
Minnesota Energy Efficiency Potential Study: 2020–2029

Appendix L-2: Trade Ally Survey Interview Scripts

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Conservation Applied Research and Development (CARD) FINAL Report

Prepared for: Minnesota Department of Commerce, Division of Energy Resources
Prepared by: Center for Energy and Environment, Optimal Energy and Seventhwave



Prepared by:

Center for Energy and Environment

Carl Nelson Jennifer Edwards
Jon Blaufuss Rabi Vandergon
Christopher Plum Audrey Partridge
Josh Quinnell Maureen Quaid
Nick Brambilla Mike Bull
Elena Foshay Brady Steigauf

Optimal Energy

Phil Mosenthal
Matthew Socks

Seventhwave

Scott Pigg
Jeannette LeZaks
Doug Ahl

With input and assistance from ACEEE:

Marty Kushler, Maggie Molina, and Neal Elliott

Center for Energy and Environment
212 3rd Ave N, Suite 560
Minneapolis, MN, 55401
www.mncee.org

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Prepared for Minnesota Department of Commerce, Division of Energy Resources:

Jessica Looman, Commissioner, Department of Commerce
Bill Grant, Deputy Commissioner, Department of Commerce, Division of Energy Resources

Adam Zoet, Project Manager
Phone: 651-539-1798
Email: adam.zoet@state.mn.us

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DISCLAIMER

This report does not necessarily represent the view(s), opinion(s), or position(s) of the Minnesota Department of Commerce (Commerce), its employees or the State of Minnesota (State). When applicable, the State will evaluate the results of this research for inclusion in Conservation Improvement Program (CIP) portfolios and communicate its recommendations in separate document(s).

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Overview:

Minnesota has a thirty-plus year history of leadership in energy efficiency policy and achievements. In order to continue to maximize the benefits of cost-effective energy efficiency resource acquisition by utilities, the project team, consisting of Center for Energy and Environment (CEE), Optimal Energy (Optimal) and Seventhwave, was commissioned to:

- Estimate statewide electric and natural gas energy efficiency and carbon-saving potential for 2020-2029;
- Produce data-driven and stakeholder-informed resources defining market segments, end uses, measures, and programs that could be targeted in the decade ahead to realize the state's cost-effective energy efficiency potential; and
- Engage stakeholders in order to help advance robust energy policies and energy efficiency programs in the state, and to inform future efficiency portfolio goals.

The full report, supporting documentation, and associated presentations can be found at the following website: <https://www.mncee.org/mnpotentialstudy/final-report/>

This document includes the interview scripts that were used to conduct the trade ally surveys. It is a supplemental document to Appendix L: Trade Ally Survey Report, which can be found on the [project website](#).

HVAC Trade Ally Interview Script

INTRODUCTORY LANGUAGE

Brief intro:

Hello. I'm _____ with _____. We are conducting research on market trends and utility energy efficiency programs for the State of Minnesota. We're not selling anything, and our research is confidential, we're just conducting interviews with a few businesses like yours to help understand how utility programs affect your business in Minnesota. We're offering a \$50 gift card for completing a 15- to 30-minute interview.

Are you the right person to talk with regarding trends in the kinds of heating and cooling equipment installed in Minnesota homes or businesses and your company's participation in or perceptions of energy efficiency programs offered by Minnesota utilities?

If Yes:

Great! → Go to interview start

If no or not sure:

OK, I do have some simple up-front questions about the nature of your business that maybe you could help me with. Would you be willing to answer those, and then we could talk about who might be able to complete the rest of the interview?

If Yes:

Great! → Go to interview start

If still no, or not sure:

Is there someone I could speak with who knows about the equipment you sell and your participation in utility rebate programs (e.g., business owner, manager, project estimator)? What is the best way to reach him/her?

[INTERVIEWER NOTE: gift card goes to the person who answers questions in modules B – C.]

If they wonder why we are calling them in particular:

We drew a sample from a list of Minnesota businesses.

If they wonder what kind of information we are seeking:

We want to learn more about the Minnesota market for energy efficient products and services, and what types of products and services utility energy efficiency programs should be promoting.

If they are suspicious of our motives or need confirmation from someone else:

We are working with Adam Zoet, 651-539-1798, Adam.Zoet@state.mn.us at the Department of Commerce who you can call to verify we are who we say we are.

INTERVIEW START

Module A: Company Information

Person interviewed: _____ Position: _____

A1. How long have you worked in the HVAC business? (approximate OK) _____ years

A2. How long has name of business been in the HVAC business? (approximate OK) _____ years

A3. Approximately what percentage of your business is residential versus commercial or industrial customers?

A3A. Residential _____

A3B. Commercial _____

A3C. Industrial _____

A3D. Other: _____

A4. [if Commercial business > 0% above] Do you install or service commercial building automation systems (BAS)?

Yes

No

A5. What counties does your company serve?

A6. How many people work for business name?

Record number: _____

A7. What is your company's gross annual revenue? Is it...

- A. Less than half a million dollars
- B. More than \$.5 million but less than \$1 million
- C. More than \$1 million but less than \$5 million
- D. More than \$5 million but less than \$10 million
- E. \$10 million or more

A8. How would you describe your business growth over the past two years?

[PROBES: Is the business growing, staying about the same, slowing down...]

A9. Have you hired any new employees in the last year?

