
Appendix A

NEEP HVAC Market Characterization HVAC Distributor Questionnaire with Responses



NEEP HVAC MARKET CHARACTERIZATION
HVAC DISTRIBUTOR QUESTIONNAIRE
WITH RESPONSES

Contact Name: [from sample] _____
Company: [from sample] _____
Address: [from sample] _____
City, State, Zip [from sample] _____
Telephone: [from sample] _____
Size Category: [from sample] _____
Survey ID Number: _____

LEAD-IN: Hello, my name is _____ and I am calling from KEMA Consulting on behalf of [MENTION: Utility, LIPA, NJ Smart Start Buildings, NYSEDA, Efficiency Vermont, Efficiency Maine or the Cape Light Compact]. We are conducting a survey of HVAC distributors in the Northeast regarding packaged commercial HVAC equipment trends. May I speak with the person who is most responsible for overseeing sales of packaged commercial HVAC equipment?

NAME OF CONTACT: _____

IF CONTACT IS NOT AVAILABLE, ASK FOR BEST TIME TO CALL BACK.

CALL BACK DATE/TIME: _____

REPEAT LEAD-IN FOR RESPONDENT IF NEEDED. We would like to interview you about your recent experiences and views on the **Packaged Commercial HVAC** market and the energy efficiency programs in the Northeast. The interview will take about fifteen minutes.

By participating, you have the opportunity to provide valuable input into the design of future energy efficiency programs. All information you provide will remain confidential and will be combined with the other responses we receive from throughout the Northeast.

In appreciation for your time for completing the entire survey you will be entered into a drawing for a prize with a cash value of \$1,000. [NOTE: This is only if they qualify for the survey]

Establishment Data

I'd like to begin by asking you a few general questions about your company at this location.

- I1 Does your organization sell and distribute packaged commercial HVAC equipment?
Yes 1
No (Specify e.g., no packaged, only res., etc.) ⇒ Thank & Terminate
- Don't know -97 ⇒ Thank & Terminate
- Refused -98 ⇒ Thank & Terminate

I2	What percent of your organizations overall business does this represent? %	17%
	Don't know -97	0
	Refused -98	0
I3	Who are the manufacturers of the packaged commercial HVAC equipment you sell? (Accept multiples)	
	Trane 1	14%
	Carrier..... 2	7%
	York 3	2%
	Lennox..... 4	0
	American Standard 5	5%
	Aaon 6	3%
	Bryant 7	8%
	Other (130 Specify below) 88	75%
	_____	Luxaire, Rheem, Rudd
	Don't know -97	0
	Refused -98	0
I4	How many full time employees work at this location?	Simple Mean = 29
	Don't know -97	0
	Refused -98	0
I5	In which states does this location sell packaged HVAC equipment? [List all that apply]	
	Connecticut 1	16%
	Maine 2	11%
	Massachusetts 3	26%
	New Jersey..... 4	47%
	New York..... 5	52%
	Rhode Island 6	21%
	Vermont..... 7	6%
	Other (150 Specify below) 88	22%
	_____	NH, PA, DE
	Don't know..... -97	0
	Refused -98	0

Market Size

I'd like to ask you a few questions about your organizations commercial HVAC activity at this location in 2005. I'm going to give you four ranges of equipment sizes and I'd like you to tell me two things:

- M1 What is your best estimate of the number of packaged commercial HVAC units your organization sold at this location in 2005? **[Fill in table]**
- Don't know -97 0
- Refused -98 0
- M2 What percent qualified as high efficiency units? **[Fill in table]**
- Don't know -97 0
- Refused -98 0

	Size (tons)	Total Sales (# of units)	Qualifying SEER/EER	Sales of Qualifying Units	
				# of Units	% of Total
A	<5	27,724	13.0 SEER	5,883	21.2%
B	>= 5 to <11	13,392	11.0 EER	2,184	16.3%
C	>= 11 to < 20	4,955	10.8 EER	917	18.5%
D	>= 20 to <= 30	9,204	10.0 EER	2,002	21.8%
Total		55,275		10,986	20%

- M3 Approximately what percent of total HVAC units sold were for new installations as opposed to replacement of existing units? _____% **36%**
- Don't know -97 0
- Refused -98 0

Sales Practices

Next, I'd like to ask you some questions related to your overall sales practices related to packaged commercial HVAC equipment.

