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Strategic Energy Management Market Assessment Study: Dairies, Irrigators, and Nurseries

Prepared by:
Market Strategies International
888 SW Fifth Avenue, Suite 790
Portland, OR 97204

Northwest Energy Efficiency Alliance
PHONE
503-688-5400
FAX
503-688-5447
EMAIL
info@neea.org

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Executive Summary

Introduction

For the current funding cycle (2010 to 2014), the Northwest Energy Efficiency Alliance's (NEEA) Industrial Sector will target new markets in the Northwest region. NEEA engaged Market Strategies to conduct a research study to establish a baseline of Strategic Energy Management (SEM) practices in the new markets of interest in order to compare against future years to determine the degree of market diffusion of SEM practices in the target markets due to NEEA's efforts.

The primary objective of this research engagement is to determine the percentage of industrial companies within eight specified sectors in the Northwest that have implemented all or some of the elements of SEM.

This report details findings from the Dairies, Irrigators, and Nurseries sectors. Market Strategies has provided separate reports detailing findings for the other industrial sectors included in this project – Small Manufacturers (with fewer than 100 employees), Medium Manufacturers (with 100 to 249 employees), Metals Manufacturers, Food Processing facilities and Beverage Manufacturers.

Key Findings

Though one-half (44 to 50 percent) are aware of SEM practices, the incidence of SEM among the dairies, irrigators and nurseries in the Northwest remains very low (three to four percent). Formal implementation of the elements that make up SEM may be constrained in part by the small size of most companies within these sectors, the vast majority of which (79 to 93 percent) report having fewer than 20 employees.

Dairies

Familiarity with Strategic Energy Management

While nearly all (98 percent) dairies are familiar with energy efficient operating practices, fewer than one-half (44 percent) are familiar with SEM, with only nine percent reporting they are “very familiar” with SEM. Larger proportions of dairies are familiar with Energy Smart Industrial (ESI) through BPA (27 percent) and Industrial Energy Improvement (IEI) through ETO (28 percent, asked among Oregon facilities only), than with Continuous Energy Improvement (CEI) through NEEA (six percent).

Implementation of Strategic Energy Management Practices

Currently, three percent of dairies in the Northwest meet all three SEM criteria: 1) the company has set a goal related to energy, 2) the company's top leadership has dedicated resources (e.g., staff, budget, training, capital improvements) to achieve the goal, and 3) staff responsible for the goal regularly reports to top leadership on progress toward the goal.

While six in ten (61 percent) dairies say they track their energy use, just 14 percent have set energy reduction goals. Only four percent of dairies report having all elements of "dedicating resources to energy reduction" in place (i.e., dedicated energy champion, staff trained in energy reduction, and investment in energy efficient equipment).

The vast majority (85 percent) of dairies report undertaking operations and maintenance activities to reduce energy use over the past two years. These dairies most commonly cited equipment distributors (18 percent), utilities (12 percent), contractors (12 percent) or suppliers (nine percent) as resources for technical assistance. No dairies cited BPA, ETA or NEEA as a source of technical assistance.

NEEA's Role among Dairies

NEEA does not have a significant presence among dairies in the Northwest at this time. Fewer than one in ten dairies are familiar with NEEA (eight percent) or with CEI (six percent). BPA (27 percent aware ESI) and ETO (28 percent aware of IEI – asked among Oregon facilities only) appear to have made more inroads among facilities in this sector.

Irrigators

Familiarity with Strategic Energy Management

One-half (50 percent) of irrigators are familiar with SEM. One-in-five (20 percent) irrigators are familiar with CEI through NEEA, while slightly higher proportions are familiar with ESI through BPA (32 percent) and IEI through ETO (31 percent, asked among Oregon facilities only).

Implementation of Strategic Energy Management Practices

Currently, four percent of irrigators in the Northwest meet all three SEM criteria. More than six in ten (64 percent) irrigators track their energy use, and nearly one-quarter (24 percent) have energy reduction goals in place. Only four percent of irrigators report having all elements of "dedicating resources to energy reduction" in place.

Nine in ten (90 percent) irrigators report undertaking operations and maintenance activities to reduce energy use over the past two years. Equipment distributors (33 percent) or suppliers (six percent), utilities (15 percent) and contractors (nine percent) are the most common resources cited for technical assistance among irrigators who received this. Nine percent of irrigators say they received technical assistance from BPA, compared with three percent citing both NEEA and ETO as sources for assistance.

NEEA's Role among Irrigators

NEEA currently has a limited presence among irrigators in the Northwest, with one in five (20 percent) irrigators familiar with CEI and fewer than one in ten (9 percent) familiar NEEA. NEEA is cited by only a handful of irrigators as a source of SEM knowledge (2 percent), an influencer to set energy reduction goals (3 percent), or as a source of technical assistance (3 percent).

Nurseries

Familiarity with Strategic Energy Management

One-half (49 percent) of nurseries are familiar with SEM, with nearly one-quarter (23 percent) reporting they are “very familiar” with SEM. Nearly one-half (48 percent) of Oregon nurseries are familiar with IEI through ETO, while one-third (32 percent) are familiar with ESI through BPA, followed by one in six (16 percent) who are familiar with CEI through NEEA.

Implementation of Strategic Energy Management Practices

Despite relatively high awareness of SEM and the importance associated with most SEM elements, just three percent of nurseries in the Northwest meet all three SEM criteria.

More than three-quarters (77 percent) of nurseries regularly track their energy use, and one-third (33 percent) have energy reduction goals in place.

Only three percent of nurseries report having all elements of “dedicating resources to energy reduction” in place, though relatively high proportions of nurseries do one or more of these things. Nine in ten (91 percent) nurseries report undertaking operations and maintenance activities to reduce energy use over the past two years. Equipment distributors (32 percent) are cited most frequently as a source for technical assistance, nearly one-quarter (23 percent) of nurseries who received technical assistance cite ETO as a resource. None specifically cite BPA or NEEA.

NEEA's Role among Nurseries

While many Northwest nurseries are implementing various energy efficiency measures, NEEA's visible presence in this sector is limited. Evident from high levels of familiarity with IEI and its engagement across several activities as a decision-influencer and provider of incentives and technical assistance, ETO appears to be well established among Oregon nurseries.

Introduction

NEEA is a non-profit organization working to maximize energy efficiency in the Northwest. NEEA is supported by, and works in collaboration with, the Bonneville Power Administration, Energy Trust of Oregon and more than 100 Northwest utilities on behalf of 12 million energy consumers. By accelerating market adoption of energy efficient products, services and practices, NEEA's initiatives assist the region in maximizing energy efficiency and meeting its energy efficiency goals.

During the previous funding cycle (2004 to 2009), NEEA focused on the food processing and pulp and paper sectors for its energy efficiency initiatives in the industrial sector in the Northwest region, specifically Idaho, Montana, Oregon and Washington.

For the current funding cycle (2010 to 2014), NEEA's Industrial Sector will target new markets beyond the food processing and pulp and paper markets in the Northwest region.

NEEA engaged Market Strategies to conduct a research study to establish a baseline of SEM practices in the new markets of interest in order to compare against future years to determine the degree of market diffusion of SEM practices in the target markets due to NEEA's efforts.

The primary objective of this research engagement is to determine the percentage of industrial companies within eight specified sectors in the Northwest that have implemented all or some of the elements of SEM. These sectors include:

- Food Processing
- Beverage Manufacturing
- Metal Manufacturing
- Small Manufacturing Businesses (with fewer than 100 employees company-wide)
- Medium Manufacturing Businesses (with 100 to 249 employees company-wide)
- Dairies
- Irrigators (agricultural operations)
- Nurseries

Key measures include:

- Awareness and understanding of SEM business practices
- Sources of awareness of SEM business practices (to establish if NEEA is one of the sources of awareness)
- Involvement of industrial companies in SEM business practices, determining if companies showed evidence of the "threshold of a system" defined by NEEA's Industrial Sector Team as:
 - The company has set a goal related to energy;

- The company's top leadership has dedicated resources (e.g., staff, budget, training, and capital improvements) to achieve the goal.
- Staff responsible for the goal regularly reports to top leadership on progress toward the goal
- Incidence of other energy management activities undertaken by industrial companies, e.g., leak detection and repair, lighting reduction, equipment operation schedule, equipment settings, equipment maintenance, etc.
- Barriers to implementing energy management activities
- Any technical assistance received for the activities undertaken, and if so, technical assistance from whom
- Incidence of installing energy efficient equipment, including the following related areas of interest:
 - Motivation for installing such equipment (including company policy for replacing worn equipment with energy efficient equipment; influence of equipment dealers)
 - Receipt of financial incentives (e.g. tax credits, rebates, utility incentives, etc.) for installing the equipment

This report presents findings from the Dairies, Irrigators, and Nurseries sectors. Two additional reports present findings from Small and Medium Manufacturers and Metals Manufacturers, and Food and Beverage Processing.

Methodology

Market Strategies used the Dun & Bradstreet (D&B) database to develop lists of companies within these industries across the four Northwest states. The D&B database assigned companies to one of the eight sectors based on NAICS/SIC codes.

The sample included all facilities within these sectors within the four Northwest states (Oregon, Washington, Idaho and Montana). Due to the finite number of facilities in the region for most sectors (all except Small Manufacturers and Irrigators), Market Strategies sought to achieve the maximum number of completed interviews for each.

Market Strategies completed a total of 631 interviews were completed for this project, including 99 among Food Processing facilities and 27 among Beverage Manufacturing facilities. The final count of completed interviews for each sector is below:

- Food Processors: n=99
- Beverage Manufacturing: n=27
- Metal Manufacturers: n=15

- Small Manufacturers (with less than 100): n=269
(includes Food Processors, Beverage Manufacturers, and Metal Manufacturers from the above cells, and other small manufacturing businesses with fewer than 100 employees)
- Medium Manufacturers (with 100 to 249 employees): n=43
(includes Food Processors, Beverage Manufacturers, and Metal Manufacturers from the above cells, and other medium-size manufacturing businesses with 100 to 249 employees)
- Dairies: n=79
- Irrigators (agricultural operations): n=123
- Nurseries: n=87

Table 1 below shows the sample disposition showing the population, target sample and final sample:

Table 1. Sample Disposition					
Sector	Population (# of facilities***)	Number of Facilities Attempted to Contact	Target Sample	Final Sample (# of facilities interviewed)	Confidence Intervals for Final Sample****
Food Processors	2,069	1691	125	99	+/-9.6% at 95%
Beverage Manufacturers	886	630	NA*	27	+/-18.6% at 95%
Metals Manufacturers	551	298	NA*	15	+/-25.6% at 95%
Small Manufacturers (with fewer than 100 employees)	34,234	8275	125	269**	+/-5.9% at 95%
Medium Manufacturers (with 100 to 249 employees)	475	447	125	43**	+/-14.3% at 95%
Dairies	1318	1098	125	79	+/-10.7% at 95%
Irrigators	17,024	3627	125	123	+/-8.8% at 95%
Nurseries	1,168	902	125	87	+/-10.1% at 95%

* Toward the end of data collection, Market Strategies found that the completion rates for Medium Manufacturing, Dairies and Nurseries were hitting a ceiling due to the small population sizes of these sectors. NEEA then added the Beverage Manufacturing and Metals Manufacturing sectors to the study and directed MSI to shift remaining data collection efforts to target these two additional sectors.

** Small and Medium Manufacturers include Food Processors, Beverage Manufacturers, Metal Manufacturers and other manufacturing businesses.

***Market Strategies derived facility counts from Dunn & Bradstreet records for facilities within each industry category across the four Northwest states (WA, OR, ID, MT).

**** Note on Confidence Intervals: These are standard, theoretical, ranges of how well the sample represents the relevant population responses and are for reference only. Formally, they assume a general, very heterogeneous, population. In reality, the relatively small reference populations in this study (specific types of manufacturers) can be assumed to be much more homogeneous than the general population as a whole. As such, response generalizability is higher than what these formal Confidence Intervals indicate; however, statisticians cannot calculate those true Confidence Intervals.

Market Strategies conducted data collection via telephone interviews, which averaged between 16 and 17 minutes in length from December 2010 through March 2011. The qualified survey respondent was the person at the facility responsible for energy management and/or decisions related to energy usage and energy efficiency efforts.

Questionnaire Design

NEEA provided an outline of desired questionnaire content and examples of questionnaires addressing the study objectives that have been implemented for past studies. Market Strategies and NEEA collaborated to develop and finalize the questionnaire. A copy of the questionnaire is provided in Appendix D.