A9A. If yes, how many?

A9B. Are they new positions or replacements of people who left?

A10. Approximately what percentage of your business is from new construction (rather than replacement, retrofit or repair)?

Module B: Utility Efficiency Programs

[INTERVIEWER NOTE: collect person’s name, position and number of years in the business if different from the person who answered questions in module A.

Person interviewed: _____ Position: _____

A1. How long have you worked in the HVAC business? (approximate OK) _____ years]

B1. Which Minnesota utility energy efficiency programs have you worked with?

[Record all utilities/programs mentioned.]

[SKIP TO MODULE C IF RESPONDENT SAYS THEY DON’T WORK WITH UTILITY ENERGY-EFFICIENCY PROGRAMS]

[INTERVIEWER NOTE: These next questions are designed to elicit more than a one-word answer. **START CALL RECORDING HERE.** Use probes if respondent does not have much to say initially.]

B2. Tell me about your experience with these programs.

[PROBES: have the programs helped your business? Is it easy for you to participate? Are customers aware of the programs? What would you change? Are there products/services that utilities should be promoting but aren’t?]

Module C: High Efficiency HVAC Technologies

Now I have several questions about some specific products. In general do your customers ask you for these technologies by name, or do they ask for you to suggest high efficiency options? A. Customer asks by name

B. Customer asks for high efficiency and we suggest

C. A combination - more of (A/B)

INTERVIEWER NOTE: Based on answer to A3, ask:

Greater % Residential	Greater % Commercial	BAS only
C1 – C3	C1, C2 & C4	C5

C1: [if Residential OR Commercial contractor] Variable-speed furnaces

C1a. How would you describe your business interest in variable-speed furnaces?

(These could be variable speed fans OR modulating (gas) burners, or both)

[Probes: Do you sell these? Actively promote the technology? Make a better profit margin on them?]

C1b. What about your customers? Are they generally aware of this technology?

[Probes: Do customers ask for them? Are they aware of utility rebates? Has awareness/interest changed in the last 2 years?]

C1c. About what percent of the furnaces that you install are variable-speed systems?

C1d (3 fill-ins). [if % above is >0] About what percent of your sales of variable-speed furnaces fall into the following categories:

Category	Percent
The customer was clearly looking for high efficiency—or other features associated with variable-speed furnaces—at the get-go	
We were able to upsell the customer based on energy savings or other features that go with variable-speed furnaces	
Hard to say	

C1e. What do you think should be done by utilities to get more customers to purchase this technology?

[Probes: bigger rebates (how much?); better utility or other promotion?]

My last questions are about the characteristics of the furnaces that you replace.

C1f. Approximately what percent of the replacement furnaces that you install are:

Category	Percent
Replacing existing furnaces that are still in good working order (even though they may be old).	
Replacing existing furnaces that are inoperable, unsafe or in need of significant repair .	

C1g. What would you say is the typical age of the existing furnaces that you replace?

C1h. Do you replace many working furnaces that are significantly newer than the typical age? What percent would you say are newer than [5 years less than C1g estimate of typical replacement age] years

old?

C1i. How about older systems? What percent of working furnaces that you replace are older than [5 years more than C1g estimate of typical replacement age] years?

C2: [if Residential OR Commercial contractor] *Condensing boilers*

C2a. How would you describe your business interest in condensing boilers?

[Probes: Do you sell these? Actively promote the technology? Make a better profit margin on them?]

C2b. What about your customers? Are they generally aware of this technology?

[Probes: Do customers ask for them? Are they aware of utility rebates? Has awareness/interest changed in the last 2 years?]

C2c. About what percent of the boilers that you install are condensing boilers?

C2d. [if % above is >0] About what percent of your sales of condensing boilers fall into the following categories:

Category	Percent
The customer was clearly looking for high efficiency—or other features associated with condensing boilers—at the get-go	
We were able to upsell the customer based on energy savings or other features that go with condensing boilers	
Hard to say	

C2e. What do you think should be done to get more customers to purchase this technology?

[Probes: bigger rebates (how much?); better utility or other promotion?]

My last questions are about the characteristics of the boilers that you replace.

C2f. Approximately what percent of the replacement boilers that you install are:

Category	Percent
Replacing existing boilers that are still in good working order (even though they may be old).	
Replacing existing boilers that are inoperable, unsafe or in need of significant repair.	

C2g. What would you say is the typical age of the existing boilers that you replace?

C2h. Do you replace many working boilers that are significantly newer than the typical age? What percent would you say are newer than [5 years less than C2g estimate of typical replacement age] years old?

C2i. How about older systems? What percent of working boilers that you replace are older than [5 years more than C2g estimate of typical replacement age] years?

C3: [ONLY if Residential contractor] Ductless heat pumps

C3a. How would you describe your business interest in ductless heat pumps?

[Probes: Do you sell these? Actively promote the technology? Make a better profit margin on them?]

C3b. What about your customers? Are they aware of this technology?

[Probes: Do customers ask for them? Are they aware of utility rebates? Has awareness/interest changed in the last 2 years?]

C3c. Can you describe the circumstances that lead people to install a ductless heat pump?

[Probes: people with boiler heat who want to add air conditioning?; vacation homes?; people looking to offset electric baseboard heat?]

C3d. What do you think should be done to get more customers to purchase this technology?

