One or more modules].....2
- [Anything else].....3

**PV9d.** When did you make this change?

- [RECORD DATE] \_\_\_\_\_
- [DON'T KNOW].....-97
- [REFUSED].....-98

**PV10.** When was your PV system installed?

**[RECORD MONTH and YEAR]**

**PV10a.** Did your system begin producing electricity on the date it was installed?

- [YES].....[SKIP TO PV11] 1
- [NO].....2
- [DON'T KNOW].....[SKIP TO PV11] -97
- [REFUSED].....[SKIP TO PV11] -98

**PV10b** When did it begin producing electricity?

**[RECORD PRODUCTION Month and Year (if possible get day)]**\_\_\_\_\_

**PV11.** Has there been any major down-time (more than a few days) in the system since installation?

- [YES].....1
- [NO].....[SKIP TO PV12] 2
- [DON'T KNOW].....-97
- [REFUSED].....-98

**PV11a.** When, and for how long [record as month:days (i.e. 03:7)]? \_\_\_\_\_

**[IF MORE THAN ONE, RECORD MOST SUBSTANTIAL PERIOD]**

**PV12.** 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]**

**PV12a** kWh

- [DON'T KNOW].....-97
- [REFUSED].....-98

**PV12b** RESET DATE \_\_\_\_\_

**PV13.** What did you take this reading from? **[READ CHOICES, CIRCLE ALL THAT APPLY]**

- Read-out display on inverter?**.....1
- Separate utility meter for pv electricity?**.....2
- [Other].....-9996
- [DON'T KNOW].....-9997
- [REFUSED].....-9998

**PV13a.** [Describe OTHER\_\_\_\_\_]

**PV13b.** How do you track the output from the [renewable system—fill in type]?

- [inverter].....1
- [utility meter/net meter] .....2
- [reductions in my utility bill] .....3
- [other means: please describe\_\_\_\_\_].....4

**PV14c.** On a scale of 1-10, is the [renewable –insert type ] system achieving the savings you expected?

**PV14d.** Why/why not?

**WIND SYSTEMS QUESTIONS**

**[IF &WIND = TRUE]**

**In the next section we'll be discussing the wind project that received support from &SPONSOR &PROGRAM.**

**[IF MEASURE-LEVEL RECORDS ARE AVAILABLE ASK W1a THROUGH W2b. IF MEASURE-LEVEL RECORDS ARE NOT AVAILABLE, ASK W3a THROUGH W3f.]**

**W1a.** Our records indicate that you installed &WIND\_NUM of &WIND\_TECH through the &PROGRAM, is this correct?

[Yes, installed that number]	1	[GO TO W1A FOR NEXT &W_TECH]
[Did not install any of that technology]	2	[GO TO W1A FOR NEXT &W_TECH]
[Technology correct, number wrong]	3	[GO TO W1num]
[Don't Know]	-97	[GO TO W1A FOR NEXT &W_TECH]
[Refused]	-98	[GO TO W1A FOR NEXT &W_TECH]

**W1num.** What is the correct number of &WIND\_TECH that you installed through the &PROGRAM?

ENTER NUMBER		[GO TO W1c]
[Don't Know]	-97	[GO TO W1A FOR NEXT &W_TECH]
[Refused]	-98	[GO TO W1A FOR NEXT &W_TECH]

**W1c.** Why did you install a different number of &WIND\_TECH?

Have no idea why numbers differ	1	[GO TO W1A FOR NEXT &W_TECH]
Put some in storage	2	[GO TO W1A FOR NEXT &W_TECH]
Installed somewhere else	3	[GO TO W1A FOR NEXT &W_TECH]
Insufficient financial resources to complete full amount	4	[GO TO W1A FOR NEXT &W_TECH]
[Other, Specify _____]	5	[GO TO W1A FOR NEXT &W_TECH]
[Don't know]	-97	[GO TO W1A FOR NEXT &W_TECH]
[Refused]	-98	[GO TO W1A FOR NEXT &W_TECH]

**W2.** Our records indicate that you installed &WINV\_NUM of &WINV\_TECH through the &PROGRAM, is this correct?

[Yes, installed that number]	1	[GO TO W2 FOR NEXT &WINV_TECH]
[Did not install any of that technology]	2	[GO TO W2 FOR NEXT &WINV_TECH]
[Technology correct, number wrong]	3	[GO TO W2a]
[Don't Know]	-97	[GO TO W2 FOR NEXT &WINV_TECH]
[Refused]	-98	[GO TO W2 FOR NEXT &WINV_TECH]

**W2a.** What is the correct number of &WINV\_TECH that you installed through the &PROGRAM?

ENTER NUMBER		[GO TO W2b FOR NEXT &WINV_TECH]
[Don't Know]	-97	[GO TO W2 FOR NEXT &WINV_TECH]

[Refused]	-98	<a href="#">[GO TO W2 FOR NEXT &amp;WINV_TECH]</a>
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**W2b.**What is the hub height of each turbine?