Analytical Approach

Market Strategies analyzed findings for the following subgroups:

- Number of employees (all locations): <250, 250 or more
- Geographic classifications (State, Rural versus Urban)
- Occupation categories and job responsibilities
- Implementation of SEM practices

Market Strategies tested data at the 95 percent confidence level. Market Strategies only discuss statistically significant differences between subgroups in this report.

Detailed Findings – Dairies, Irrigators, and Nurseries

Facility Profiles

As part of the 2011 SEM Market Assessment Survey, energy managers and decision-makers for 79 dairies, 123 irrigators, and 87 nurseries located in the four Northwest states were interviewed.

A majority of facilities across all three sectors are located in urban areas as defined by Rural Urban Classification Codes (RUCC). Nine in ten (91 percent) nurseries are located in urban areas, and nearly six in ten (58 percent) are located in Oregon.

The vast majority (79 to 93 percent) of dairies, irrigators and nurseries surveyed have fewer than 20 employees, and one-half or more of irrigators (50 percent) and nurseries (57 percent) report annual revenue of less than \$250,000.

Nearly one-quarter (24 percent) of irrigators report that energy costs make up 20 percent or more of their total operating costs, versus 8 percent of dairies and nurseries reporting this.

Eleven percent of dairies are ISO-14000 certified, significantly higher than irrigators (4 percent) or nurseries (2 percent).

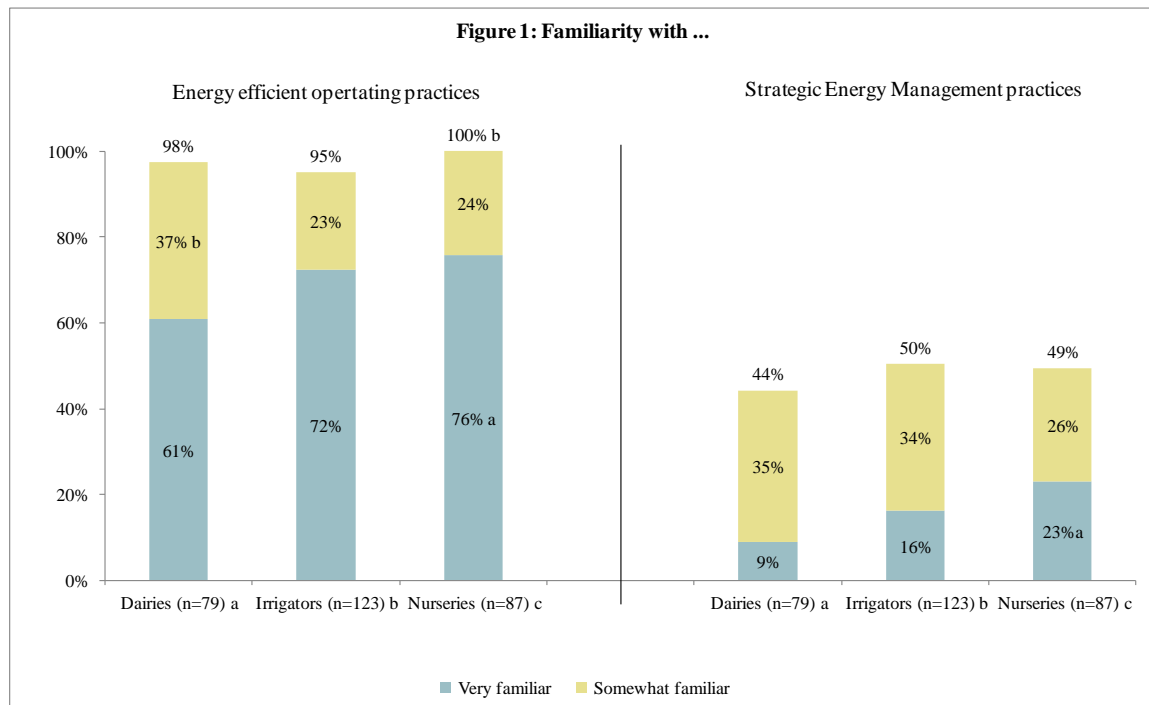
LEAN manufacturing is practiced by nearly one-quarter (24 percent) of nurseries, compared with 19 percent of irrigators and 14 percent of dairies.

Four in ten nurseries (41 percent) belong to the Oregon Association of Nurseries. In contrast, most dairies (79 percent) and irrigators (87 percent) do not belong to an industry association.

Table 1 in Appendix A details the dairy, irrigator, and nursery facility profiles for this survey.

Familiarity with Energy Efficiency and Strategic Energy Management

Familiarity with energy efficient operating practices is nearly universal (95 to 100 percent). Significantly more nurseries than dairies (76 percent versus 61 percent) report that they are “very familiar” with energy efficient operating practices. About one-half (44 to 50 percent) of dairy, irrigator, and nursery facility energy managers/decision-makers are familiar with SEM. (Figure 1)



Letters indicate a number is significantly higher at 95 percent confidence than the corresponding segment.

Q2. How familiar is this facility with energy efficient operating practices, such as turning equipment or lights off when not in use, maintaining equipment so that it runs efficiently, checking for air leaks, etc.?

Q3. Strategic Energy Management, or S-E-M, is a system of practices that leads to reliable and persistent energy savings. At a minimum, these practices include setting a goal related to energy, dedication of resources by top leadership to achieve the goal, ensuring staff regularly reports progress toward the goal to top management. How familiar are you with Strategic Energy Management practices?

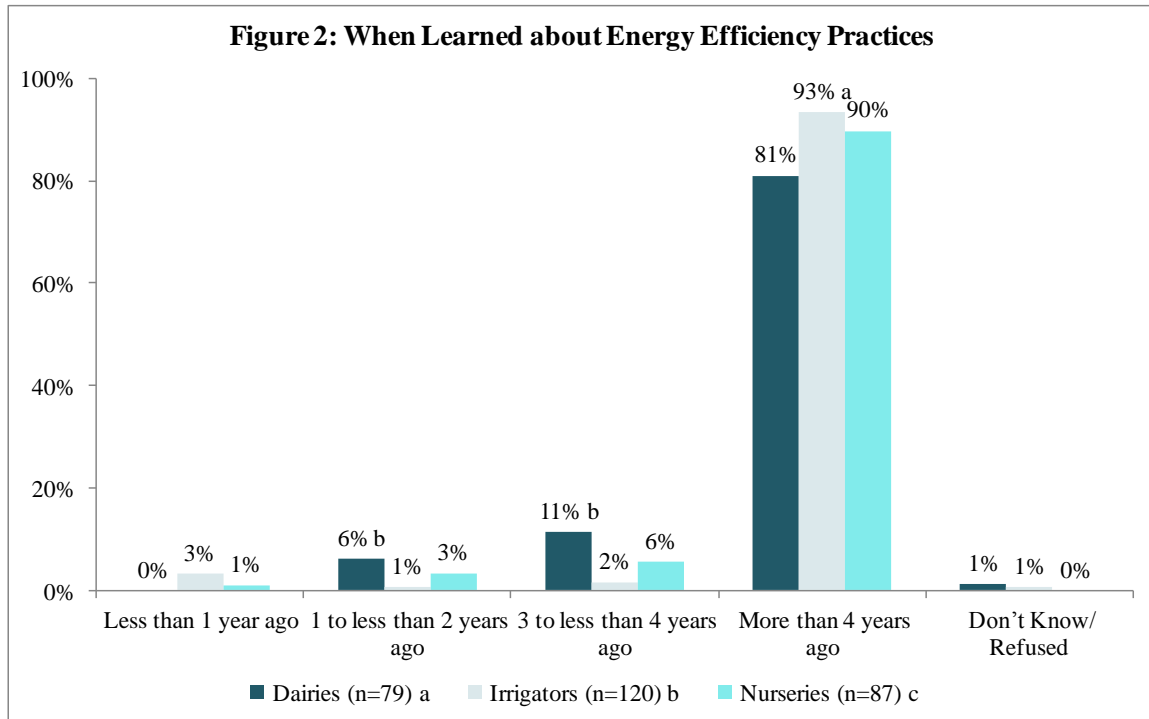
Among respondents who are familiar with SEM, about one-quarter (24 percent) of nurseries say they learned about SEM through previous experience. The same proportion of dairies (24 percent) state that they learned about SEM practices through general media sources such as: newsletters, magazines, newspapers, or television. (Table 2)

Table 2. How Learned about Strategic Energy Management			
	Dairies	Irrigators	Nurseries
Self awareness/Always done this/Previous employer	14%	19%	24%
Newsletters/magazines/ Newspaper/TV/General media	24%	13%	18%
A utility company (general)	-	4%	2%
Word of mouth	4%	6%	5%
This survey	7%	4%	5%
Public Utility District (PUD)	6%	-	2%
BPA (Bonneville Power Authority)	-	4%	-
Idaho Power	2%	3%	2%
ETO (Energy Trust of Oregon)	-	1%	6%
Workshops/educational seminars	2%	2%	3%
Puget Sound Energy	4%	1%	2%
Pacific Power	4%	-	2%
Equipment distributor	9%	-	2%
Oregon Association of Nurseries	-	-	6%
NEEA (Northwest Energy Efficiency Alliance)	2%	2%	2%
<i>Base (n)</i>	55	91	63

Full table shown in Appendix C.

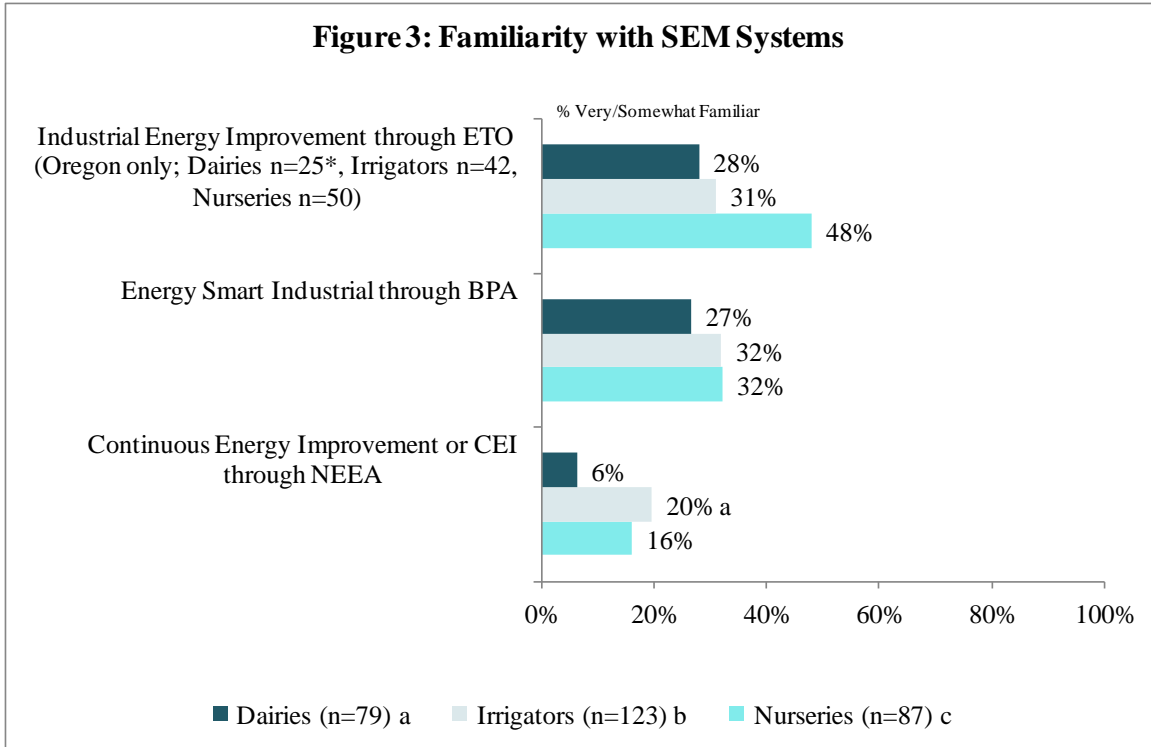
Q3A. How did you first learn about strategic energy management practices?

Most (81 to 93 percent) facilities learned about energy efficiency practices more than four years ago. (Figure 2)



Letters indicate a number is significantly higher at 95 percent confidence than the corresponding segment.
 Q2A. When did this facility first learn about energy efficient operating practices, for example turning equipment or lights off when not in use, maintaining equipment so that it runs efficiently, checking for air leaks, etc?