[Probes: bigger rebates (how much?); better utility or other promotion?]

C4: [Only if Commercial contractor] Roof-top units (RTUs)

C4a. How would you describe your business interest in selling or servicing RTUs

[Probes: Do you sell many? Service many? [If service them] What kinds of problems to you see?]

C4b. What do you think should be done by utilities to get more customers to install higher-efficiency RTUs or to retrofit existing RTUs to work better?

My last questions are about the characteristics of the RTUs that you replace.

C4c. Approximately what percent of the replacement RTUs that you install are:

Category	Percent
Replacing existing RTUs that are still in good working order (even though they may be old).	
Replacing existing RTUs that are inoperable, unsafe or in need of significant repair .	

C4d. What would you say is the typical age of the existing RTUs that you replace?

C4e. Do you replace many *working* RTUs that are significantly newer than the typical age? What percent would you say are newer than [5 years less than C4d estimate of typical replacement age] years old?

C4f. How about older systems? What percent of working RTUs that you replace are older than [5 years more than C4d estimate of typical replacement age] years?

C5: [If Commercial BAS contractor] BAS control systems

C5a. Do you install or service building automation systems?

C5b. What percentage of the buildings you service have a building automation system?

C5c. Do you install more than one manufacturer's systems? Which are your top 3 in terms of business volume?

C5d. Of the buildings that have automation systems that you work with, please estimate the percentage that are used for::

Monitoring only:

Monitoring and control using fixed schedules and setpoints:

Monitoring and actively controlled (frequent changes to schedules and setbacks):

What percentage of building automation systems include fault detection?

C5e. How often are these systems upgraded? (Do you encounter many "versions" that are more than 5 years old?)

C5f. Do you train building owners/operators on the use of the building automation system?

FINALLY: Are there other technologies that you think should be promoted by utility programs? What are they, and why should they be promoted?

END RECORDING

Those are all the questions I have. Thank you for your time. Could you please confirm where to send your \$50 gift card?

Electrician Trade Ally Interview Script

INTRODUCTORY LANGUAGE

Brief intro:

Hello. I'm _____ with _____. We are conducting research on market trends and utility energy efficiency programs for the State of Minnesota. We're not selling anything, and our research is confidential, we're just conducting interviews with a few businesses like yours to help understand how utility programs affect your business in Minnesota. We're offering a \$50 gift card for completing a 15- to 30-minute interview.

Are you the right person to talk with regarding trends in the kinds of lighting and lighting controls installed in Minnesota homes or businesses? Do you know about your company's participation in energy efficiency programs offered by Minnesota utilities? Can you tell us what you think of them?

If Yes:

Great! → Go to interview start

If no or not sure:

OK, I do have some simple up-front questions about the nature of your business that maybe you could help me with. Would you be willing to answer those, and then we could talk about who might be able to complete the rest of the interview?

If Yes:

Great! → Go to interview start

If still no, or not sure:

Is there someone I could speak with who knows about the equipment you sell and your participation in utility rebate programs (e.g., business owner, manager, project estimator)? What is the best way to reach him/her?

[INTERVIEWER NOTE: gift card goes to the person who answers questions in modules B – C.]

If they wonder why we are calling them in particular:

We drew a sample from a list of Minnesota businesses.

If they wonder what kind of information we are seeking:

We want to learn more about the Minnesota market for energy efficient products and services, and what types of products and services utility energy efficiency programs should be promoting.

If they are suspicious of our motives or need confirmation from someone else:

We are working with Adam Zoet, 651-539-1798, Adam.Zoet@state.mn.us at the Department of Commerce who you can call to verify we are who we say we are.

INTERVIEW START

Module A: Company Information

Person interviewed: _____ Position: _____

A1. How long has name of business been in the electrical business? (approximate OK) _____
years

A2. How long have you worked in the electrical business? (approximate OK)
_____ years

A3. Approximately what percentage of your business is residential versus commercial or industrial customers?

Residential _____

Commercial _____

Industrial _____

Other: _____

A4. [if Commercial business > 0% above] Do you install lighting controls?
(If yes, be sure to ask C5 below)

- Yes
- No

A5. What counties does your company serve?

A6. How many people work for business name?

Record number: _____

A7. What is your company's gross annual revenue? Is it...

- Less than half a million dollars
- More than \$.5 million but less than \$1 million
- More than \$1 million but less than \$5 million
- More than \$5 million but less than \$10 million
- \$10 million or more

A8. How would you describe your business growth over the past two years?

[PROBES: Is the business growing, staying about the same, decreasing...]

A9. How many new employees have you hired in the past year?

[PROBES: If they've hired new employees: Are they new positions or replacements of people who left?]

A10. Approximately what percentage of your business is from new construction (rather than replacement, retrofit or repair)?

Module B: Utility Efficiency Programs

[INTERVIEWER NOTE: collect person's name, position and number of years in the business if different from the person who answered questions in module A.

Person interviewed: _____ Position: _____

A1. How long have you worked in the electrical business? (approximate OK)
_____ years]

B1. Which Minnesota utility energy efficiency programs have you worked with?
[Record all utilities/programs mentioned.]

[SKIP TO MODULE C IF RESPONDENT SAYS THEY DON'T WORK WITH UTILITY ENERGY-EFFICIENCY PROGRAMS]

[INTERVIEWER NOTE: These next questions are designed to elicit more than a one-word answer. Use probes if respondent does not have much to say initially.]