RECORD CORRECT HEIGHT: \_\_\_\_\_

[DON'T KNOW].....-9997

[REFUSED].....-9998

**W3a.** What is the manufacturer and model number of your turbines?

**W3a1.**

RECORD MANUFACTURER		<a href="#">[GO TO W3a2]</a>
[Don't Know]	-97	<a href="#">[GO TO W3a2]</a>
[Refused]	-98	<a href="#">[GO TO W3a2]</a>

**W3a2.**

RECORD MODEL NUMBER		<a href="#">[GO TO W3b]</a>
[Don't Know]	-97	<a href="#">[GO TO W3b]</a>
[Refused]	-98	<a href="#">[GO TO W3b]</a>

**W3b.** How many of that type of turbines have been installed through the &PROGRAM.

ENTER NUMBER		<a href="#">[GO TO W3c]</a>
[Don't Know]	-97	<a href="#">[GO TO W3c]</a>
[Refused]	-98	<a href="#">[GO TO W3c]</a>

**W3c.** Are there other types of turbines installed through the &PROGRAM?

YES		<a href="#">[GO TO W3a]</a>
NO		<a href="#">[GO TO W3d]</a>
[Don't Know]	-97	<a href="#">[GO TO W3d]</a>
[Refused]	-98	<a href="#">[GO TO W3d]</a>

**W3d.** What is the manufacturer and model number of your inverter(s)?

**W3d1.**

RECORD MANUFACTURER		<a href="#">[GO TO W3d2]</a>
[Don't Know]	-97	<a href="#">[GO TO W3d2]</a>
[Refused]	-98	<a href="#">[GO TO W3d2]</a>

**W3d2.**

RECORD MODEL NUMBER		[GO TO W3e]
[Don't Know]	-97	[GO TO W3e]
[Refused]	-98	[GO TO W3e]

**W3e.** How many of that type of inverter have been installed through the &PROGRAM.

ENTER NUMBER		[GO TO W3f]
[Don't Know]	-97	[GO TO W3f]
[Refused]	-98	[GO TO W3f]

**W3f.** Are there other types of inverters installed through the &PROGRAM?

YES		[GO TO W3d]
NO		[GO TO W4]
[Don't Know]	-97	[GO TO W4]
[Refused]	-98	[GO TO W4]

**W4.** Have you modified the system since it was first installed? (ex: equipment changes such as a new turbine or inverter?)

- [YES].....1
- [NO].....[SKIP TO W5] 2
- [DON'T KNOW].....[SKIP TO W5] -97
- [REFUSED].....[SKIP TO W5] -98

**W4a.** Was the modification an addition or equipment replacement? **[ALL THAT APPLY]**

- [Addition].....[SKIP TO W4b] 1
- [Replacement].....[SKIP TO W4c] 2
- [DON'T KNOW].....[SKIP TO W5] -97
- [REFUSED].....[SKIP TO W5] -98

**W4b.** What have you [added]?

**[RECORD RESPONSE – note changes to capacity]**

- [DON'T KNOW].....[SKIP TO W5] -97
- [REFUSED].....[SKIP TO W5] -98

**W4c.** What components of your system have required repair or replacement?

- [Inverter].....1
- [One or more turbines].....2
- [Anything else].....3

**W4d.** When did you make this change?

- [RECORD DATE] \_\_\_\_\_
- [DON'T KNOW].....[SKIP TO W5] -97
- [REFUSED].....[SKIP TO W5] -98

**W5.** When was your wind turbine installed?

**[RECORD MONTH and YEAR if possible get Day]**

**W5a.** Did the turbine begin producing power on the date it was installed?

- [YES].....1
- [NO].....[RECORD DATE \_\_\_\_\_] 2
- [DON'T KNOW].....-97
- [REFUSED].....-98

**W6.** 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
- [NO].....[SKIP TO W7] 2
- [DON'T KNOW].....[SKIP TO W7] -97
- [REFUSED].....[SKIP TO W7] -98

**W6a** – When, and for how long [(record as month:days (i.e. 03:7))]?  
\_\_\_\_\_

**W7.** 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]**

**W7a.** kWh \_\_\_\_\_

[DON'T KNOW].....-97

[REFUSED].....-98

**W7b.** RESET DATE \_\_\_\_\_

**W8.** Did you make this reading from a . . . ? **[READ CHOICES, CIRCLE ALL THAT APPLY]**

Read-out display on inverter?.....1

Separate utility meter for wind system?.....2

Reductions in my utility bill .....3

[Other].....77

[DON'T KNOW].....-97

[REFUSED].....-98

**W9.** On a scale of 1-10, is the [renewable –insert type ] system achieving the savings you expected?

**W9a** Why/why not?



**SOLAR HOT WATER QUESTIONS**

**[IF &SHW = TRUE]**

**In the next section we'll be discussing the solar hot water project that received support from &SPONSOR &PROGRAM.**

**[IF MEASURE-LEVEL RECORDS ARE AVAILABLE ASK SHW1a THROUGH SHW1c. IF MEASURE-LEVEL RECORDS ARE NOT AVAILABLE, ASK SHW3 THROUGH SHW3c.]**