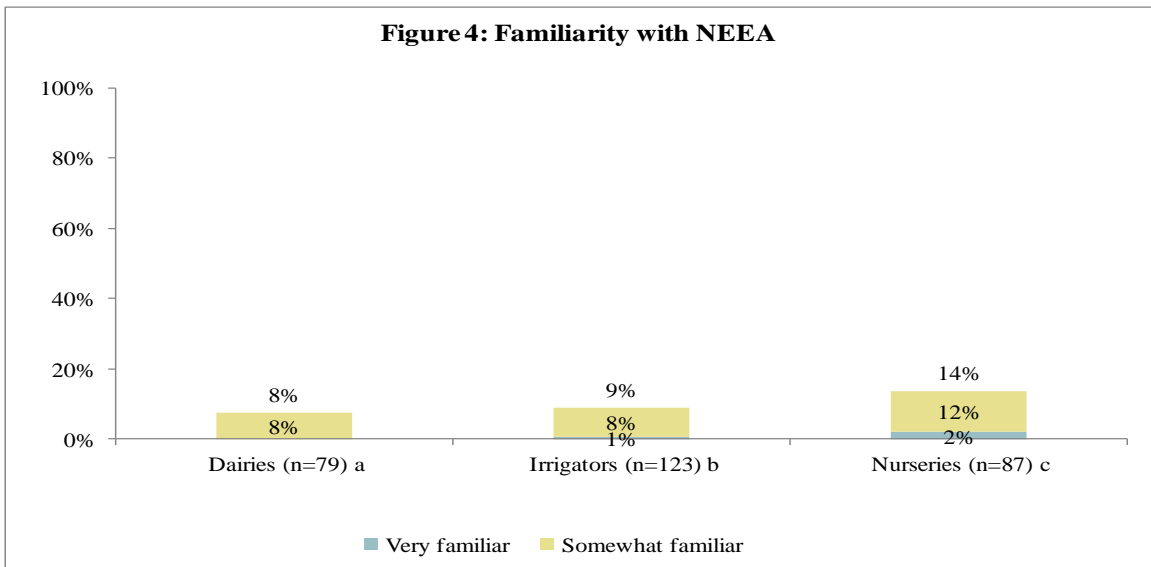
Larger proportions of dairies, irrigators and nurseries are familiar with Energy Smart Industrial (ESI) through BPA and Industrial Energy Improvement (IEI) through ETO (within Oregon only), compared with Continuous Energy Improvement (CEI) through NEEA. Familiarity with CEI is particularly low (six percent) among dairies. (Figure 3)



*Small base size (<30) interpret results with caution.

Q4-6. For each of the energy management systems I name, please tell me whether you are very familiar, somewhat familiar, not very familiar, or not at all familiar with the program. How familiar are you with...

Familiarity with NEEA and its initiatives is low among dairies, irrigators, and nurseries, ranging from eight percent to 14 percent. (Figure 4)



Q52. How familiar are you with NEEA and its initiatives? Would you say that you are...?

Top Three Concerns / Importance of Energy Management Practices

Profitability is the most frequently mentioned “top concern” among dairies (34 percent), irrigators (33 percent), and nurseries (41 percent). Among dairies, *operational costs* and *longevity* are ranked second and third for their facility concerns (23 and 20 percent respectively). Irrigators rank the *cost of utilities* and *operational costs* as second and third concerns (24 and 20 percent respectively). The second and third most commonly mentioned concerns among nurseries are *quality production* (18 percent) and the *cost of utilities* (16 percent). (Table 3)

Table 3. Top Three Facility Concerns			
	Dairies (a)	Irrigators (b)	Nurseries (c)
Profitability	34%	33%	41%
Operational costs (rent/machinery/materials/labor)	23%	20%	14%
Cost of utilities	13%	24% a	16%
Operational efficiency	14%	14%	12%
Efficient use of electricity/water/fuel	16% b	6%	12%
Longevity/Viability/ Sustainability	20% bc	7%	9%
Quality production	8%	7%	18% ab
Weather/Environment	11%	18%	15%
Economy	4%	3%	10% b
Cost of fuel	1%	12% a	5%
Market stability/ condition	8%	6%	2%
Health (general)	14% c	-	2%
Other	5%	11%	12%
Don't Know/Refused	5%	2%	1%
Base (n)	79	123	87

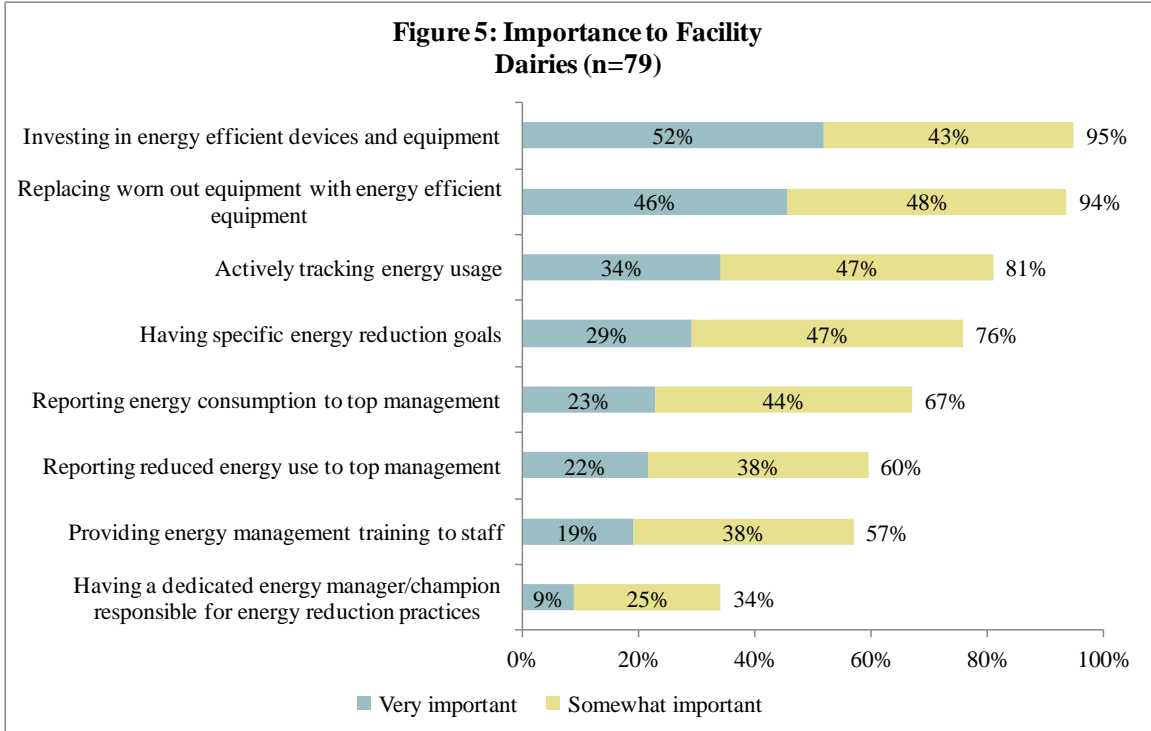
Letters indicate a number is significantly higher at 95 percent confidence than the corresponding segment.

Table includes categories with responses of eight percent or higher.

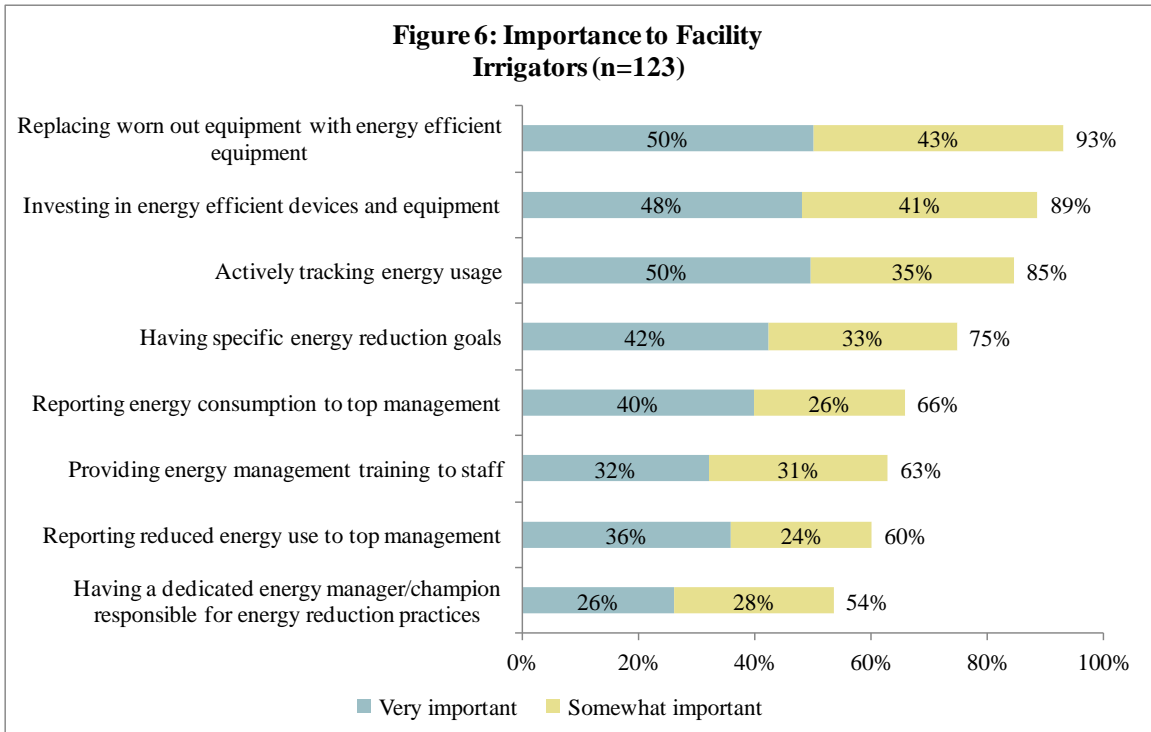
Verbatim responses for this open-end question are shown in Appendix E.

Q1. What are your company's top three concerns for this facility?

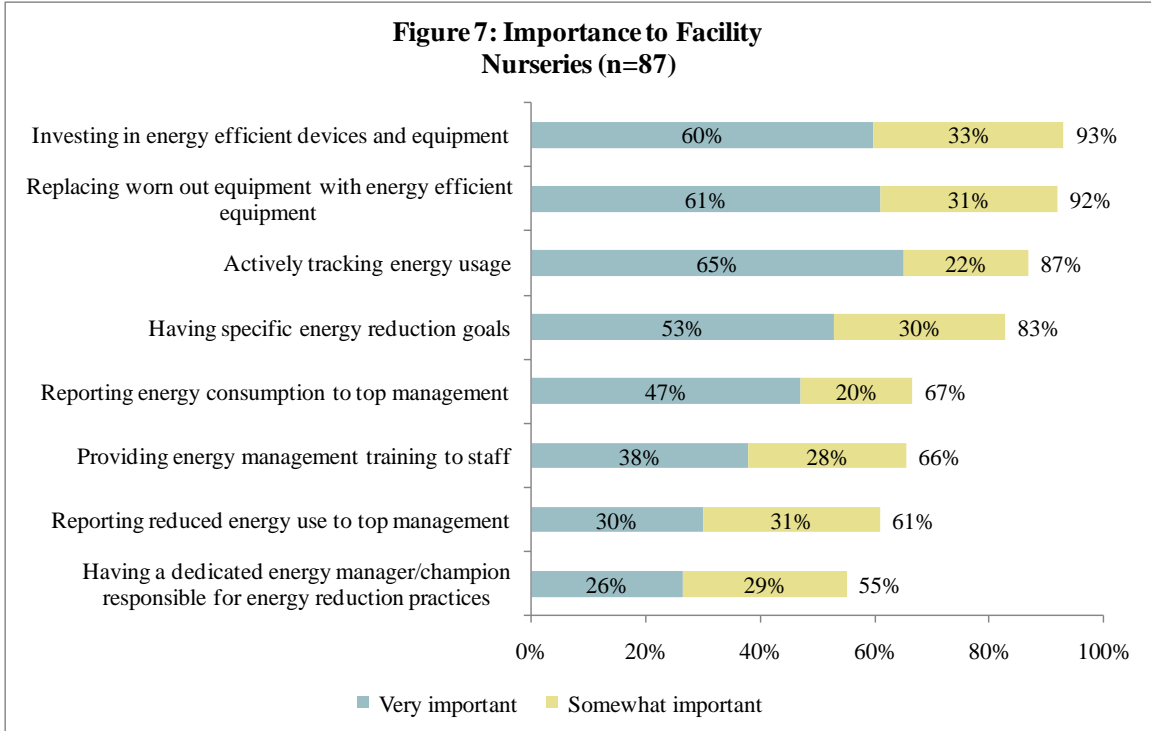
Respondents were asked to rate the importance of various energy efficiency activities. For all three sectors, investing in energy efficient devices and equipment and replacing worn out equipment with energy efficient equipment are ranked at the top in terms of importance (89 to 95 percent). Having a dedicated energy manager ranked at the bottom (34 to 55 percent) for saying this is important to the company. (Figures 5-7)



Q7-13. For each item I read, please tell me whether it is very important, somewhat important, not very important or not at all important to your company. How important is...