B2. Tell me about your experience with these programs.

[PROBES: have the programs helped your business? Is it easy for you to participate? Are customers aware of the programs? What would you change? Are there products/services that utilities should be promoting but aren't?]

Module C: High Efficiency Lighting Technologies

Now I have several questions about some specific products or services.

INTERVIEWER NOTE: Based on answer to A4, ask:

Greater % Residential	Greater % Commercial	Lighting Controls
C1 – C2	C1, C3 & C4	C5

C1: [if Residential OR Commercial contractor] LED fixtures

C1a. How would you describe your business interest in LED fixtures?

[PROBES: Do you sell these? Actively promote the technology? Make a better profit margin on them?]

C1b. What about your customers? Are they generally aware of this technology?

[PROBES: Do customers ask for them by name, or do they ask for “high-efficiency”? Are they aware of utility rebates? Has awareness/interest changed in the last 2 years?]

C1c. About what percent of the light fixtures that you install are LED?

C1d. [if % above is >0] About what percent of your sales of LED fixtures fall into the following categories:

Category	Percent
The customer was clearly looking for LED fixtures at the get-go	
We were able to upsell the customer based on energy savings or other features that go with LED fixtures	
Hard to say	

C1e. What do you think could be done by utilities to get more customers to purchase this technology?

[PROBES: bigger rebates (how much, compared to the increase in cost?); better utility or other promotion?]

My last questions are about the characteristics of the light fixtures that you replace.

C1f. Approximately what percent of the replacement light fixtures that you install are:

Category	Percent
Replacing existing fixtures that are still in good working order (even though they may be old).	
Replacing existing fixtures that are inoperable or in need of significant repair .	

C1g. What would you say is the typical age of the existing light fixtures that you replace?

C2: [ONLY if Residential contractor] Home automation systems

C2a. How would you describe your business interest in home automation systems?

[PROBES: Do you sell these? Actively promote the technology? Make a better profit margin on them?]

C2b. What about your customers? Are they generally aware of this technology?

[PROBES: Do customers ask for them by name, or do they ask for “smart systems”? Are they aware of utility rebates? Has awareness/interest changed in the last 2 years?]

C2c. About what percent of your business is made up of installing home automation systems?

C2d. [if % above is >0] About what percent of your sales of home automation systems fall into the following categories:

Category	Percent
The customer was clearly looking for an automated way to manage energy use	
We were able to upsell the customer based on energy savings or other features that go with home automation systems	
Hard to say	

C2e. What do you think could be done to get more customers to purchase this technology?

[PROBES: bigger rebates (how much?); better utility or other promotion?]

C3: [ONLY if Commercial contractor] Small data centers

C3a. Do you do any electrical work on small data centers?

[PROBES: Are you asked to wire small data centers? Are you interested in doing work on small data centers (if not doing any)?]

C3b. What about your customers? Do they ask about ways to reduce energy use in their small data centers?

C4: [ONLY if Commercial contractor] Plug load layout

C4a. Are you aware of controllable receptacles for managing plug load?

[PROBES: Have you heard of this technology? Are you asked about ways to manage plug load?]

C4b. What about your customers? Are they aware of controllable plugs?

[Do they ask you to install controllable receptacles?]

C5: [If Commercial lighting controls contractor] *Lighting control systems*

C5a. Do you install or service lighting controls systems?

C5b. What percentage of the buildings you service have a lighting control system?

C5c. Do you install more than one manufacturer's systems? Which are your top 3 in terms of business volume?

C5d. Do you train building owners/operators on the use of the lighting controls?

D. Are there other high efficiency technologies that you feel need more utility support?

Those are all the questions I have. Thank you for your time. Could you please confirm where to send your \$50 gift card?

Insulation Trade Ally Interview Script

INTRODUCTORY LANGUAGE

Brief intro:

Hello. I'm _____ with Center for Energy and Environment. We are conducting research on market trends and utility energy efficiency programs for the State of Minnesota. We're not selling anything, and our research is confidential, we're just conducting interviews with a few businesses like yours to help understand how utility programs affect your business in Minnesota. We're offering a \$50 gift card for completing a 15- to 30-minute interview.

Are you the right person to talk with regarding trends in the kinds of insulation installed in Minnesota homes? Do you know about your company's participation in energy efficiency programs offered by Minnesota utilities? Can you tell us what you think of them?

If Yes:

Great! → Go to interview start

If no or not sure:

OK, I do have some simple up-front questions about the nature of your business that maybe you could help me with. Would you be willing to answer those, and then we could talk about who might be able to complete the rest of the interview?

If Yes:

Great! → Go to interview start

If still no, or not sure:

Is there someone I could speak with who knows about the products and services you sell and your participation in utility rebate programs (e.g., business owner, manager, project estimator)? What is the best way to reach him/her?

[INTERVIEWER NOTE: gift card goes to the person who answers questions in modules B – C.]

If they wonder why we are calling them in particular:

We drew a sample from a list of Minnesota businesses.

If they wonder what kind of information we are seeking:

We want to learn more about the Minnesota market for energy efficient products and services, and what types of products and services utility energy efficiency programs should be promoting.