- S1 Does someone in your organization specify and/or recommend equipment as part of their typical job duties?
- Yes 1 **72%**
- No [SKIP TO S2]..... 2 **28%**
- Don't know [SKIP TO S2] -97 0
- Refused [Skip to S2]..... -98 0

S1.a	How often does your organization get involved in equipment specification?		
	In all sales situations.....	1	11%
	In most sales situations	2	54%
			33%
	In some sales situations	3	2%
	In relatively few sales situations	4	0
	Never	5	0
	Don't know	-97	0
	Refused	-98	
S1.b	Of the sales in which your organization is involved in specification, what percent are for new construction projects?	_____%	55%
	Don't know	-97	0
	Refused	-98	0
S2	How often does your organization discuss energy efficiency options with your customers and contractors? [DO NOT PROMPT]		
	In all sales situations.....	1	41%
	In most sales situations	2	38%
	In some sales situations	3	13%
	In relatively few sales situations	4	7%
	Never	5	0
	Don't know	-97	0
	Refused	-98	0
S3	In the past 12 months, has your organization missed an opportunity to sell a high efficiency HVAC unit because the appropriate unit was not readily available?		
	Yes	1	66%
	No [SKIP TO EE1]	2	34%
	Don't know [SKIP TO EE1]	-97	0
	Refused	-98	0
S3.a	[IF YES], How many times did this occur in the past 12 months?	_____	19%
	Don't know	-97	0
	Refused	-98	0

Role of Energy Efficient HVAC Equipment

Next, I'd like to ask you about the role that energy efficient HVAC options play in your organization.

E1	How important do you think energy efficient HVAC options are in marketing your organizations products? [If prompting is needed, randomize the order of reading from 1-5 and 5-1]		
	Very Unimportant.....	1	4%
	Somewhat Unimportant	2	26%
	Neither Important nor Unimportant	3	3%
	Somewhat Important	4	38%
	Very Important	5	28%
	Don't know	-97	0
	Refused	-98	0
E1.a	Why do you say this? _____		
	Don't know	-97	0
	Refused	-98	0
	Product differentiation is important for marketing		4
	Price is more important than efficiency		4
	Price of energy is going up therefore the demand for efficiency increases		4
E2	Has the importance, increased, decreased or stayed the same in the past 12 months?		
	Increased.....	1	59%
	Decreased	2	7%
	Stayed the same.....	3	33%
	Don't know	-97	0
	Refused	-98	0
E2.a	Why do you say this? _____		
	Don't know	-97	0
	Refused	-98	0
	Energy prices have increased		15
	Importance of marketing has decreased because of changes in the federal law		4
	Increased awareness by end users		3

E3	What do you think is the primary reason that high efficiency HVAC units are not specified and installed more frequently? [DO NOT READ; ACCEPT MULTIPLE RESPONSES]		
	Customer perception of high first cost	1	84%
	Price competition between contractors on a first cost basis	2	8%
	Lack of interest of the contractors	3	3%
	Lack of understanding about efficiency by customers.....	4	22%
	Lack of understanding about efficiency by contractors.....	5	5%
	Uncertainty about performance	6	0%
	Equipment availability.....	7	3%
	Other (E3o Specify) _____	8	20%
	Don't know.....	-97	0
	Refused.....	-98	0
	Perception of high first cost		3
	Lack of understanding about efficiency or demand by customers		3
	Disconnect between owner and occupant paying the utility bill		3
	Lack of understanding among designers, engineers and contractors		3
E4	Have the manufacturers of the equipment you sell provided marketing or other kinds of support to help you promote high efficiency equipment?		
	Yes	1	61%
	No [SKIP TO A1].....	2	39%
	Don't know [SKIP TO A1]	-97	0
	Refused	-98	0
E4.a	[IF YES], what have they done? _____		
	Don't know	-97	0
	Refused	-98	0
	Provided brochures and other literature		16
	Provided computer programs/modeling software		7
	Provided training		6

AWARENESS OF HVAC PROGRAMS

Next, I'd like to ask you about your awareness and involvement with the Cool Choice program and other commercial HVAC programs in the Northeast.

A1	Have you heard of the commercial HVAC energy efficiency programs offered by [MENTION: Utility, LIPA, NJ Smart Start Buildings, NYSERDA, Efficiency Vermont, Efficiency Maine or the Cape Light Compact] ?		
	Yes	1	82%
	No	2	18%
	Don't know	-97	0
	Refused	-98	0
A2	Has your firm participated in any of these commercial HVAC energy efficiency programs?		
	Yes	1	28%
	No	2	72%
	Don't know	-97	0
	Refused	-98	0

If either A1 OR A2 = Yes then continue, else =>SKIP to A7

A3	Do you think these kinds of programs are effective in encouraging HVAC contractors to sell more efficient HVAC equipment to commercial customers?		
	Yes	1	92%
	No	2	8%
	Don't know	-97	0
	Refused	-98	0
A4	What aspects of the programs, if any, have you found work well in terms of helping your organization promote high efficiency HVAC equipment?		