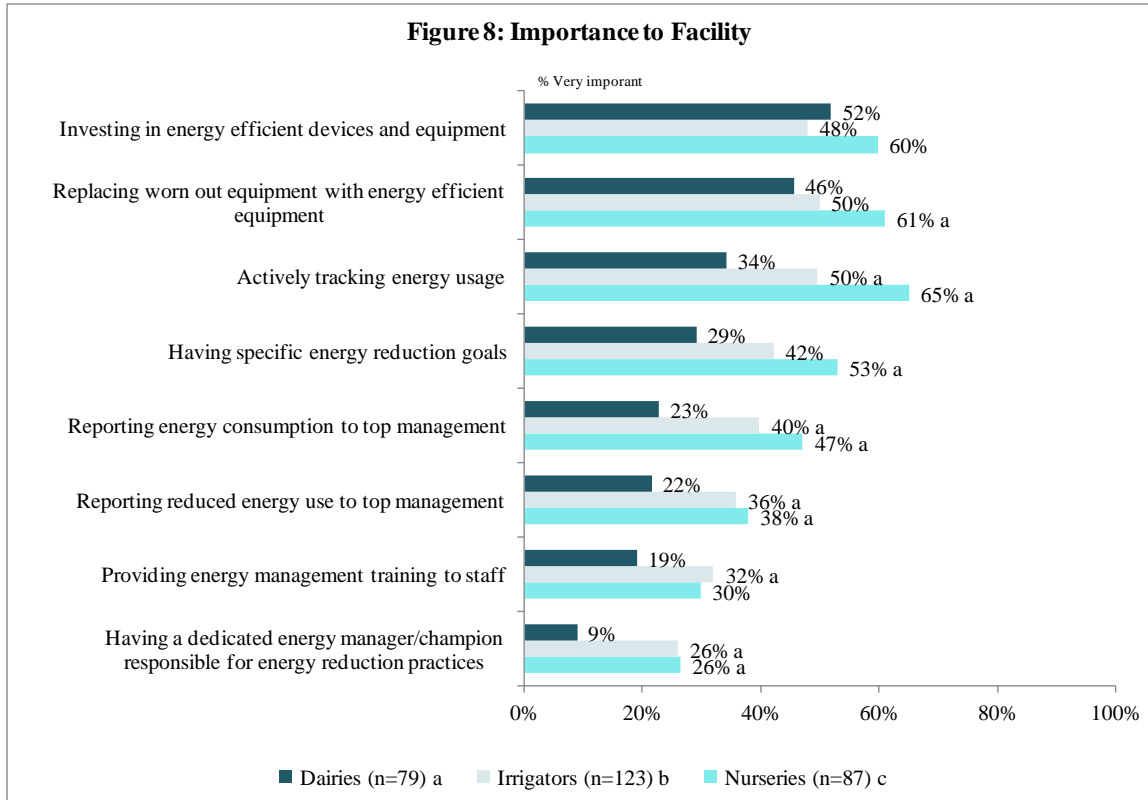


Q7-13. For each item I read, please tell me whether it is very important, somewhat important, not very important or not at all important to your company. How important is...



Q7-13. For each item I read, please tell me whether it is very important, somewhat important, not very important or not at all important to your company. How important is...

Focusing on “very important” responses for these measures, significantly more irrigators and nurseries than dairies view activities related to energy usage tracking, reporting energy usage, and having a dedicated energy manager as “very important”. (Figure 8)



Letters indicate a number is significantly higher at 95 percent confidence than the corresponding segment.

Q7-13. For each item I read, please tell me whether it is very important, somewhat important, not very important or not at all important to your company. How important is...

Implementation of SEM, Elements of SEM

A facility has to satisfy all three criteria below in order to meet the minimum requirement for evidence of SEM at the facility:

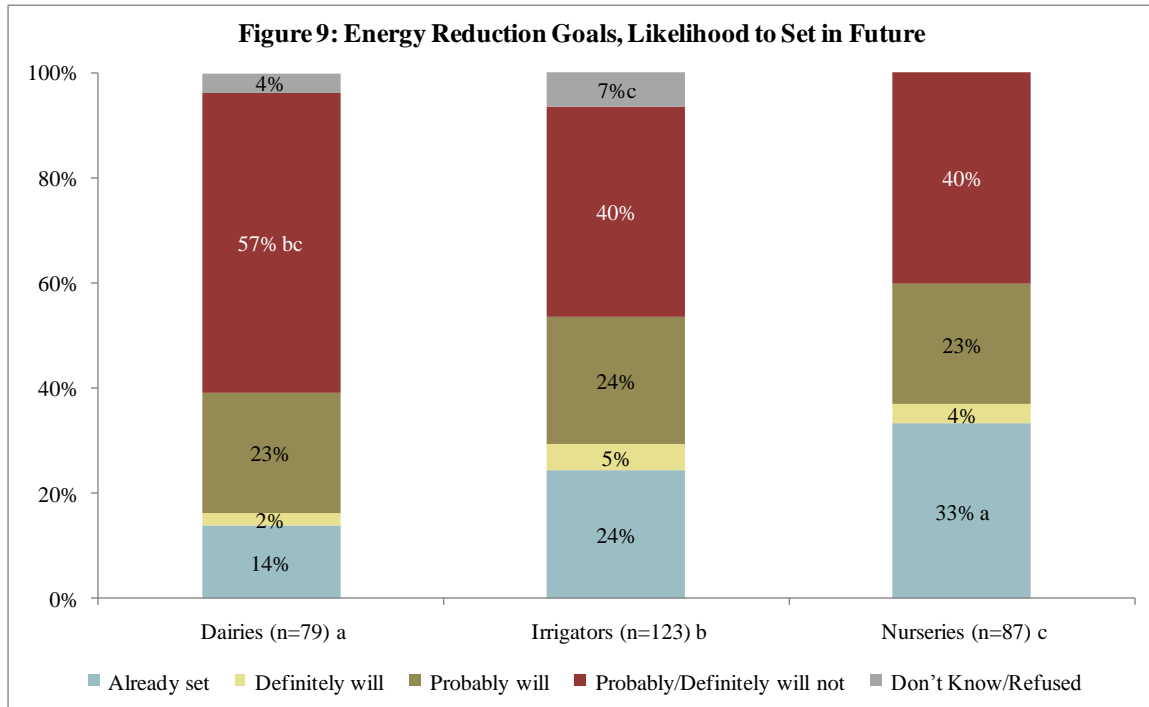
1. The company has set a goal related to energy;
2. The company's top leadership has dedicated resources (e.g., staff, budget, training, capital improvements) to achieve the goal; and
3. Staff responsible for the goal regularly reports to top leadership on progress toward the goal.

Currently, three percent of dairies and nurseries and four percent of irrigators meet all three SEM criteria. (Table 4)

Table 4: Meets SEM Criteria			
	Dairies	Irrigators	Nurseries
Have set energy reduction goals	14%	24%	33%
Dedicated resources to energy reduction (dedicated energy champion, staff trained in energy reduction, and investment in EE equipment)	4%	4%	3%
Regularly report progress toward goal to top leadership	9%	15%	29%
Meet SEM criteria v3 (all three activities above)	3%	4%	3%
<i>Base (n)</i>	79	123	87

Energy Reduction Goals

One-third (33 percent) of nurseries have already set energy reduction goals, slightly more than irrigators (24 percent) and significantly more than dairies (14 percent). Across all three sectors, a very small proportion (two to five percent) of facilities says they “definitely will” set an energy reduction goal in the future. Significantly more dairies say they will not set an energy reduction goal in the future (57 percent) than irrigators or nurseries (both 40 percent). (Figure 9)

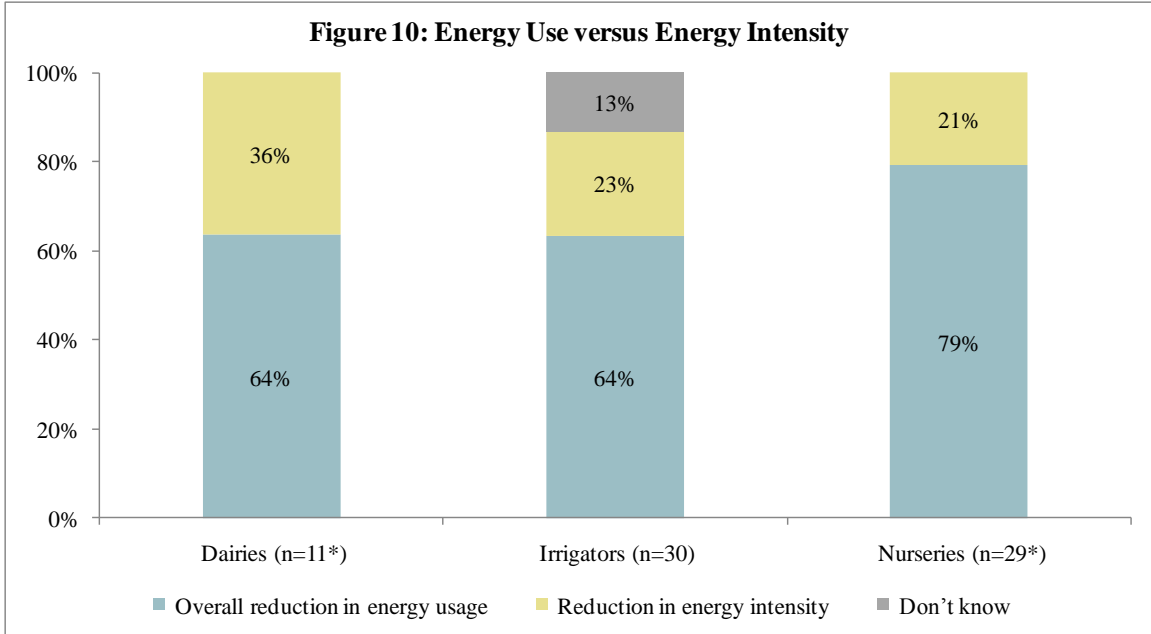


Letters indicate a number is significantly higher at 95 percent confidence than the corresponding segment.

Q14. Does your company set energy reduction goals for this facility?

Q14A. Will your facility definitely, probably, probably not, or definitely not set energy reduction goals for this facility within the next two years?

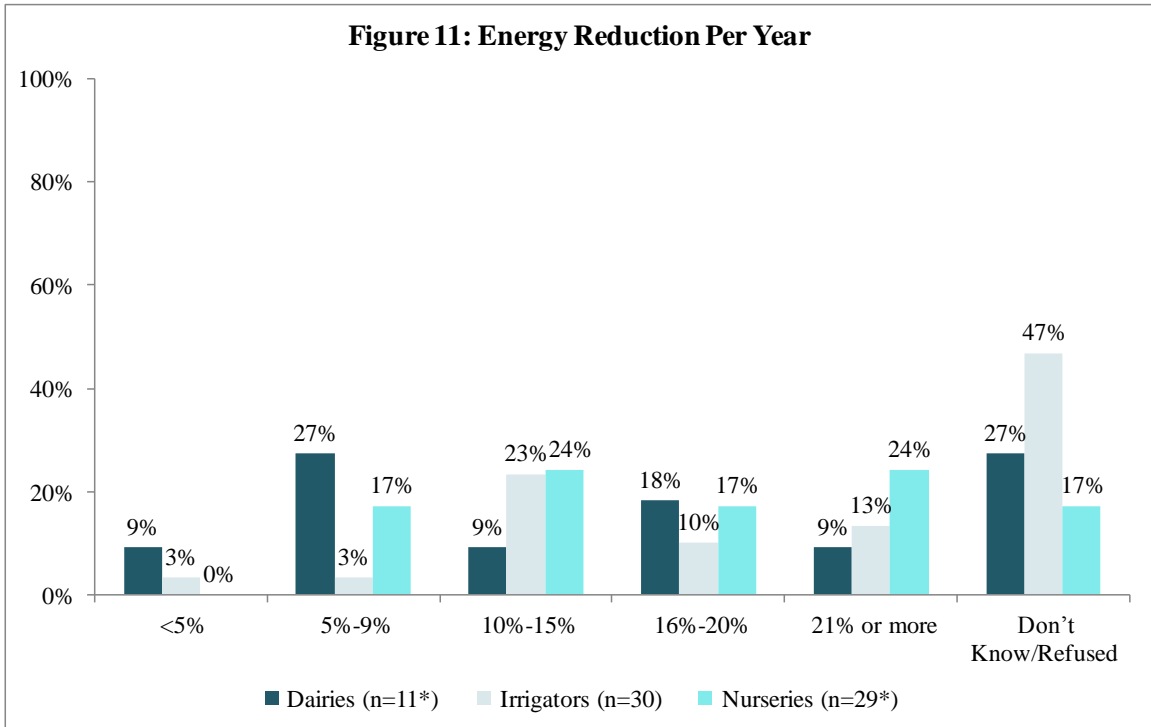
Of the facilities that have already set energy reduction goals, most (63 to 79 percent) report that the goals are set in terms of a reduction in “energy usage,” as opposed to using an “energy intensity” metric (21 to 36 percent). (Figure 10)



*Small base size (<30) interpret results with caution.