**SHW1a.** Our records indicate that you installed &SHW\_NUM of &SHW\_TECH through the &PROGRAM, is this correct?

[Yes, installed that number]	1	[GO TO SHW1A FOR NEXT &SHW_TECH]
[Did not install any of that technology]	2	[GO TO SHW1A FOR NEXT &SHW_TECH]
[Technology correct, number wrong]	3	[GO TO SHW1num]
[Don't Know]	-97	[GO TO SHW1A FOR NEXT &SHW_TECH]
[Refused]	-98	[GO TO SHW1A FOR NEXT &SHW_TECH]

**SHW1num.** What is the correct number of &SHW\_TECH that you installed through the &PROGRAM?

ENTER NUMBER		[GO TO SHW1c]
[Don't Know]	-97	[GO TO SHW1A FOR NEXT &SHW_TECH]
[Refused]	-98	[GO TO SHW1A FOR NEXT &SHW_TECH]

**SHW1c.** Why did you install a different number of &SHW\_TECH?

Have no idea why numbers differ	1	[GO TO SHW1A FOR NEXT &SHW_TECH]
Put some in storage	2	[GO TO SHW1A FOR NEXT &SHW_TECH]
Installed somewhere else	3	[GO TO SHW1A FOR NEXT &SHW_TECH]
Insufficient financial resources to complete full amount	4	[GO TO SHW1A FOR NEXT &SHW_TECH]
[Other, Specify_____]	5	[GO TO SHW1A FOR NEXT &SHW_TECH]
[Don't know]	-97	[GO TO SHW1A FOR NEXT &SHW_TECH]
[Refused]	-98	[GO TO SHW1A FOR NEXT &SHW_TECH]

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

**SHW2a1.**

RECORD MANUFACTURER		[GO TO SHW2a2]
[Don't Know]	-97	[GO TO SHW2a2]
[Refused]	-98	[GO TO SHW2a2]

**SHW2a2.**

RECORD MODEL NUMBER		[GO TO SHW2b]
[Don't Know]	-97	[GO TO SHW2b]
[Refused]	-98	[GO TO SHW2b]

**SHW2b.** How many of that type of solar hot water module have been installed through the &PROGRAM.

ENTER NUMBER		[GO TO SHW2c]
[Don't Know]	-97	[GO TO SHW2c]
[Refused]	-98	[GO TO SHW2c]

**SHW2c.** Are there other types of solar hot water modules installed through the &PROGRAM?

YES		[GO TO SHW2a]
NO		[GO TO SHW2d]
[Don't Know]	-97	[GO TO SHW2d]
[Refused]	-98	[GO TO SHW2d]

**SHW3a.** How many tanks are heated using the system funded through &PROGRAM?

SHW3a1. [Number of Tanks]\_\_\_\_\_

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

SHW3b2. [Capacity#1]\_\_\_\_\_

SHW3b3. [Capacity #2]\_\_\_\_\_

SHW3b4. [Capacity#3]\_\_\_\_\_

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

[YES].....[ASK SHW3c1] 1

[NO].....[SKIP TO SHW4] 2

[DON'T KNOW].....[SKIP TO SHW4] -97

[REFUSED].....[SKIP TO SHW4] -98

**SHW3c1.** [NUMBER OF POOLS] \_\_\_\_\_ &N\_POOL\_\_\_\_\_

**[FOR EACH &N\_POOL ASK 3D]**

**SHW3d. [Capacity #n]**\_\_\_\_\_

**SHW3d1.** Is this pool...

- [Indoor].....1
- [Outdoor above ground].....2
- [Outdoor in ground].....3
- [DON'T KNOW].....-97
- [REFUSED].....-98

**SHW3e. [Capacity #2]**\_\_\_\_\_

**SHW3e1.** Is this pool...

- [Indoor].....1
- [Outdoor above ground].....2
- [Outdoor in ground].....3
- [DON'T KNOW].....-97
- [REFUSED].....-98

**SHW3f. [Capacity#3]**\_\_\_\_\_

SHW3f1. Is this pool...

- [Indoor].....1
- [Outdoor above ground].....2
- [Outdoor in ground].....3
- [DON'T KNOW].....-9997
- [REFUSED].....-9998

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

**[ENTER CORRECT DEGREES FROM NORTH]** \_\_\_\_\_

DON'T KNOW].....[SKIP TO SHW5] -97

[REFUSED].....[SKIP TO SHW5] -98

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

**[ENTER CORRECT TILT ANGLE]** \_\_\_\_\_

[DON'T KNOW].....[SKIP TO SHW6] -97

[REFUSED].....[SKIP TO SHW6] -98

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

[YES].....1

[NO].....[SKIP TO SHW7] 2

[DON'T KNOW].....[SKIP TO SHW7] -97

[REFUSED].....[SKIP TO SHW7] -98

**SHW6a.** When are they shaded [probe for time of year (e.g. May to August), time of day (e.g. noon to 3PM), percent shaded]?