	Don't know	-97	0
	Refused	-98	0

Prescriptive rebates structure (\$/ton)	8
Ease to participate	6

A5	What aspects of the programs, if any, would you change/improve upon if you could?		

	Don't know	-97	0
	Refused	-98	0
	Reduce the amount of paperwork		3
	More advertising to end user		4
A6	In your opinion, would you say that the availability of rebates has a large impact, a moderate impact, a small impact or no impact at all in motivating your sales staff to promote high efficiency equipment?		
	Large impact	1	43%
	Moderate impact	2	18%
	Small impact	3	37%
	No impact	4	2%
	Don't know [SKIP TO A7]	-97	0
	Refused [SKIP to A7]	-98	0
A6.a	Can you explain why that is?		

	Don't know	-97	0
	Refused	-98	0
	Large Impact: They make more money on high efficiency models		5
	Small Impact: Not enough demand for high efficiency equipment		2
A7	In your opinion, what is the best approach program sponsors could take to increase the demand for high efficiency HVAC units sold in the market?		

	Don't know	-97	0
	Refused	-98	0
	Provide more education to end users		12
	Increase incentive levels		7
	Provide more education to architects and engineers		5

A8 In your opinion, does \$73 to \$92 per ton accurately reflect the average incremental equipment cost between a standard efficiency HVAC unit and a high efficiency HVAC unit?

Yes [SKIP to F1]	1	76%
No	2	24%
Don't know [SKIP to F1].....	-97	0
Refused [SKIP to F1].....	-98	0

A8.a [IF NO], what would be an appropriate rebate amount?

Don't know	-97	0
Refused	-98	0

15 to 20% higher on an individual unit basis	4
For the units under 5 tons, the high efficiency units are actually \$150-\$200 per ton more expensive.	3

I have one final question.

F1 What new HVAC technologies that offer opportunities for energy efficiency do you see emerging or becoming more widely utilized in the next 2 to 3 years?

Don't know	-97	0
Refused	-98	0

ECM motors and Variable speed drives	3
DC inverter technology	2
Demand control ventilation	1

CLOSE.

Those are all the questions I have for you today.

May I verify your address for the drawing?

- C1 Name:
- C2 Street:
- C3 City:
- C4 State:
- C5 ZIP:
- C6 Phone:

THANK YOU FOR YOUR TIME AND COOPERATION

Appendix B

NEEP HVAC Market Characterization Supplemental Interview Questionnaire Supplemental Interview Responses

NEEP HVAC Market Characterization Supplemental Interview Questionnaire

Name:
Company:

Date:

Introduction:

Hello, my name is _____ and I am calling from KEMA Consulting on behalf of **[MENTION: Utility, LIPA, NJ Smart Start Buildings, NYSERDA, Efficiency Vermont, Efficiency Maine or the Cape Light Compact]**. Your name was provided to us from the program administrators as someone who is familiar with the program and could provide valuable information regarding your experiences.

We have completed in depth interviews with 40 HVAC distributors in the region about their recent experiences and views on the **Packaged Commercial HVAC** market and the energy efficiency programs in the Northeast and are supplement this data with open ended interviews with a few key market actors like you. The interview will only take about fifteen minutes and is structured for us to have an open conversation focused around a few general research questions and to help support the information we have gathered from the distributors.

Project Objectives. The principal objectives of the project are to:

- Estimate the number of packaged units that are sold within the Sponsors' areas, how many qualify as Tier 2, and the share installed in new construction v. replacement projects.
- Assess the market for high efficiency commercial HVAC units in the Sponsors' areas, with particular attention to barriers and other circumstances that have impeded the growth in their market share, and identify opportunities to overcome these barriers.
- Develop and support recommendations for changes to the program that are likely to result in influencing additional sales of TIER 2 equipment within the sponsors territories.

Research Questions. Based on the project objectives mentioned above I wanted to ask you some fairly open ended questions to get your thoughts on the marketplace:

1. What is the current volume of all commercial packaged HVAC equipment sold in the Program area (CT, MA, ME, NJ, NY, RI, VT)?
2. What share of total units are sold into new construction v. replacement projects?
3. What is the current market share of Tier 2 equipment in the Program areas?