Q15. Are these goals set in terms of an overall reduction in energy usage, or in terms of "energy intensity" which is the amount of energy used per unit of production?

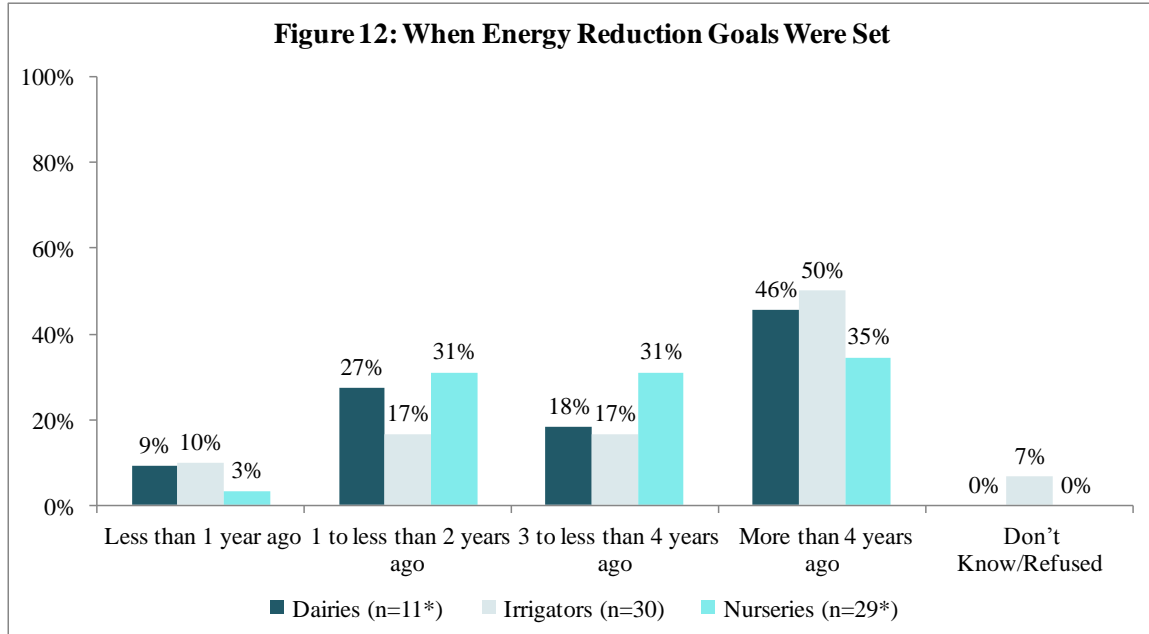
Among those with goals, 27 percent of dairies report energy reduction goals between five and nine percent per year, versus three percent of irrigators reporting goals in this amount. Almost half (47 percent) of irrigators either did not know or preferred not to answer with regards to their per-year energy reduction goals. (Figure 11)



*Small base size (<30) interpret results with caution.

Q16. In terms of a percentage reduction per year, what is your facility's specific goal for energy/energy intensity reduction?

Half (50 percent) of irrigators set their annual energy reduction goals more than four years ago, while just over a third (35 percent) of the nurseries report doing so within this same time frame. (Figure 12)



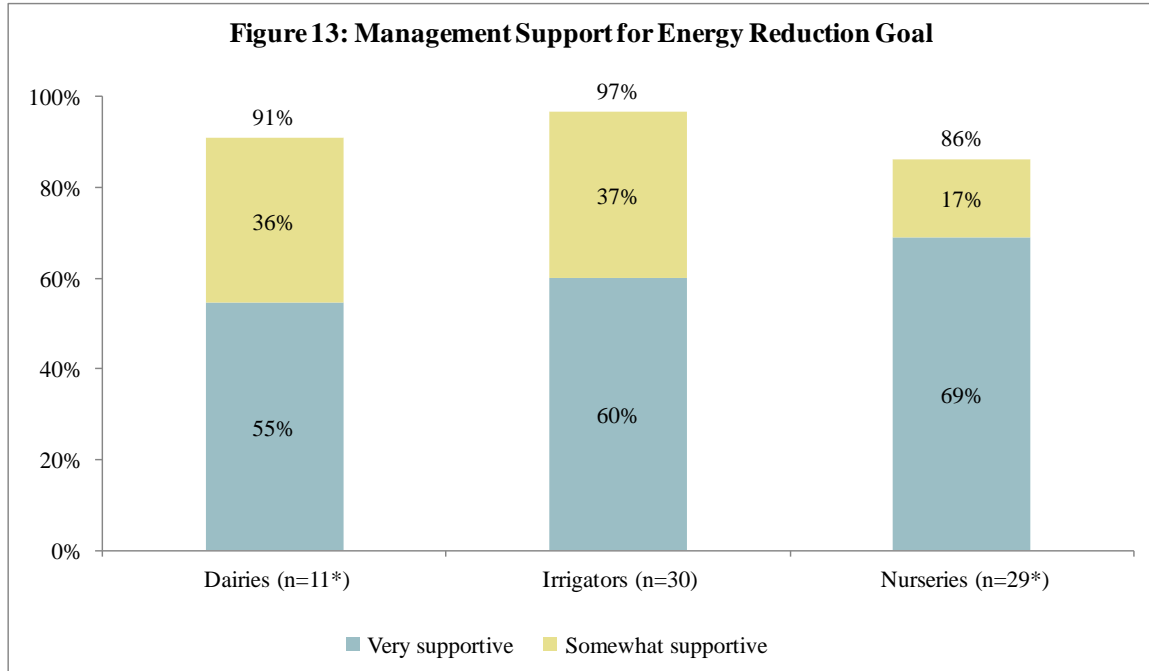
*Small base size (<30) interpret results with caution.
Q17. Approximately how long ago were these goals set?

Among facilities with energy reduction goals, a utility company and self-awareness were the top influencers for their decision to set energy reduction goals. NEEA is mentioned by three percent of irrigators, and is not mentioned by any dairies or nurseries. ETO and the Oregon Association of Nurseries were cited as influencers by 10 percent of nurseries. (Table 5)

	Dairies	Irrigators	Nurseries
Utilities (general)	9%	13%	14%
Self awareness/Internal	18%	10%	3%
BPA (Bonneville Power Authority)	-	7%	3%
ETO (Energy Trust of Oregon)	-	-	10%
NEEA (Northwest Energy Efficiency Alliance)	-	3%	-
Oregon Association of Nurseries	-	-	10%
Environmental groups	-	-	3%
Other	18%	23%	7%
None	18%	23%	21%
Don't Know/Refused	36%	23%	41%
Base (n)	11*	30	29*

*Small base size (<30) interpret results with caution.
Q18. What organizations, if any, influenced the decision to set energy/energy intensity reduction goals?

Management support for energy reduction goals is high (86 to 97 percent) across facilities with goals in place. (Figure 13)



*Small base size (<30) interpret results with caution.

Q19. Would you describe the level of management support for your facility’s energy/energy intensity reduction goals as...?

Factors that contributed most to management support for their facilities’ energy reduction goals include the desire to save money and being the sole employee or manager. (Table 6)

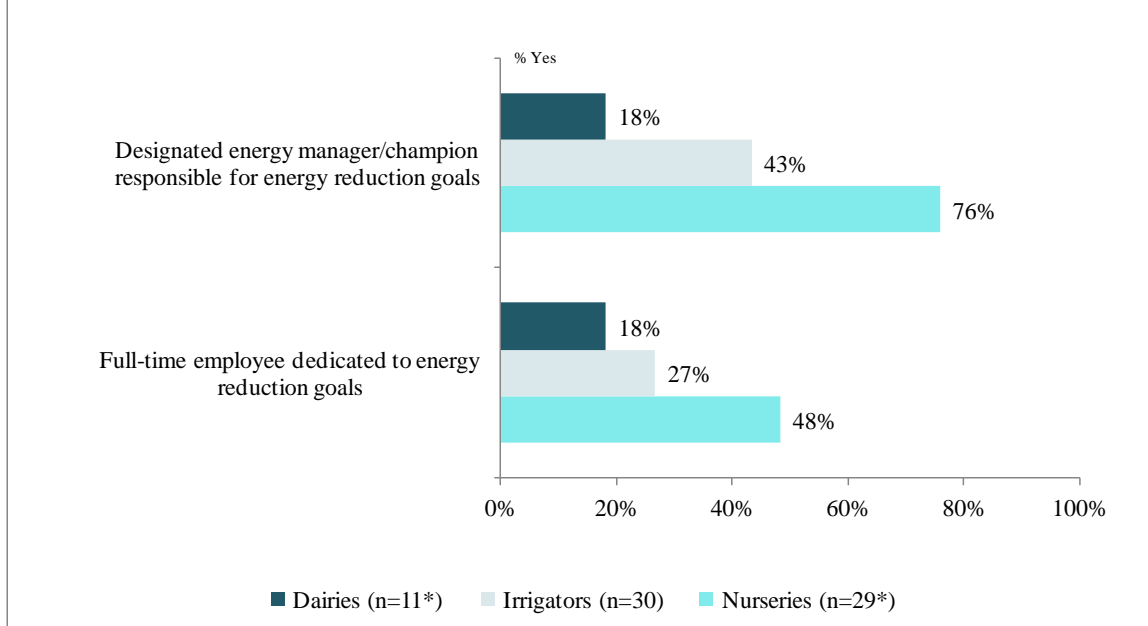
	Dairies	Irrigators	Nurseries
Want to save money	18%	30%	54%
Sole employee/Manager	18%	13%	12%
Energy efficiency	18%	7%	12%
Environmental stewardship	-	-	8%
Not supportive (general)	9%	3%	4%
Other	9%	13%	15%
None	-	7%	-
Don’t Know/Refused	18%	20%	12%
Base (n)	11*	30	26*

*Small base size (<30) interpret results with caution.

Q20. What factors contributed to your rating of management support for your facility’s energy/ energy intensity reduction goals as [RESTORE Q19].

Among facilities with energy reduction goals in place, 76 percent of nurseries report having a designated energy manager or champion who is responsible for implementing the energy intensity reduction goals as opposed to 18 percent of dairies. (Figure 14)

Figure 14: Energy Reduction Implementation Employee Roles



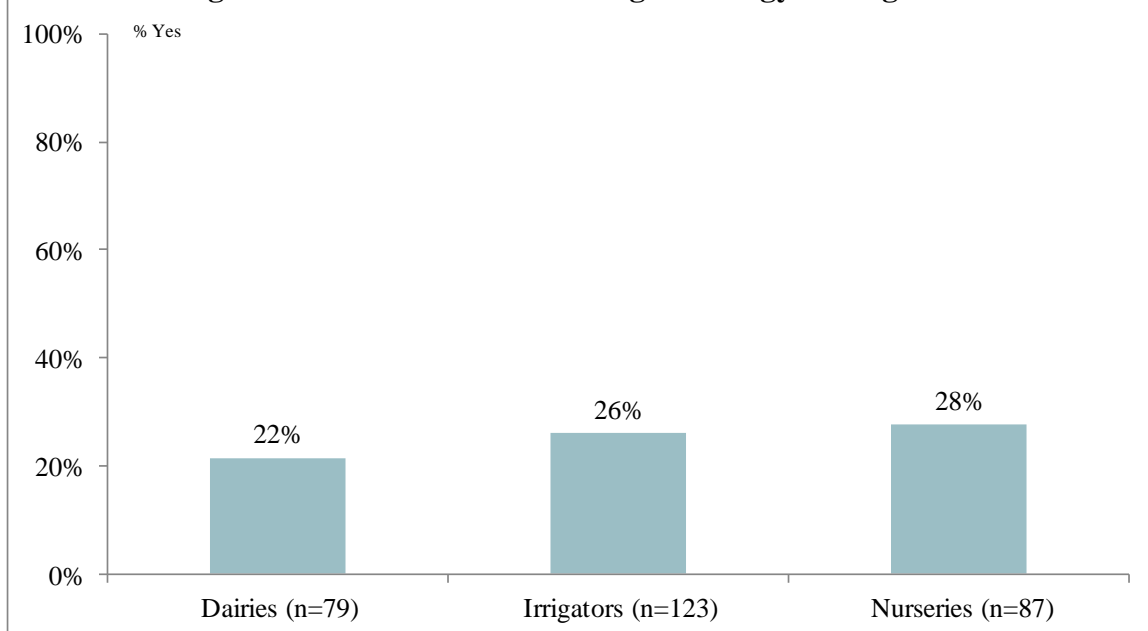
*Small base size (<30) interpret results with caution.