If they are suspicious of our motives or need confirmation from someone else:

We are working with Adam Zoet, 651-539-1798, Adam.Zoet@state.mn.us at the Department of Commerce who you can call to verify we are who we say we are.

INTERVIEW START

Module A: Company Information

Person interviewed: _____ Position: _____

A1. How long has name of business been in the insulation business? (approximate OK) _____
years

A2. How long have you worked in the insulation business? (approximate OK) _____ years

A3. What counties does your company serve?

A4. How many people work for business name?

Record number: _____

A5. What is your company's gross annual revenue? Is it...

- Less than half a million dollars
- More than \$.5 million but less than \$1 million
- More than \$1 million but less than \$5 million
- More than \$5 million but less than \$10 million
- \$10 million or more

A6. How would you describe your business growth over the past two years?

[PROBES: Is the business growing, staying about the same, decreasing...]

A7. How many new employees have you hired in the past year?

[PROBES: If they've hired new employees: Are they new positions or replacements of people who left?]

A8. Approximately what percentage of your business is from new construction (rather than retrofit)?

Module B: Utility Efficiency Programs

[INTERVIEWER NOTE: collect person's name, position and number of years in the business if different from the person who answered questions in module A.]

Person interviewed: _____ Position: _____

A1. How long have you worked in the insulation business? (approximate OK)
_____ years

B1. Which Minnesota utility energy efficiency programs have you worked with?
[Record all utilities/programs mentioned.]

[SKIP TO MODULE C IF RESPONDENT SAYS THEY DON'T WORK WITH UTILITY ENERGY-EFFICIENCY PROGRAMS]

[INTERVIEWER NOTE: These next questions are designed to elicit more than a one-word answer. Use probes if respondent does not have much to say initially.] **START CALL RECORDING HERE**

B2. Tell me about your experience with these programs.

[PROBES: have the programs helped your business? Is it easy for you to participate? Are customers aware of the programs? What would you change? Are there products/services that utilities should be promoting but aren't?]

Module C: Insulation Products and Services

Now I have several questions about some specific products and services. For these products and services, I'm interested only in your work for residential customers.

C1: [Residential contractor] *Types of insulation*

C1a. What type of insulation do you use on most of your projects? [INTERVIEWER NOTE: Insulation types include foam, fiberglass and cellulose.]

[PROBES: Do you recommend a specific kind of insulation? Do your recommendations depend on the space to be insulated? Do you prefer working with a specific type of insulation?]

C1b. What about your customers? Do they ask for a specific type of insulation?

[PROBES: Do customers prefer a certain type? Do they specifically ask you NOT to use certain types of insulation? Has their awareness of the various types of insulation and their uses changed in the last 2 years?]

C2: [Residential] *Insulation opportunities with re-siding*

C2a. Tell me about any opportunities you have to work with siding contractors and add insulation when a homeowner decides to re-side their house.

[PROBES: Do you get many opportunities to add insulation when someone is re-siding their home? Do you regularly work with siding contractors to include insulation in a re-siding project? Do you actively seek insulation work with re-siding projects?]

C2b. What about your customers? Are they generally aware of insulation opportunities when re-siding their home?

[PROBES: Do customers call you when they're thinking about a re-siding project? Do they ask for blown-in wall insulation? Are they aware of utility rebates? Has awareness/interest changed in the last 2 years?]

C2c. What do you think could be done to get more customers to include insulation upgrades with their re-siding projects?

[PROBES: bigger rebates (how much?); better utility or other promotion; better customer education on the value of continuous exterior insulation?]

C3: [Residential contractor] Whole-house *air-sealing services*

C3a. How would you describe your business interest in whole-house air-sealing services that reduce overall air infiltration in homes?

[PROBES: Do you sell this service? Actively promote the service? Make a better profit margin on air sealing services?]

C3b. What about your customers? Are they generally aware of air sealing services?

[PROBES: Do customers ask for this service specifically, or do they mostly ask for insulation? Are they aware of utility rebates? Has awareness/interest changed in the last 2 years?]

C3c. What do you think could be done by utilities to get more customers to have their homes air sealed?

[PROBES: bigger rebates (how much, compared to the increase in cost?); better utility or other promotion?]

D. Finally, are there other high efficiency technologies that you feel need more utility support?

END RECORDING

Those are all the questions I have. Thank you for your time. Could you please confirm where to send your \$50 gift card?

Plumbing Trade Ally Interview Script

INTRODUCTORY LANGUAGE

Brief intro:

Hello. I'm _____ with the Center for Energy and Environment. We are conducting research on market trends and utility energy efficiency programs for the State of Minnesota. We're not selling anything, and our research is confidential, we're just conducting interviews with a few businesses like yours to help understand how utility programs affect your business in Minnesota. We're offering a \$50 gift card for completing a 15- to 30-minute interview.

Are you the right person to talk with regarding trends in the kinds of water heating systems installed in Minnesota homes or businesses? Do you know about your company's participation in energy efficiency programs offered by Minnesota utilities? Can you tell us what you think of them?

If Yes:

Great! → Go to interview start

If no or not sure:

OK, I do have some simple up-front questions about the nature of your business that maybe you could help me with. Would you be willing to answer those, and then we could talk about who might be able to complete the rest of the interview?