-
4. What do you see as the motivating factors for promoting and selling Tier 2 equipment?
 5. What barriers are encountered in promoting and selling Tier 2 equipment?
 6. What is the perception on the current incentive levels and structure? Do they have an impact on the sales presentation? Is there a better approach to impact the sales of Tier 2 equipment?
 7. What are the current market conditions of product availability for Tier 2 equipment?
 8. What roles do the various market actors (manufacturers, distributors, contractors and designers) play in specifying HVAC equipment? How does this role differ in new v. replacement situations? Does this role vary by size or type of customer?
 9. To what extent is efficient equipment viewed as a competitive advantage (from perspective of those selling or installing the equipment)? In what situations is it an advantage or disadvantage?
 10. What is the overall awareness of the Programs in the marketplace? What motivations and barriers exist in using the programs?
 11. What is the level of customer recognition of high efficiency equipment?
 12. What are customers' perceptions of the advantages and disadvantages of high efficiency equipment?
 13. To what extent are other building professionals and tradesmen involved in equipment selection? How does their involvement vary with type and size of project?

NOTE: Where appropriate, discuss any additional issues that have been raised through the distributor interviews that the respondent may be able to provide additional insight.

Thank and close

Supplemental Interview Responses

General Findings:

- Overall, responses provided on market activity were consistent with those provided by distributors.
- Educating customers and designers should be a top priority.
- General program awareness is high but there is a need to provide more focus on developing a better understanding of program details.
- Product availability is not an issue except for a potential short term impact from changes to EPACT.
- Reduce the paperwork and the time lag to receive the rebates.
- The new construction market represents a large share of the packaged commercial HVAC equipment sales (estimates range from 40 to 75%).
- Architects/ Designers play an big role in this market but aren't familiar enough with high energy efficient equipment and/or program benefits

Summary of Responses to Research questions

Q1. Market Size

As expected, respondents were unable to provide estimates of the current volume of units sold in the region, however, when asked to react to the estimates derived through the distributor interviews most felt that was a reasonable estimate.

Q2. New Construction vs Equipment Replacement

This group provided higher estimates of the percent of units installed in new constructions versus equipment replacement than the distributors. Those market actors closet to the program, provided estimates that were consistent with the market sales data. However, the other participants indicated that the share of total units installed in new construction ranged from 50-90%.

Q3. Market share of Tier 2

Overall, most felt that sales of high efficiency (Tier 2) units represented a fairly low percentage of the total units sold in the market with responses ranging from 1-20%. These responses were very consistent with the 20% resulting from the market sales data quantified through the distributor interviews.

Q4. Motivating factors

All participants indicated that potential energy and cost savings along with the high cost of electricity are the two primary motivating factors in promoting energy efficient equipment.

Q5. Barriers

Most respondents indicated that the two primary barriers to promoting energy efficient equipment were the higher first cost of purchasing higher efficiency equipment and the disconnect between who pays the energy bill and who pays for the equipment.

Q6. Perception of incentive levels and the impact of incentives

Most felt that the current incentive levels were reasonable and did a good job covering most of the incremental costs, especially for the larger size units. They indicated that in general, they have not received any complaints.

As far as suggestions for a better approach to using the incentives to promote high efficiency units, most reported a strong desire to simplify the process and reduce the amount of paperwork. They also indicated that the program could benefit by providing the incentives directly to the contractors, providing the contractors with a spiff for completing the paperwork or providing an instant rebate option.

Q7. Product availability

Overall, respondents reported that the market may be experiencing a short term problem with product availability that they attribute to the impact of the new EPACK requirements. However, all indicated that this was not normal and all were confident that this would not be a long term issue.

When there is a problem with equipment availability it is more likely to involve equipment replacement rather than new installations, especially during the cooling season. They reported that contractors are still stocking low end base models. As a result, when a unit fails they typically cannot afford the extra time it takes to receive a high efficiency unit.

Q8. Roles of market actors

In general, manufacturers will build what is demanded and distributors will supply whatever is ordered. The key is getting contractors to specify high efficiency equipment in their proposals to customers and build demand. Most reported the design community could play an important role that they currently do not fill.

Q9. Competitive Awareness

The contractors indicated that high efficiency units allows them to provide customers with options. Most customers are interested in the lowest cost units so this serves as a differentiator for contractors.

Q10 & Q11. Awareness

Most felt that overall program awareness was pretty low. Most customers get their information from their engineer and most feel that awareness and understanding is low among designers and engineers. For design built jobs, awareness is low among general contractors and they are only concerned with avoiding delays and costs.

Q12. Customer perceptions

Customers' perception of the advantages of high efficiency equipment is energy costs savings, improved quality, more reliable and environmental benefits. Customers' perception of the disadvantages of high efficiency equipment is higher first costs. However, this primarily stems from one inherent problem in the marketplace – lease/ tenant situations for most commercial buildings.

Q13. Involvement of other trades

Designers currently have little involvement with the program.

General contractors who are often involved in specifying equipment for design build projects, have not been involved with the Program and are only concerned with the lowest cost equipment.

Large property managers have no interest and only want the least cost option as they will not own the building long term or pay the bills.