Q21. Does your facility have a full-time employee dedicated to implementing the facility's energy/energy intensity reduction goals?

Q22. Is someone at your facility is a designated "energy manager" or an "energy champion" who is charged with implementing the energy/energy intensity reduction goals?

About one-quarter (22 to 28 percent) of facilities report that the staff at their facility receives energy management training. (Figure 15)

Figure 15: Staff Receives Training on Energy Management



Q23. Does staff at your facility receive training on energy management?

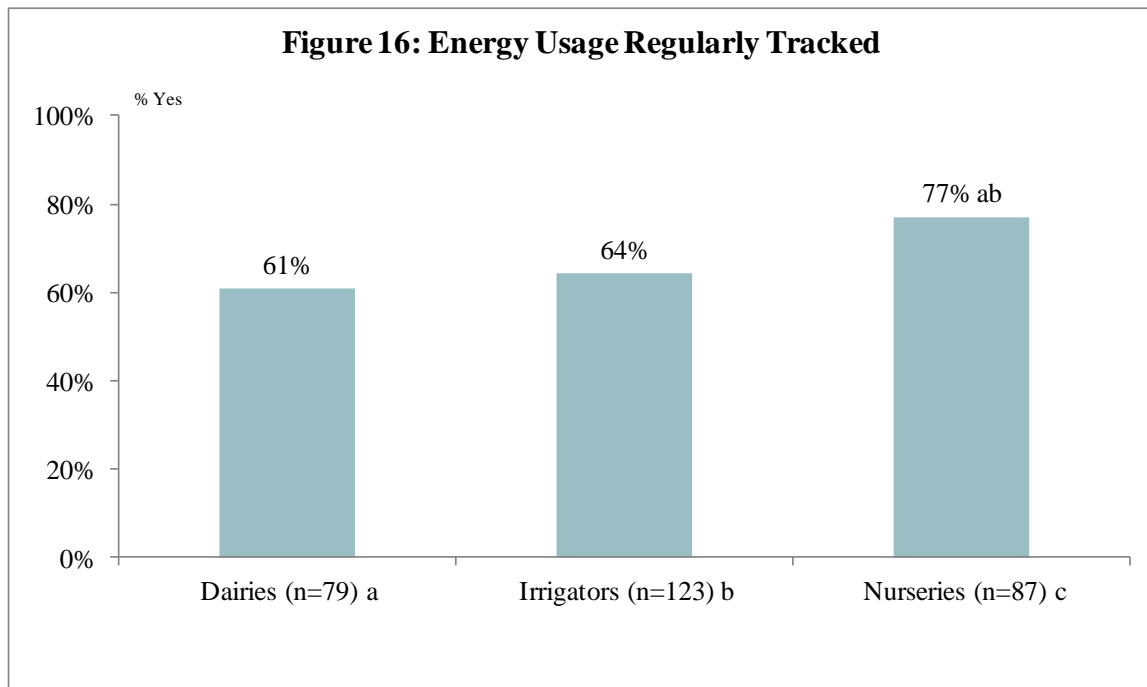
Among facilities where staff does receive energy management training, training topics focus on a variety of subjects such as efficient operation of equipment and purchasing efficient equipment. (Table 7)

Table 7. Topics Included in Employee Energy Management Training			
	Dairies	Irrigators	Nurseries
Efficient operation of equipment	71%	84%	88%
Purchasing efficient equipment	59%	78%	71%
Tracking energy use	47%	72%	71%
Available technical resources (where to go for help)	47%	66%	67%
Setting energy reduction goals	24%	56%	33%
Availability of financial incentives for projects	12%	47%	38%
Writing an energy management plan	6%	28%	17%
Other	18%	-	-
Don't know	-	-	4%
Base (n)	17*	32	24*

*Small base size (<30) interpret results with caution.

Q24. Which of the following topics are typically included in energy management training for staff at your facility?

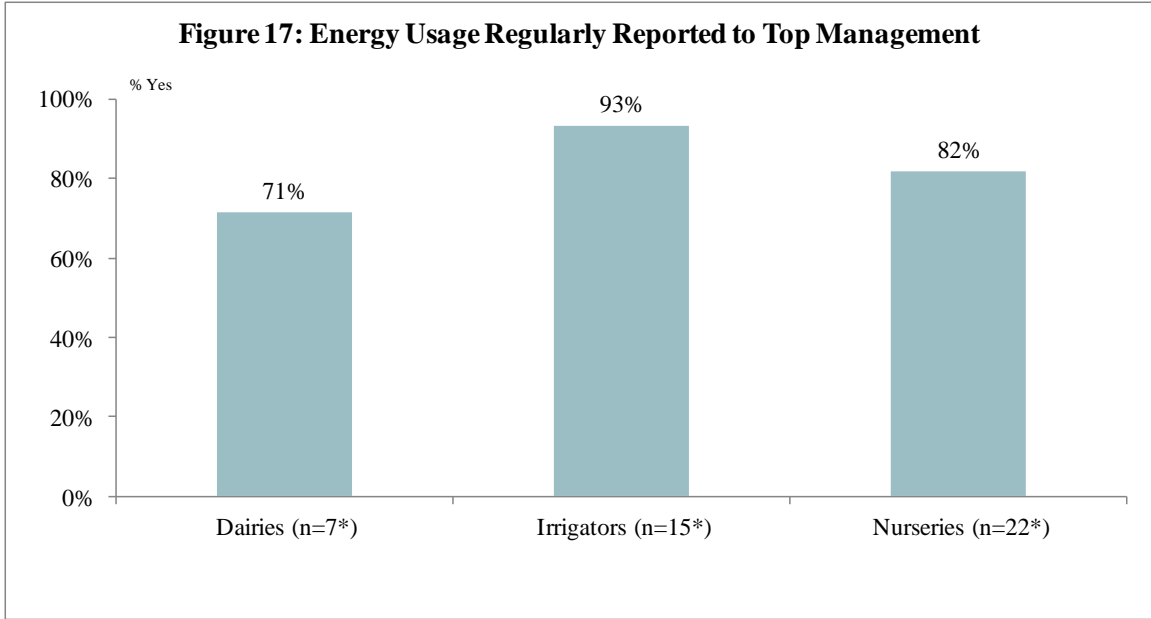
Significantly more nurseries (77 percent) than dairies (61 percent) or irrigators (64 percent) regularly track their energy usage. (Figure 16)



Letters indicate a number is significantly higher at 95 percent confidence than the corresponding segment.

Q25. Is energy usage regularly tracked at this facility?

Among facilities that regularly track energy usage, most (71 to 93 percent) dairies, irrigators, and nurseries indicate that energy usage information is regularly reported to top management. (Figure 17)



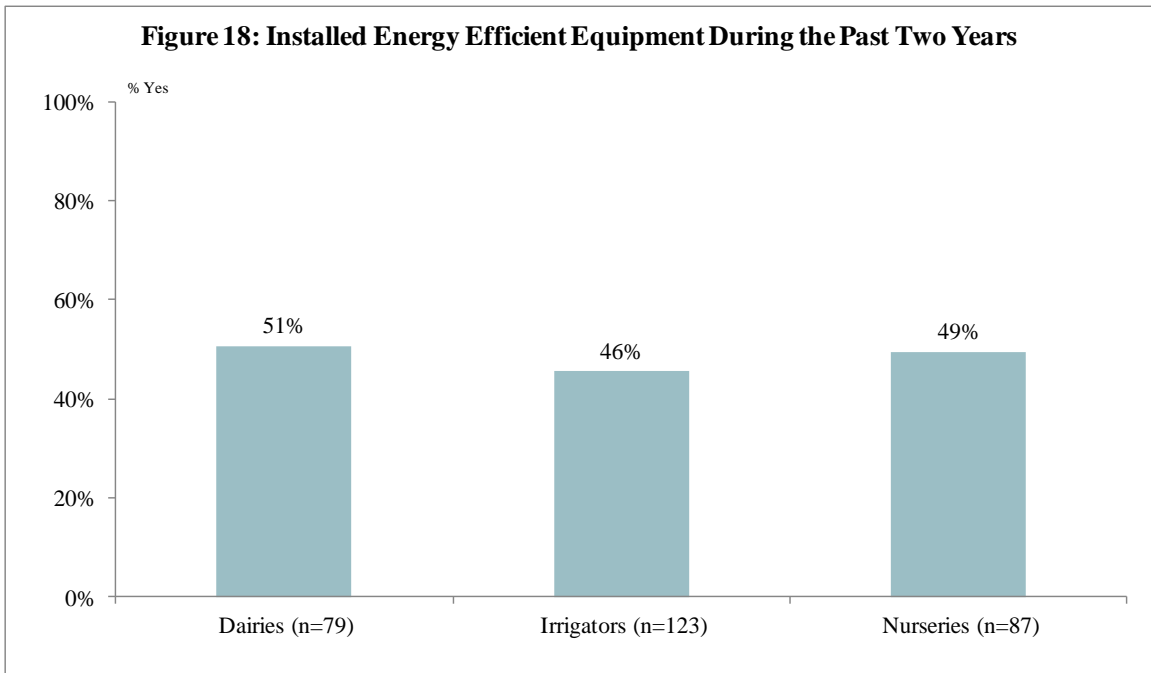
*Small base size (<30) interpret results with caution.

Note: This question was added during fielding resulting in small base sizes.

Q25A. Is energy usage at your facility regularly reported to the top leadership of your company?

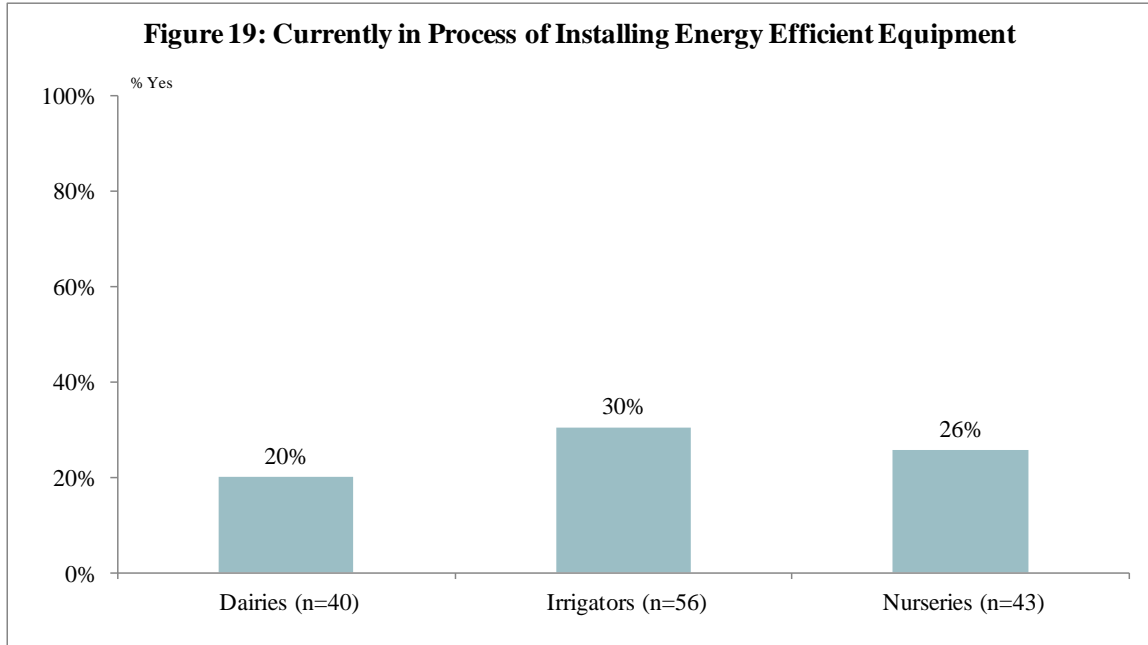
Capital Improvements – EE Equipment Installed / Being Installed