If Yes:

Great! → Go to interview start

If still no, or not sure:

Is there someone I could speak with who knows about the equipment you sell and your participation in utility rebate programs (e.g., business owner, manager, project estimator)? What is the best way to reach him/her?

[INTERVIEWER NOTE: gift card goes to the person who answers questions in modules B – C.]

If they wonder why we are calling them in particular:

We drew a sample from a list of Minnesota businesses.

If they wonder what kind of information we are seeking:

We want to learn more about the Minnesota market for energy efficient products and services, and what types of products and services utility energy efficiency programs should be promoting.

If they are suspicious of our motives or need confirmation from someone else:

We are working with Adam Zoet, 651-539-1798, Adam.Zoet@state.mn.us at the Department of Commerce who you can call to verify we are who we say we are.

INTERVIEW START

Module A: Company Information

Person interviewed: _____ Position: _____

A1. How long has name of business been in the plumbing business? (approximate OK) _____
years

A2. How long have you worked in the plumbing business? (approximate OK) _____ years

A3. Approximately what percentage of your business is residential versus commercial or industrial customers?

Residential _____

Commercial _____

Industrial _____

Other: _____

A4. What counties does your company serve?

A5. How many people work for business name?

Record number: _____

A6. What is your company's gross annual revenue? Is it...

- Less than half a million dollars
- More than \$.5 million but less than \$1 million
- More than \$1 million but less than \$5 million
- More than \$5 million but less than \$10 million
- \$10 million or more

A7. How would you describe your business growth over the past two years?

[PROBES: Is the business growing, staying about the same, decreasing...]

A8. How many new employees have you hired in the past year?

[PROBES: If they've hired new employees: Are they new positions or replacements of people who left?]

A9. Approximately what percentage of your business is from new construction (rather than replacement, retrofit or repair)?

Module B: Utility Efficiency Programs

[INTERVIEWER NOTE: collect person's name, position and number of years in the business if different from the person who answered questions in module A.]

Person interviewed: _____ Position: _____

A1. How long have you worked in the plumbing business? (approximate OK)
_____ years

B1. Which Minnesota utility energy efficiency programs have you worked with?
[Record all utilities/programs mentioned.]

[SKIP TO MODULE C IF RESPONDENT SAYS THEY DON'T WORK WITH UTILITY ENERGY-EFFICIENCY PROGRAMS]

[INTERVIEWER NOTE: These next questions are designed to elicit more than a one-word answer. Use probes if respondent does not have much to say initially.] **START CALL RECORDING HERE**

B2. Tell me about your experience with these programs.

[PROBES: have the programs helped your business? Is it easy for you to participate? Are customers aware of the programs? What would you change? Are there products/services that utilities should be promoting but aren't?]

Module C: High Efficiency Technologies

Now I have several questions about some specific products.

C1: Tankless water heaters

C1a. How would you describe your business interest in tankless water heaters?

[PROBES: Do you sell these? Actively promote the technology? Make a better profit margin on them?]

C1b. What about your customers? Are they generally aware of this technology?

[PROBES: Do customers ask for them by name, or do they ask for “high-efficiency”? Are they aware of utility rebates? Has awareness/interest changed in the last 2 years? Is there a difference in the level of awareness/interest in this technology between your residential and commercial customers? Is one or the other of these customer sectors more aware of utility rebates for this technology?]

C1c. About what percent of the water heaters that you install are tankless?

C1d. [if % above is >0] About what percent of your sales of tankless water heaters fall into the following categories:

Category	Percent
The customer was clearly looking for high efficiency—or other features associated with tankless water heaters—at the get-go	
We were able to upsell the customer based on energy savings or other features that go with tankless water heaters	
Hard to say	

C1e. What do you think could be done by utilities to get more customers to purchase this technology?

[PROBES: bigger rebates (how much, compared to the increase in cost?); better utility or other promotion?]

My next questions are about the characteristics of the water heaters that you replace.

C1f. Approximately what percent of the replacement water heaters that you install are:

Category	Percent
Replacing existing water heaters that are still in good working order (even though they may be old).	
Replacing existing water heaters that are inoperable, unsafe or in need of significant repair .	

C1g. What would you say is the typical age of the existing water heaters that you replace?

C1h. Do you replace many *working* water heaters that are significantly newer than the typical age? What percent would you say are newer than [5 years less than C1g estimate of typical replacement age] years

old?

C1i. How about older systems? What percent of working water heaters that you replace are older than [5 years more than C1g estimate of typical replacement age] years?

C2: Condensing storage water heaters

C2a. How would you describe your business interest in condensing storage water heaters?

[PROBES: Do you sell these? Actively promote the technology? Make a better profit margin on them?]

C2b. What about your customers? Are they generally aware of this technology?

[PROBES: Do customers ask for them by name, or do they ask for “high-efficiency”? Are they aware of utility rebates? Has awareness/interest changed in the last 2 years? Is there a difference in the level of awareness/interest in this technology between your residential and commercial customers? Is one or the other of these customer sectors more aware of utility rebates for this technology?]

C2c. About what percent of the water heaters that you install are condensing storage water heaters?

C2d. [if % above is >0] About what percent of your sales of condensing storage water heaters fall into the following categories:

Category	Percent
The customer was clearly looking for high efficiency—or other features associated with condensing storage water heaters—at the get-go	
We were able to upsell the customer based on energy savings or other features that go with condensing storage water heaters	
Hard to say	

C2e. What do you think could be done to get more customers to purchase this technology?