**[RECORD MONTH, TIME OF DAY AND PERCENT SHADED]**

**[RECORD MONTH, TIME OF DAY AND PERCENT SHADED]**

**[RECORD MONTH, TIME OF DAY AND PERCENT SHADED]**

**SHW6b.** 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?

**SHW6b. [ENTER MANUFACTURER FROM DROP DOWN]** \_\_\_\_\_

**SHW6c. ENTER MODEL FROM DROP DOWN]** \_\_\_\_\_

**SHW6d.** 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?

- [PV].....[SKIP TO SHW7] 1
- [Plug in].....[SKIP TO SHW7] 2
- [Other].....3
- [DON'T KNOW].....[SKIP TO SHW7] -97
- [REFUSED].....[SKIP TO SHW7] -98

**SHW6e.** [ENTER POWER SOURCE] \_\_\_\_\_

**SHW7.** Have you modified the system since it was first installed? (ex: equipment changes such as replacing or adding panels?)

- [YES].....1
- [NO]..... [SKIP TO SHW8] 2
- [DON'T KNOW].....[SKIP TO SHW8] -97
- [REFUSED].....[SKIP TO SHW8] -98

**SHW7a. Was the modification an addition or equipment replacement?**

**[CIRCLE ALL THAT APPLY]**

- [Addition]..... 1
- [Replacement]..... 2
- [DON'T KNOW].....[SKIP TO SHW8] -9997
- [REFUSED].....[SKIP TO SHW8] -9998

**HW7b.** What have you [added/replaced]?

[RECORD RESPONSE – note changes to capacity]

[DON'T KNOW].....[SKIP TO SHW8] -9997

[REFUSED].....[SKIP TO SHW8] -9998

**SHW7c.** When did you make this change?

[RECORD DATE] \_\_\_\_\_

[DON'T KNOW]..... -9997

[REFUSED]..... -9998

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

[ENTER TEMPERATURE] \_\_\_\_\_

[DON'T KNOW] .....-9997

[REFUSED] .....-9998

**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 – SKIP TO SHW10] \_\_\_\_\_

[DON'T KNOW].....[SKIP TO SHW9c] -97

[REFUSED].....[SKIP TO SHW9c] -9998

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

\_\_\_\_\_

[SKIP to SHW9i if not Nursing Home. A nursing home is similar to a multifamily facility, but usually has a central kitchen service]

**SHW9b.** [Nursing Home] How many residents are in the building?

[ENTER NUMBER OF RESIDENTS – SKIP TO SHW10] \_\_\_\_\_

[DON'T KNOW].....[SKIP TO SHW10] -97

[REFUSED].....[SKIP TO SHW10] -98

**SHW9c.** [Non-Residential] What type of facility is this?

[Laundry].....1

[Restaurant].....2

[Hospital].....3

[Other] \_\_\_\_\_4

[DON'T KNOW].....-97

[REFUSED].....-98

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

[YES].....[SKIP TO SHW12] 1

[NO].....2

[DON'T KNOW].....[SKIP TO SHW12] -97

[REFUSED].....[SKIP TO SHW12] -98

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

[ENTER MONTHS] \_\_\_\_\_

[DON'T KNOW].....-9997

[REFUSED].....-9998

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

- [GAS].....1
- [OIL].....2
- [ELECTRIC].....3
- [OTHER].....-9996
- [DON'T KNOW].....-9997
- [REFUSED].....-9998

**SHW12a. [DESCRIBE OTHER]**

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**BIOGAS QUESTIONS**

**[IF &MEASURE = BIOGAS]**

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

**BG1.** Our records indicate that you installed &BG\_NUM of &BG\_TECH through the &PROGRAM, is this correct?

[Yes, installed that number]	1	[GO TO BG1A FOR NEXT &PV_TECH]
[Did not install any of that technology]	2	[GO TO BG1A FOR NEXT &PV_TECH]
[Technology correct, number wrong]	3	[GO TO BG1num]
[Don't Know]	-97	[GO TO BG1A FOR NEXT &PV_TECH]
[Refused]	-98	[GO TO BG1A FOR NEXT &PV_TECH]

**BG1num.** What is the correct number of &PBG\_TECH that you installed through the &PROGRAM?

ENTER NUMBER		[GO TO BG1c]
[Don't Know]	-97	[GO TO BG1A FOR NEXT &PV_TECH]
[Refused]	-98	[GO TO BG1A FOR NEXT &PV_TECH]

**BG1c.** Why did you install a different number of &PV\_TECH?

Have no idea why numbers differ	1	[GO TO BG1A FOR NEXT &PV_TECH]
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Put some in storage	2	[GO TO BG1A FOR NEXT &PV_TECH]
Installed somewhere else	3	[GO TO BG1A FOR NEXT &PV_TECH]
Insufficient financial resources to complete full amount	4	[GO TO BG1A FOR NEXT &PV_TECH]
[Other, Specify _____]	5	[GO TO BG1A FOR NEXT &PV_TECH]
[Don't know]	-97	[GO TO BG1A FOR NEXT &PV_TECH]
[Refused]	-98	[GO TO BG1A FOR NEXT &PV_TECH]