About half (46 to 51 percent) of all dairies, irrigators, and nurseries have installed energy efficient equipment during the past two years. (Figure 18)



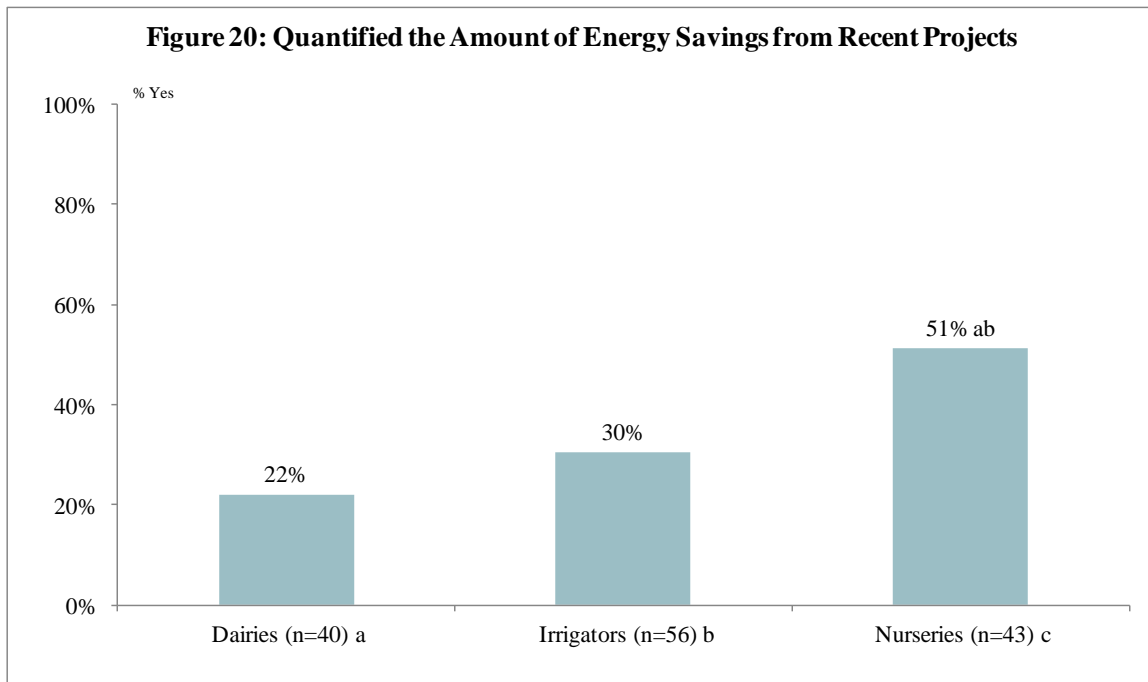
Q36. Has your facility installed energy efficient equipment during the past two years?

Among facilities that have installed energy efficiency equipment within the past two years, three in ten (30 percent) irrigators are currently in the process of doing so. One-quarter (26 percent) of nurseries and one-fifth (20 percent) of dairies are currently in the process of installing energy efficient equipment. (Figure 19)



Q37. Is your facility currently in the process of installing energy efficient equipment?

Significantly more (51 percent) nurseries report that they have quantified the amount of energy savings resulting from installing energy efficiency equipment than dairies or irrigators (22 to 30 percent). (Figure 20)



Letters indicate a number is significantly higher at 95 percent confidence than the corresponding segment.
 Q39. Has your facility specifically quantified the amount of energy savings from these projects?

Among dairies, irrigators, and nurseries that have or are in the process of installing energy efficiency equipment, most (67 to 73 percent) report that saving energy and money was the primary motivating factor. (Table 8)

Table 8. Motivating Factors to Install Energy Efficient Equipment			
	Dairies (a)	Irrigators (b)	Nurseries (c)
Save energy and money	70%	73%	67%
Tax incentives or rebates	10%	2%	7%
Environmental stewardship	10%	12%	9%
Needed to be replaced	12%	4%	16% ^b
To save money	8%	9%	7%
The equipment distributor or manufacturer recommended it	5%	-	2%
Recommended in an energy audit	-	2%	2%
To save energy	2%	4%	2%
Other	-	9%	7%
Don't Know	5%	-	-
Base (n)	40	56	43

Letters indicate a number is significantly higher at 95 percent confidence than the corresponding segment.
 Q40. What factors motivated your facility to install energy efficient equipment?

Among facilities making energy efficiency upgrades, 30 to 40 percent mention using the efficiency rating or label on the equipment to determine if it was energy efficient. One-quarter or more (25 to 37 percent) relied on information from the equipment dealer. (Table 9)

Table 9. Information Sources to Determine Energy Efficiency			
	Dairies	Irrigators	Nurseries
Efficiency rating or label of equipment	35%	30%	40%
Equipment dealer said it was efficient	28%	25%	37%
Personal experience	8%	9%	16%
Research/Reviews (general)	2%	14%	12%
Recommendations	5%	9%	7%
The bill	15%	5%	5%
Equipment documents/ Specs/Manufacturer	2%	12%	9%
Met utility rebate requirements	2%	-	-
Tracking our consumption	8%	7%	-
Information from the utility company	8%	4%	2%
Other	8%	-	2%
Don't Know	5%	2%	7%
Base (n)	40	56	43

Q38. What information does your facility rely upon to tell if the equipment that is purchased is energy efficient?

Among this same group, significantly more dairies (55 percent) than irrigators or nurseries (32 to 33 percent) received a rebate or incentive from a utility or other organization for installing energy efficient equipment. Significantly more nurseries than dairies (65 percent versus 35 percent) did not receive an incentive. (Table 10)

Table 10. Incentives Received for Installing Energy Efficient Equipment			
	Dairies (a)	Irrigators (b)	Nurseries (c)
Rebate or incentive from a utility, other organization or institution	55% ^{bc}	32%	33%
State tax credit	15%	12%	21%
Federal tax credit	12%	16%	12%
Other	-	2%	2%
None	35%	46%	65% ^a
Don't Know/Refused	2%	7%	-
Base (n)	40	56	43

Letters indicate a number is significantly higher at 95 percent confidence than the corresponding segment.

Q41. Which of the following financial incentives, if any, did your company receive for installing energy efficient equipment at this facility?

Among facilities receiving an incentive or rebate from a utility or other organization, one-third of dairies (33 percent) say it was from a utility in general, while half (50 percent) of nurseries say that the incentive came from ETO. (Table 11)

Table 11. Utility, Organization or Institution Providing Incentive, Tax Credit or Rebate

	Dairies (a)	Irrigators (b)	Nurseries (c)
Utility (Probe for specific utility)	33%	18%	29%
ETO (Energy Trust of Oregon)	-	12%	50%
Idaho Power	10%	12%	-
BPA (Bonneville Power Authority)	5%	6%	7%
Puget Sound Energy	19%	6%	-
State or Federal Government	-	6%	21%
PGE	-	-	21%
Other	52%	53%	29%
Don't Know	5%	6%	-
Base (n)	21*	17*	14*

*Small base size (<30) interpret results with caution.

Q42. Which utility, organization or institution provided the incentive, tax credit, or rebate?

Significantly more nurseries (31 percent) than dairies (18 percent) currently have a policy to replace worn out equipment with high-efficiency equipment.

Most dairies, irrigators, and nurseries (78 to 84 percent) report that they are aware of efficient equipment for their type of work. Of those that are aware, the vast majority have been aware for more than four years.

Most facilities report that energy efficiency is always (29 to 39 percent) or sometimes (40 to 58 percent) emphasized by equipment dealers. (Table 12)

Table 12. Energy Efficiency Replacement Policy and Awareness			
	Dairies (a)	Irrigators (b)	Nurseries (c)
Has equipment replacement policy			
Yes	18%	24%	31% a
No	75%	75%	68%
Don't Know/Refused	8%bc	2%	1%
Aware of efficient equipment for type of work			
Yes	78%	78%	84%
No	19%	20%	16%
Don't Know	3%	2%	-
Length of time aware of energy efficient equipment (if Q44=Yes; Dairies n=62, Irrigators n=96, Nurseries n=73)			
Less than 1 year	3%	1%	1%
1 to less than 3 years ago	18%	8%	8%
3 to less than 4 years ago	10%	18%	19%
More than 4 years ago	68%	71%	71%
Don't Know/Refused	2%	2%	0%
Energy efficiency emphasized by equipment dealers			
Always	29%	36%	39%
Sometimes	58% c	47%	40%
Never	13%	14%	13%
Don't Know/Refused	-	3%	8%
Base (n)	79	123	87

Letters indicate a number is significantly higher at 95 percent confidence than the corresponding segment.

Q43. Does your facility have a specific policy that says you should replace worn out equipment with "high efficiency" equipment – that is, equipment that is more efficient than what is considered standard efficiency or code at the time of purchase?

Q44. Is your company aware of energy efficient equipment for the type of work done at this facility?

Q45. Has your company been aware of energy efficient equipment for the type of work done at this facility for...?

Q46. Do your equipment dealers emphasize energy efficiency when explaining your equipment options...?

Operations and Maintenance Activities

When asked what actions or steps have been taken in the past two years to reduce energy usage, most mention turning off lights when not in use (31 to 46 percent), followed by equipment maintenance, mentioned by between 24 and 38 percent of the respondents. Significantly more irrigators and nurseries (15 and 18 percent respectively) mention insulating pipes or tanks than dairies (four percent). (Table 13)

Table 13. Actions Taken in the Past Two Years to Reduce Energy Usage

	Dairies (a)	Irrigators (b)	Nurseries (c)
Lighting reduction, turning lights off when not in use	46%	37%	31%
Equipment Operations and Maintenance	38%	34%	24%
Equipment operation schedule or turning equipment off when not in use	20%	31%	21%
Equipment settings (decreasing temperature, pressure, motor speed)	20%	28%	28%
Insulate pipes or tanks	4%	15% ^a	18% ^a
Leak tag program / leak detection and repair (check for air leaks.)	5%	11%	12%
Upgraded equipment	9%	10%	5%
Removing equipment	5%	10%	8%
Upgraded lighting	6%	2%	2%
Weatherizing	1%	2%	6%
Production floor cleaning practices	1%	7%	2%
General conservation/ awareness	-	2%	7%
Changed heater/furnace	-	-	6%
Upgraded irrigation system	1%	5%	3%
Other	5%	8%	9%
No actions taken in the past two years	14%	8%	9%
Don't Know/Refused	1%	2%	-
Base (n)	79	123	87

Letters indicate a number is significantly higher at 95 percent confidence than the corresponding segment.

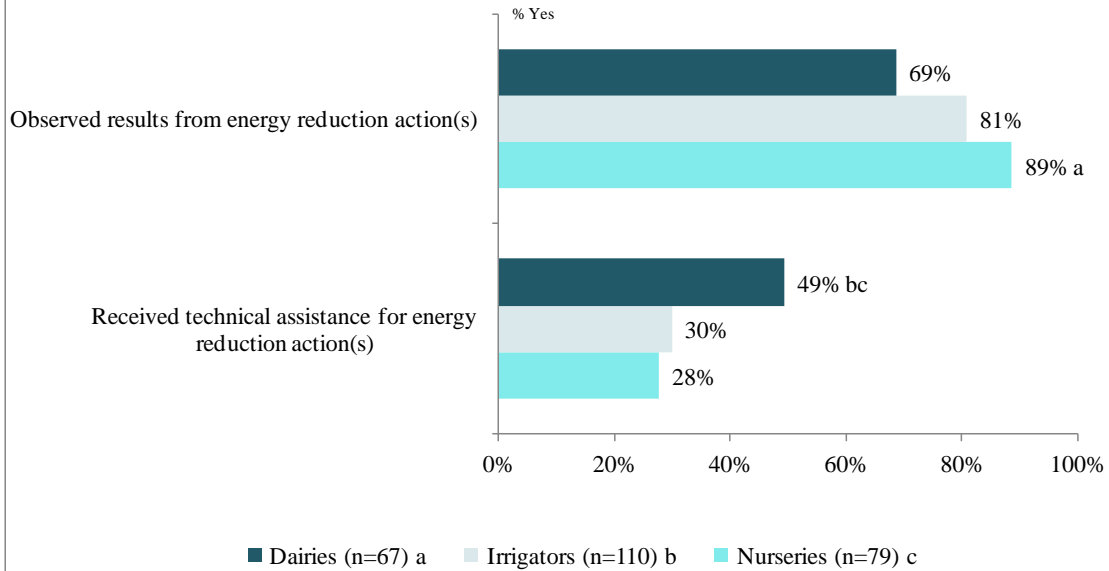
Table includes categories with responses of four percent or higher.