[PROBES: bigger rebates (how much?); better utility or other promotion?]

C3: Demand-management water heating systems [IF NEEDED: this is a device for electric water heaters that allows the utility to disable the heating elements during times of high demand. Generally promoted by electric utility cooperatives.]

C3a. Are you familiar with demand-management water heating systems? Have you ever sold any?

[PROBES: Do you sell these? Actively promote the technology?]

C3b. What about your customers? Are they aware of this technology?

[PROBES: Do customers ask for them? Are they aware of utility rebates? Has awareness/interest changed in the last 2 years?]

C3c. Can you describe the circumstances that lead people to install a demand-management water heating system?

[PROBES: people participating in a utility demand-control program?]

C4. Are there other high efficiency technologies that you feel need more utility support?

END RECORDING

Those are all the questions I have. Thank you for your time. Could you please confirm where to send your \$50 gift card?

Residential Home Builder Trade Ally Interview Script

INTRODUCTORY LANGUAGE

Brief intro:

Hello. I'm _____ with _____. We are conducting research on market trends and utility energy efficiency programs for the State of Minnesota. We're not selling anything, and our research is confidential, we're just conducting interviews with a few businesses like yours to help understand how utility programs affect your business in Minnesota. We're offering a \$50 gift card for completing a 15- to 30-minute interview.

Are you the right person to talk with regarding trends in residential building practices? Do you know about your company's participation in energy efficiency programs offered by Minnesota utilities? Can you tell us what you think of them?

If Yes:

Great! → Go to interview start

If no or not sure:

OK, I do have some simple up-front questions about the nature of your business that maybe you could help me with. Would you be willing to answer those, and then we could talk about who might be able to complete the rest of the interview?

If Yes:

Great! → Go to interview start

If still no, or not sure:

Is there someone I could speak with who knows about the characteristics of the homes you build and your participation in utility rebate programs (e.g., business owner, manager, project estimator)? What is the best way to reach him/her?

[INTERVIEWER NOTE: gift card goes to the person who answers questions in modules B – C.]

If they wonder why we are calling them in particular:

We drew a sample from a list of Minnesota businesses.

If they wonder what kind of information we are seeking:

We want to learn more about the Minnesota market for energy efficient products and services, and what types of products and services utility energy efficiency programs should be promoting.

If they are suspicious of our motives or need confirmation from someone else:

We are working with Adam Zoet, 651-539-1798, Adam.Zoet@state.mn.us at the Department of Commerce who you can call to verify we are who we say we are.

INTERVIEW START

Module A: Company Information

Person interviewed: _____ Position: _____

A1. How long has name of business been in the home building business? (approximate OK) _____ years

A2. How long have you worked in the home building business? (approximate OK) _____ years

A3. What counties does your company serve?

A4. How many people work for business name?
Record number: _____

A5. What is your company's gross annual revenue? Is it...

- Less than half a million dollars
- More than \$.5 million but less than \$1 million
- More than \$1 million but less than \$5 million
- More than \$5 million but less than \$10 million
- \$10 million or more

A6. How would you describe your business growth over the past two years?

[PROBES: Is the business growing, staying about the same, decreasing...]

A7. How many new employees have you hired in the past year?

[PROBES: If they've hired new employees: Are they new positions or replacements of people who left?]

Module B: Utility Efficiency Programs

[INTERVIEWER NOTE: collect person's name, position and number of years in the business if different from the person who answered questions in module A.]

Person interviewed: _____ Position: _____

A1. How long have you worked in the home building business? (approximate OK) _____
years]

B1. Which Minnesota utility energy efficiency programs have you worked with?
[Record all utilities/programs mentioned.]

[SKIP TO MODULE C IF RESPONDENT SAYS THEY DON'T WORK WITH UTILITY ENERGY-EFFICIENCY PROGRAMS]

[INTERVIEWER NOTE: These next questions are designed to elicit more than a one-word answer. Use probes if respondent does not have much to say initially.]

B2. Tell me about your experience with these programs.

[PROBES: have the programs helped your business? Is it easy for you to participate? Are customers aware of the programs? What would you change? Are there products/services that utilities should be promoting but aren't?]

Module C: Trends and issues

Now I have several questions about some trends in new homes and issues you deal with.

C1: Building codes

C1a. How would you describe Minnesota's residential building code and its impact on your building practice?

[PROBES: Is it difficult to comply with the code? Have you changed any of your building practices to comply with the code?]

C1b. Would you like help in complying with the code?

[PROBES: Have you taken any training that has helped you comply with the code? Are there resources you rely on to ensure you've met code?]

C1c. Do you see a role for Minnesota utilities to help with code training and support?

C2: Connected homes/home automation technology

C2a. How would you describe your business interest in home automation technology?

[PROBES: Do you offer home automation systems to your customers? Do you actively promote the technology? Make a better profit margin on homes with automation technology?]

C2b. What about your customers? Are they generally aware of this technology?

[PROBES: Do customers ask for home automation systems? Has awareness/interest changed in the last 2 years?]

C2c. What do you think could be done by utilities to get more customers to ask for this technology when building a new home?

[PROBES: rebates (how much, compared to the increase in cost?); better utility or other promotion?]