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

- [YES].....[SKIP TO BG3] 1
- [NO].....2
- [DON'T KNOW].....[SKIP TO BG3] -97
- [REFUSED].....[SKIP TO BG3] -98

**BG2a.**Waste Type \_\_\_\_\_

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

- [YES].....1
- [NO].....[SKIP TO BG4] 2
- [DON'T KNOW].....[SKIP TO BG4] -97
- [REFUSED].....[SKIP TO BG4] -98

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

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

**BG4.** Have you made any modifications to the system since installation?

- [YES].....1
- [NO].....[SKIP TO BG5] 2
- [DON'T KNOW].....[SKIP TO BG5] -97
- [REFUSED].....[SKIP TO BG5] -98

**BG4a.** Was the modification an addition or equipment replacement? **[CIRCLE ALL THAT APPLY]**

- [Addition]..... 1
- [Replacement]..... 2
- [DON'T KNOW].....**[SKIP TO BG5]** -97
- [REFUSED].....**[SKIP TO BG5]** -98

**BG4b.** What have you [added/replaced]?

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- [DON'T KNOW].....**[SKIP TO BG5]** -97
- [REFUSED].....**[SKIP TO BG5]** -98

**BG4c.** When did you make this change?

- [RECORD DATE] \_\_\_\_\_
- [DON'T KNOW]..... -9997
- [REFUSED]..... -9998

**BG5.** [FOR NON-AG SYSTEMS, SKIP TO BG6] Do you have any livestock providing waste for the system?  
Is this correct?

- [YES].....1
- [NO].....**[SKIP TO BG6]** 2
- [DON'T KNOW].....**[SKIP TO BG6]** -97
- [REFUSED].....**[SKIP TO BG6]** -98

**BG5b.** What type(s) of livestock **[ENTER FROM DROP DOWN]**

**BG5c.** FOR EACH TYPE LISTED ASK: How many &TYPE **[ENTER NUMBER]**\_\_

**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.....[SKIP TO BG7] 1
- SEASONAL.....[SKIP TO BG6b] 1
- OTHER.....[SKIP TO BG6a] 77
- [DON'T KNOW].....[SKIP TO BG7] -97
- [REFUSED].....[SKIP TO BG7] -98

**BG6a.** DESCRIBE OTHER [SKIP TO BG7]

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**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].

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**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.....1
- Burning it on site for heat .....2
- Flaring it on site.....3
- Selling it off site.....4
- [DON'T KNOW].....-97
- [REFUSED].....-98

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

- Using onsite in the genset? \_\_\_\_\_
- Using onsite for heating? \_\_\_\_\_
- Flaring onsite? \_\_\_\_\_
- Selling off site? \_\_\_\_\_
- [DON'T KNOW].....-97
- [REFUSED].....-98

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

- [YES].....1
- [NO].....[SKIP TO BG9] 2
- [DON'T KNOW].....[SKIP TO BG9] -97
- [REFUSED].....[SKIP TO BG9] -98

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

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

What date did you started running the genset?

[BEGINNING GENERATION DATE] \_\_\_\_\_

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

- [YES].....1
- [NO].....[SKIP TO BG11] 2
- [DON'T KNOW].....[SKIP TO BG11] -97
- [REFUSED].....[SKIP TO BG11] -98

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

**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 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]**

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

- [DON'T KNOW].....-9997
- [REFUSED].....-9998

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

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

- Read-out display on inverter?.....1
- Separate utility meter for biogas genset?.....2
- [Other].....-9996
- [DON'T KNOW].....-9997
- [REFUSED].....-9998

**PV13b.** How do you track the output from the [renewable system—fill in type]?

- [inverter].....1
- [utility meter/net meter] .....2
- [reductions in my utility bill] .....3
- [other means: please describe \_\_\_\_\_].....4

**PV14c.** On a scale of 1-10, is the [renewable –insert type ] system achieving the savings you expected?

**PV14d.** Why/why not?

**OTHER EQUIPMENT BATTERY**

**[IF & OTHER = TRUE]**

**[IF MEASURE-LEVEL RECORDS ARE AVAILABLE ASK OE1a THRU OE1c.  
IF MEASURE-LEVEL RECORDS ARE NOT AVAILABLE, ASK OE2a THRU OE2c.]**

**[REPEAT OE1a THRU OE1c. FOR EACH &OE\_TECH IN THE TRACKING DATA. ]**

**OE1a.** Our records indicate that you installed &OE\_NUM of &OE\_TECH through the &PROGRAM, is this correct?

[Yes, installed that number]	1	[GO TO OE1a FOR NEXT &OE_TECH]
[Did not install any of that technology]	2	[GO TO OE1a FOR NEXT &OE_TECH]
[Technology correct, number wrong]	3	[GO TO OE1b]
Refused]	-98	[GO TO OE1a FOR NEXT &OE_TECH]
[Don't Know]	-97	[GO TO OE1a FOR NEXT &OE_TECH]

**OE1b.** What is the correct number of &OE\_TECH that you installed through the &PROGRAM?

[ENTER NUMBER]	_____	[GO TO OE1c]
[Don't know]	-97	[GO TO OE1c]
[Refused]	-98	[GO TO OE1c]

**OE1c.** Why did you install a different number of &OE\_TECH? [ACCEPT MULTIPLE ANSWERS]

Have no idea why numbers differ	1	[GO TO OE1a FOR NEXT &OE_TECH]
Put some in storage	2	[GO TO OE1a FOR NEXT &OE_TECH]
Installed at another location in the U.S.	3	[GO TO OE1a FOR NEXT &OE_TECH]
Funding insufficient to complete full amount	4	[GO TO OE1a FOR NEXT &OE_TECH]
Other	77	[GO TO OE1a FOR NEXT &OE_TECH]
Refused	-98	[GO TO OE1a FOR NEXT &OE_TECH]
Don't know	-97	[GO TO OE1a FOR NEXT &OE_TECH]

**[IF MEASURE-LEVEL DATA ARE NOT AVAILABLE, ASK OE2a THRU OE2c.]**

**OE2a.** Did you install any other kinds of renewable energy technologies through the program?

Yes	1	[GO TO OE2b]
No	2	[GO TO NEXT SECTION]
[Refused]	-98	[GO TO NEXT SECTION]
[Don't Know]	-97	[GO TO NEXT SECTION]

**OE2b.** Which kinds of additional measures did you install through the program?

OE2c. [FOR EACH MEASURE TYPE MENTIONED.] Approximately how many &OE\_TECH were purchased using the &SPONSOR &PROGRAM funding?

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 \_\_\_\_\_  
[DON'T KNOW].....-97  
[REFUSED].....-98

OEb.  
kWh.....1  
Therms.....2  
[DON'T KNOW].....-97  
[REFUSED].....-98

OEc. RESET DATE.....

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

Read-out display on inverter?.....1  
Separate utility meter?.....2  
Reductions in my utility bill .....3  
[Other].....77  
[DON'T KNOW].....-97  
[REFUSED].....-98

**DIRECT ATTRIBUTION**

Now, I'd like to ask you a few questions about the effect that the &PROGRAM had on your decision to undertake the project we have been discussing.

**OVERALL INFLUENCE**

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

**DA0.** Without the &SPONSOR &PROGRM, would you say the likelihood of [installing / performing] the &MEASURE was... [READ LIST]

RESPONSE	&MEASURETYPE	&MEASURETYPE	&MEASURETYPE	&MEASURETYPE
<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 DA0 = 1 OR 2 (VERY LIKELY OR SOMEWHAT LIKELY TO HAVE IMPLEMENTED IN THE ABSENCE OF THE PROGRAM.**

**AT1. I'd like to know about the effect, if any, that &PROGRAM had on the timing of your project. Without the support from the &PROGRAM, 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 in the absence of the program?**

RESPONSE	&MEASURETYPE	&MEASURETYPE	&MEASURETYPE	&MEASURETYPE
<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 AT1a ≠ LATER, SKIP TO NEXT MEASURE]**



**AT1b.** 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

**EFFICIENCY**

**This section applies for any measure where there is a standard efficiency option. Circle "5" not applicable for the measure in the table below and skip to OP1.**

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

**AE1.** Without the &PROGRAM would you have installed &MEASURE of the exact same energy efficiency as the equipment you installed, or would you have installed lower efficiency, or higher efficiency equipment?

RESPONSE	DAT0_MID1	DAT0_MID2	DAT0_MID3	DAT0_MID4
<b>Same</b>	1	1	1	1
<b>Lower</b>	2 [ASK AE1a]	2 [ASK AE1a]	2 [ASK AE1a]	2 [ASK AE1a]
<b>Higher</b>	3	3	3	3
[Not applicable]	-88	-88	-88	-88
[Don't know]	-97	-97	-97	-97
[Refused]	-98	-98	-98	-98

**AE1a.** Why do you say that? [RECORD VERBATIM]: \_\_\_\_\_

**[IF AE1 ≠ LOWER, SKIP TO AQ1.]**

**AE2.** Without the support of the program , would you have installed <measure> that was:

RESPONSE	DAT0_MID1	DAT0_MID2	DAT0_MID3	DAT0_MID4
<b>Standard efficiency or according to code</b>	1	1	1	1
<b>Slightly higher than standard efficiency</b>	2	2	2	2
<b>Between standard efficiency and the efficiency that was installed</b>	3	3	3	3
<b>Slightly lower than the high efficiency that was installed</b>	4	4	4	4

[Don't know]	-97	-97	-97	-97
[Refused]	-98	-98	-98	-98

**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 &PROGRAM had on the scale of the project you completed with the support of the program.**

**AQ1.** Without the support from &SPONSOR &PROGRAM would you have installed more <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

**AQ3\_O.** Why do you say that? **[RECORD VERBATIM]**\_\_\_\_\_

**[IF AQ3 = SAME or NOT INSTALLED ANY, SKIP TO OP1.]**

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

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

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

- Example 1. Household installed 8, but would have installed 2 without the program. Change is 300 percent.
- Example 2. Household 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. Household installed 8 but would have installed 10 w/out the program. Change is 20 percent.
- Example 4. Household 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

**EFFECT OF OTHER PROGRAMS**

**OP1** In completing the project[s] supported by [NAME OF SEP PA], did you make use of financial or technical support programs offered by other 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 D0]
[DON'T KNOW]	-97	[GO TO D0]
[REFUSED]	-98	[GO TO D0]