D. Finally, are there building practices or technologies that you think should be promoted by utility programs? What are they, and why should they be promoted?

Those are all the questions I have. Thank you for your time. Could you please confirm where to send your \$50 gift card?

Architect Trade Ally Interview Script

INTRODUCTORY LANGUAGE

Brief intro:

Hello. I'm _____ with _____. We are conducting research on market trends and utility energy efficiency programs for the State of Minnesota. We're not selling anything, and our research is confidential, we're just conducting interviews with a few businesses like yours to help understand how utility programs affect your business in Minnesota. We're offering a \$50 gift card for completing a 15- to 30-minute interview.

Are you the right person to talk with regarding trends in commercial building design practices? Do you know about your company's participation in energy efficiency programs offered by Minnesota utilities? Can you tell us what you think of them?

If Yes:

Great! → Go to interview start

If no or not sure:

OK, I do have some simple up-front questions about the nature of your business that maybe you could help me with. Would you be willing to answer those, and then we could talk about who might be able to complete the rest of the interview?

If Yes:

Great! → Go to interview start

If still no, or not sure:

Is there someone I could speak with who knows about your building design practice and your participation in utility rebate programs (e.g., business owner, manager, project estimator)? What is the best way to reach him/her?

[INTERVIEWER NOTE: gift card goes to the person who answers questions in modules B – C.]

If they wonder why we are calling them in particular:

We drew a sample from a list of Minnesota businesses.

If they wonder what kind of information we are seeking:

We want to learn more about the Minnesota market for energy efficient products and services, and what types of products and services utility energy efficiency programs should be promoting.

If they are suspicious of our motives or need confirmation from someone else:

We are working with Adam Zoet, 651-539-1798, Adam.Zoet@state.mn.us at the Department of Commerce who you can call to verify we are who we say we are.

INTERVIEW START

Module A: Company Information

Person interviewed: _____ Position: _____

A1. How long has name of business been in the commercial building business? (approximate OK) _____ years

A2. How long have you worked in the commercial building business? (approximate OK) _____ years

A3. What counties does your company serve?

A4. How many people work for business name?
Record number: _____

A5. What is your company's gross annual revenue? Is it...

- Less than half a million dollars
- More than \$.5 million but less than \$1 million
- More than \$1 million but less than \$5 million
- More than \$5 million but less than \$10 million
- \$10 million or more

A6. How would you describe your business growth over the past two years?

[PROBES: Is the business growing, staying about the same, decreasing...]

A7. How many new employees have you hired in the past year?

[PROBES: If they've hired new employees: Are they new positions or replacements of people who left?]

Module B: Utility Efficiency Programs

[INTERVIEWER NOTE: collect person's name, position and number of years in the business if different from the person who answered questions in module A.

Person interviewed: _____ Position: _____

A1. How long have you worked in the commercial building business? (approximate OK) _____
years]

B1. Which Minnesota utility energy efficiency programs have you worked with?
[Record all utilities/programs mentioned.]

[SKIP TO MODULE C IF RESPONDENT SAYS THEY DON'T WORK WITH UTILITY ENERGY-EFFICIENCY PROGRAMS]

[INTERVIEWER NOTE: These next questions are designed to elicit more than a one-word answer. Use probes if respondent does not have much to say initially.]

B2. Tell me about your experience with these programs.

[PROBES: have the programs helped your business? Is it easy for you to participate? Are customers aware of the programs? What would you change? Are there products/services that utilities should be promoting but aren't?]

Module C: Trends and issues

Now I have several questions about some trends in commercial building design and issues you deal with.

C1: Building codes

C1a. How would you describe Minnesota's commercial building code and its impact on your building practice?

[PROBES: Is it difficult to comply with the code? Have you changed any of your building practices to comply with the code?]

C1b. Would you like help in complying with the code?

[PROBES: Have you taken any training that has helped you comply with the code? Are there resources you rely on to ensure you've met code?]

C1c. Do you see a role for Minnesota utilities to help with code training and support?

C2: Window-to-wall ratio

C2a. Do you have an opinion on the optimal window-to-wall ratio for commercial buildings in Minnesota?

[PROBES: How much of a building's façade should be glazed? Do you help your clients understand the energy penalty for high window-to-wall ratios? Do you try to talk clients out of designing buildings with a heavily glazed façade?]

C2b. What about your clients? Are they generally aware of the energy issues with high window-to-wall ratios?

[PROBE: Is energy use (and minimizing energy use) part of the equation for your clients?]

C3: VRF systems

C3a. How would you describe your business interest in VRF systems? [IF NEEDED: VRF (variable refrigerant flow) systems use variable speed, split heat pumps to provide space heating and cooling to a building's conditioned areas.)

[PROBES: Do you offer this option to your customers? Do you design buildings with these systems? Do you actively promote the technology?]

C3b. What about your customers? Are they generally aware of this technology?

[PROBES: Do customers ask for VRF systems? Has awareness/interest changed in the last 2 years?]

C3c. What do you think could be done by utilities to get more customers to consider this technology for their building project?

[PROBES: bigger rebates (how much, compared to the increase in cost?); better utility or other promotion?]

D. Finally, are there building practices or technologies that you think should be promoted by utility programs? What are they, and why should they be promoted?

Those are all the questions I have. Thank you for your time. Could you please confirm where to send your \$50 gift card?