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

[RECORD RESPONSE] \_\_\_\_\_

**IF ONLY ORGANIZATIONS MENTIONED ARE MANUFACTURERS, DISTRIBUTORS, CONTRACTORS, OR ENGINEERS, SKIP TO SKIP TO D0.**

**OP3.** What kinds of services did you receive from those programs in support of the project?

Information to guide project planning and equipment selection	1	[GO TO OP5]
Technical assistance such as energy audits, financial analyses, and design support	2	[GO TO OP5]
Identification of qualified contractors	3	[GO TO OP5]
Financial incentives such as rebates, reduced-interest loans, or loan guarantees	4	[ASK OP4]
Tax credits	5	[ASK OP4]
Other (Specify)_____	8	[GO TO OP5]
Don't know	-97	[GO TO OP5]
Refused	-98	[GO TO OP5]

**OP4** What was the amount of the incentive[s] that you received from the other program[s] you have mentioned?

ENTER AMOUNT	_____	[GO TO OP5]
[DON'T KNOW]	-97	[GO TO OP4a]
[REFUSED]	-98	[GO TO OP4a]

**IF RESPONDENT RECEIVED FINANCIAL INCENTIVES FROM &PROGRAM, ASK OP4a. ELSE SKIP TO OP5.**

**OP4a** Would you say that the amount of the incentive[s] you received from the other programs you have mentioned was larger, smaller, or about the same as the amount you received from &PROGRAM?

[LARGER]	1	[GO TO OP5]
[SMALLER]	2	[GO TO OP5]
[ABOUT THE SAME]	3	[GO TO OP5]
[DON'T KNOW]	-97	[GO TO OP5]
[REFUSED]	-98	[GO TO OP5]

**READ:** We would like to understand how much the other programs you used affected your motivation and ability to carry out the energy efficiency project we have been discussing, beyond what you would most likely have done using the resources from the &SPONSOR &PROGRAM alone.

**OP5.** If you had been able to access *only* the resources of the &SPONSOR &PROGRAM, but not those of the other programs you used, how likely is it that you would have carried out the &MEASURE? Would you say the likelihood of undertaking that measure was ... [READ LIST]

RESPONSE	OP5_MID1	OP5_MID2	OP5_MID3	OP5_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

**OP6.** If you had been able to access **only** the resources of the &SPONSOR &PROGRAM, but not those of the other programs you used , 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	OP6_MID1	OP6_MID2	OP6_MID3	OP6_MID4
Same amount	1	1	1	1
Less or smaller	2 Read OP7	2 Read OP7	2 Read OP7	2 Read OP7
More or larger	3 Read OP7	3 Read OP7	3 Read OP7	3 Read OP7
None at all	4	4	4	4
[Not Applicable]	5	5	5	5
[Don't know]	-97	-97	-97	-97
[Refused]	-98	-98	-98	-98

**[IF OP6 = SAME or NOT INSTALLED ANY, SKIP TO OP1.]**

**OP7.** By what percentage do you think you increased or decreased the amount of <&MEASURE installed because of the &SPONSOR &PROGRAM?

RESPONSE	OP7_MID1	OP7_MID2	OP7_MID3	OP7_MID4
[RECORD %]	_____ %	_____ %	_____ %	_____ %
Don't know	-97	-97	-97	-97
Refused	-98	-98	-98	-98

**OP8.** Did you first become aware of the opportunities for renewable energy use in &STR\_ADDRESS through &SPONSOR &PROGRAM, through the other energy efficiency programs in which you participated, or through some other source?

Through the SEP PA	1	<a href="#">[GO TO OP9]</a>
Through other energy efficiency program [s]	2	<a href="#">[GO TO OP9]</a>
Through another source	3	<a href="#">[GO TO OP9]</a>
[DON'T KNOW]	-97	<a href="#">[GO TO OP9]</a>
[REFUSED]	-98	<a href="#">[GO TO OP9]</a>

**OP9** In your opinion, was the &SPONSOR's &PROGRAM more important in encouraging and enabling you [you] to carry out the energy efficiency project we have been discussing; was the other program more important; or were they both equally important?

SEP PA	1
Other program	2
Both equally important	3
[Don't know]	-97
[Refused]	-98

**OP10** Why do you say that?

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

**SKIP TO D0.**

**HOUSING AND DEMOGRAPHICS**

**D0** We are almost finished. I just have a few additional questions about your &HOMTYPE to make sure we are getting a representative sample of participants.

**[IF &HOMETYPE = “home” GO TO D1]**

**D0a** About how many apartment units are located in the building at the property?

ENTER NUMBER OF UNITS	# _____	[GO TO D0b]
[Don’t know]	-97	[GO TO D0b]
[Refused]	-98	[GO TO D0b]

**D0b** What is the average apartment size in square feet?

ENTER SQUARE FOOTAGE	_____ sq. ft.	[GO TO D0c]
[Don’t know]	-97	[GO TO D0c]
[Refused]	-98	[GO TO D0c]

**D0c** On average, how many full or half bathrooms do you have in each unit of your building? (PROBE: A full bathroom is one that has a sink with running water, and a toilet, and either a bathtub or shower. A half bathroom has either a toilet or a bathtub or a shower?)

ENTER NUMBER OF BATHROOMS	# _____	[GO TO D0d]
[Don’t know]	-97	[GO TO D0d]
[Refused]	-98	[GO TO D0d]

**D0d** On average, how many bedrooms do you have in each unit of your building? (If a one-room efficiency, or studio apartment, bedrooms=0)

ENTER NUMBER OF BEDROOMS	# _____	[GO TO D0e]
[Don’t know]	-97	[GO TO D0e]
[Refused]	-98	[GO TO D0e]

**D0e** On average, other than bedrooms and bathrooms, how many other rooms are there in each unit of your building? Do not count laundry rooms, foyers, unfinished storage spaces, porches, or garages.

ENTER NUMBER OF OTHER ROOMS	# _____	[GO TO D0f]
[Don’t know]	-97	[GO TO END]
[Refused]	-98	[GO TO END]



**D0f** About when was this building first built?

Before 1970's	1	[GO TO D0g]
1970's	2	[GO TO D0g]
1980's	3	[GO TO D0g]
1990-94	4	[GO TO D0g]
1995-99	5	[GO TO D0g]
2000's	6	[GO TO D0g]
[Don't know]	-97	[GO TO D0g]
[Refused]	-98	[GO TO D0g]

**D0g** (IF NOT CONTAINED IN SAMPLE DATA) In what city is this building located?

ENTER CITY	_____	[GO TO ONSITE]
[Don't know]	-97	[GO TO ONSITE]
[Refused]	-98	[GO TO ONSITE]

**D1** In what type of building do you live? (READ LIST IF NEEDED)

(PROBE FOR 'Condo': "How many units are in your building?")

A one-family home detached from any other house	1	[GO TO D2]
A one-family home attached to one or more houses	2	[GO TO D2]
A building with 2 apartments	3	[GO TO D2]
A building with 3 or 4 apartments	4	[GO TO D2]
A building with 5 or more apartments	5	[GO TO D2]
A mobile home	6	[GO TO D2]
Boat, RV, Van, etc.	7	[GO TO D2]
Other (SPECIFY)	8	[GO TO D2]
[Don't know]	-97	[GO TO D2]
[Refused]	-98	[GO TO D2]

**D2** Including yourself, how many people currently live in your home year-round?

ENTER NUMBER OF PEOPLE	_____	[GO TO D3]
[Don't know]	-97	[GO TO D3]
[Refused]	-98	[GO TO D3]

**D3** How many full or half bathrooms do you have in your home? (PROBE: A full bathroom is one that has a sink with running water, and a toilet, and either a bathtub or shower. A half bathroom has either a toilet or a bathtub or a shower?)

ENTER NUMBER OF BATHROOMS	# _____	[GO TO D4]
[Don't know]	-97	[GO TO D4]
[Refused]	-98	[GO TO D4]



**D4** How many bedrooms do you have in your home? (If a one-room efficiency, or studio apartment, bedrooms=0)

ENTER NUMBER OF BEDROOMS	# _____	<a href="#">[GO TO D5]</a>
[Don't know]	-97	<a href="#">[GO TO D5]</a>
[Refused]	-98	<a href="#">[GO TO D5]</a>

**D5** Other than bedrooms and bathrooms, how many other rooms are there in your home? Do not count laundry rooms, foyers, unfinished storage spaces, porches, or garages.

ENTER NUMBER OF OTHER ROOMS	# _____	<a href="#">[GO TO D6]</a>
[Don't know]	-97	<a href="#">[GO TO D6]</a>
[Refused]	-98	<a href="#">[GO TO D6]</a>

**D6** How large is your home/building in square feet?

ENTER SQUARE FOOTAGE	_____ sq. ft.	<a href="#">[GO TO D7]</a>
[Don't know]	-97	<a href="#">[GO TO D7]</a>
[Refused]	-98	<a href="#">[GO TO D7]</a>

**D7** How many *floors* of living space are there in your home, NOT COUNTING unheated basements? Please answer only about *your home*, not the building as a whole]

1 floor	1	<a href="#">[GO TO D8]</a>
2 floors	2	<a href="#">[GO TO D8]</a>
3 floors	3	<a href="#">[GO TO D8]</a>
More than 3 floors	4	<a href="#">[GO TO D8]</a>
[Don't know]	-97	<a href="#">[GO TO D8]</a>
[Refused]	-98	<a href="#">[GO TO D8]</a>

**D8** About when was this building first built?

Before 1970's	1	<a href="#">[GO TO D9]</a>
1970's	2	<a href="#">[GO TO D9]</a>
1980's	3	<a href="#">[GO TO D9]</a>
1990-94	4	<a href="#">[GO TO D9]</a>
1995-99	5	<a href="#">[GO TO D9]</a>
2000's	6	<a href="#">[GO TO D9]</a>
[Don't know]	-97	<a href="#">[GO TO D9]</a>
[Refused]	-98	<a href="#">[GO TO D9]</a>

**D9** [\(IF NOT CONTAINED IN SAMPLE DATA\)](#) In what city is your home located?

ENTER CITY	_____	<a href="#">[GO TO ONSITE]</a>
[Don't know]	-97	<a href="#">[GO TO ONSITE]</a>
[Refused]	-98	<a href="#">[GO TO ONSITE]</a>

<b>END.</b>	Those are all the questions I have for today. Thank you for you time and help in this important study.	
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