Full table shown in Appendix C.

Q31. What actions have been taken in the past two years to reduce energy usage at this facility?

Significantly more nurseries than dairies (89 percent versus 69 percent) indicate that they have observed energy savings resulting from the steps they took to reduce energy usage. Nearly half (49 percent) of dairies received technical assistance, which is significantly higher than both irrigators and nurseries at 30 percent and 28 percent, respectively. (Figure 21)

Figure 21: Energy Reduction Actions



Letters indicate a number is significantly higher at 95 percent confidence than the corresponding segment.

Q32. Has your facility observed energy savings resulting from any of these actions?

Q33. Did your facility receive technical assistance for any of these actions?

Among facilities that received technical assistance, equipment distributors are the most common resource (18 to 33 percent) followed by utility companies in general (12 to 15 percent). (Table 14)

Table 14. Who Provided Technical Assistance for Energy Usage Reduction			
	Dairies	Irrigators	Nurseries
Equipment distributor	18%	33%	32%
A utility company (general)	12%	15%	14%
Contractor	12%	9%	14%
A supplier	9%	6%	18%
ETO (Energy Trust of Oregon)	-	3%	23%
Public Utility District (PUD)	12%	3%	5%
NEEA (Northwest Energy Efficiency Alliance)	-	3%	-
Idaho Power	3%	6%	-
Puget Sound Energy	12%	-	-
Consultant	-	6%	-
BPA (Bonneville Power Authority)	-	9%	-
Engineer/Architect	3%	-	-
An educational facility	-	-	5%
Pacific Power	-	6%	-
Rocky Mountain Power	6%	-	-
PGE	-	3%	-
Base (n)	33	33	22*

*Small base size (<30) interpret results with caution.

Q34. Who provided the technical assistance for these actions?

Conclusions and Recommendations

Among the three agricultural sectors examined in this report, nurseries are the furthest along in terms of establishing energy reduction goals and tracking progress toward these goals. Where they tend to fall short is in the area of “dedicating resources to energy reduction” as currently defined by NEEA. There may be a need to recalibrate or redefine the SEM criteria in this area to better fit the organizational and operational constraints of small companies and facilities. While energy reduction goal-setting is a relatively straightforward concept (though specific, achievable goals may be difficult for small organizations to identify), the “dedication of resources” to energy reduction may need to be defined in terms that are more feasible, or a better fit for small organizations – at least in terms of how these criteria are measured when quantifying progress of SEM in the marketplace. As noted earlier, ETO appears to be a well-established resource among Oregon nurseries.

With a larger proportion of their operating costs stemming from energy costs than the other two sectors, irrigators should be particularly motivated to identify opportunities to reduce energy usage and costs. They are, however, mostly very small operations with limited resources to establish and manage an SEM system.

Dairies appear to be the least inclined toward formal implementation of SEM among the three agricultural sectors. To date, only 14 percent have established an energy reduction goal, and comparatively few facilities recognize the importance of many aspects of SEM. This may be due in part to energy costs making up a lower proportion of operating costs along with higher revenues generated by these operations.

As with most small businesses, profitability and cost control are critical and interest in energy efficiency and cost savings is high among dairies, irrigators, and nurseries in the Northwest. However, the internal resources required to systematically manage energy use, and optimize operations, equipment and external resources is limited.

NEEA should work with its partners to demonstrate the beneficial outcomes of a systematic approach to energy management in terms of cost savings and enhanced profitability beyond that of less managed attempts to reduce energy usage and costs.

Most of these organizations may lack the resources and bandwidth to focus on the establishment of an SEM system. Therefore, NEEA and its partners should also provide significant direction and support regarding how to implement the various elements of SEM within a smaller operation, most of which are very small in comparison to the large facilities that have been the focus of the past several years.

Based on reported levels of familiarity with various SEM programs and other measures of influence and support, it appears that ETO (among Oregon nurseries) and BPA have been more engaged in these sectors to date compared with NEEA. Formal establishment of SEM, however, remains limited across all three sectors. There are clearly opportunities to promote and support the further implementation SEM across these three sectors.

Appendices

Appendix A: Facility Profiles

Appendix Table 1. 2011 Dairies, Irrigators and Nurseries Respondent Profile			
	Dairies (a)	Irrigators (b)	Nurseries (c)
State			
Oregon	32%	34%	58%bc
Washington	35%	24%	28%
Idaho	25%c	28%c	7%
Montana	8%	15%	8%
Geography			
Urban	71%	59%	91%bc
Rural	29%c	41%c	9%
Job Title			
Executive	75%	75%	77%
Non-Executive	25%	25%	23%
Number of Employees			
19 or fewer	92%c	93%c	79%
20-99	5%	6%	14%
100 to 249	-	1%	3%
250 or more	3%	1%	3%
Energy Costs as Proportion of Operating Costs			
Less than 1%	5%	5%	7%
1% to less than 5%	35%b	12%	28%b
5% to less than 10%	30%	19%	30%
10% to less than 20%	13%	29%a	20%
More than 20%	8%	24%ac	8%
Don't know/Prefer not to answer	9%	11%	8%
Revenue			
Under \$100,000	8%	34%a	40%a
\$100,000 to less than \$250,000	14%	16%	17%
\$250,000 to less than \$500,000	19%c	13%	7%
\$500,000 to less than \$1 million	17%	12%	12%
\$1 million to less than \$5 million	27%b	11%	18%
\$5 million to less than \$10 million	3%	1%	-
\$10 million or more	4%b	-	2%
Don't know/Prefer not to answer	10%	13%c	3%
ISO-9000 Certification (Quality Management)			
Yes	2%	2%	2%
No	66%	74%	76%
ISO-14000 Certification (Environmental Management)			
Yes	11%bc	4%	2%
No	51%	75%a	76%a
LEAN Manufacturing			
Yes	14%	19%	24%
No	62%	68%c	53%

Cont'd. Appendix Table 1. 2011 Dairies, Irrigators and Nurseries Respondent Profile			
	Dairies (a)	Irrigators (b)	Nurseries (c)
Industry Associations**			
Oregon Association of Nurseries	-	-	41%
Dairy association (general)	13%	-	-
Other Industry Association	5%	6%	3%
None	79% ^c	87.0% ^c	36%
Base (n)	79	123	87

**Full table shown in Appendix C.

Letters indicate a number is significantly higher at 95 percent confidence than the corresponding segment.

SC2. What is your job title?

SC7. In total, about how many employees does your company currently have across all its sites and locations combined?

F4. About what proportion of your total operating costs for this facility (not including labor costs) would you say are accounted for by your total energy costs?

F8. Approximately what were the TOTAL REVENUES for your company in 2010?

Q47. Is this facility ISO-9000 certified for quality management?

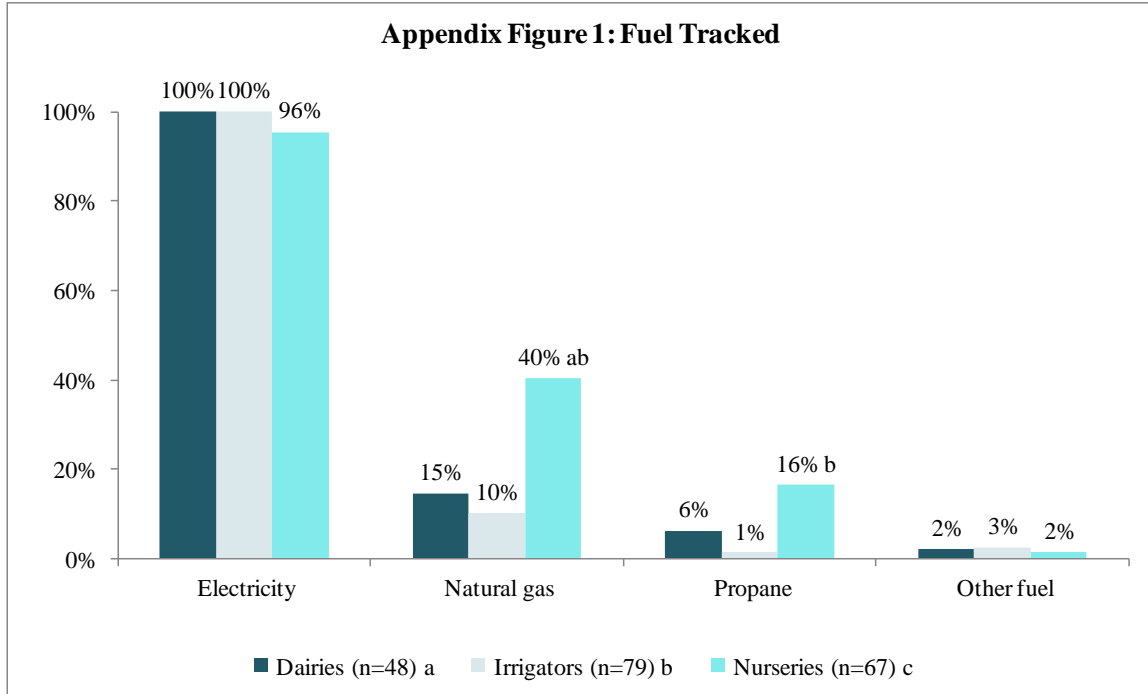
Q48. Is this facility ISO-14000 certified for environmental management?

Q49. Does this facility practice Lean manufacturing?

Q51. Does your company belong to any of the following industry associations?

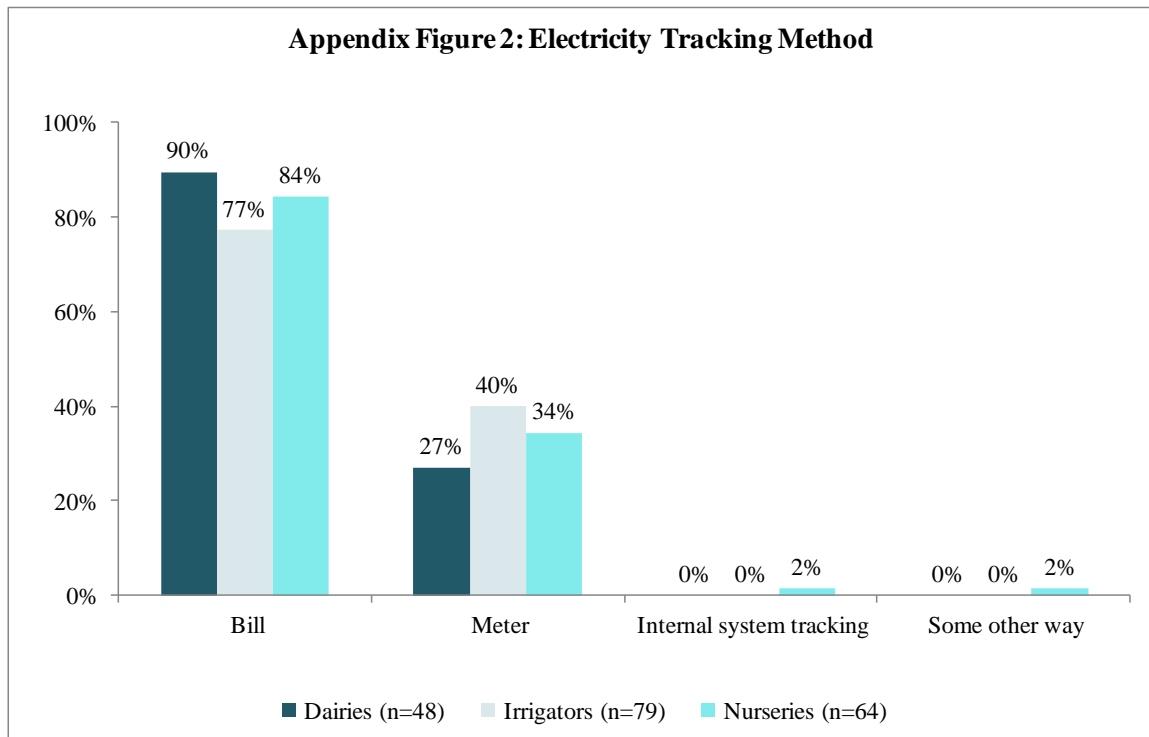
Appendix B: Fuel Tracking Mini-Report

Nearly all dairies, irrigators, and nurseries track electricity usage. Significantly more nurseries (40 percent) track natural gas usage than dairies at 15 percent or irrigators at 10 percent. (Appendix Figure 1)



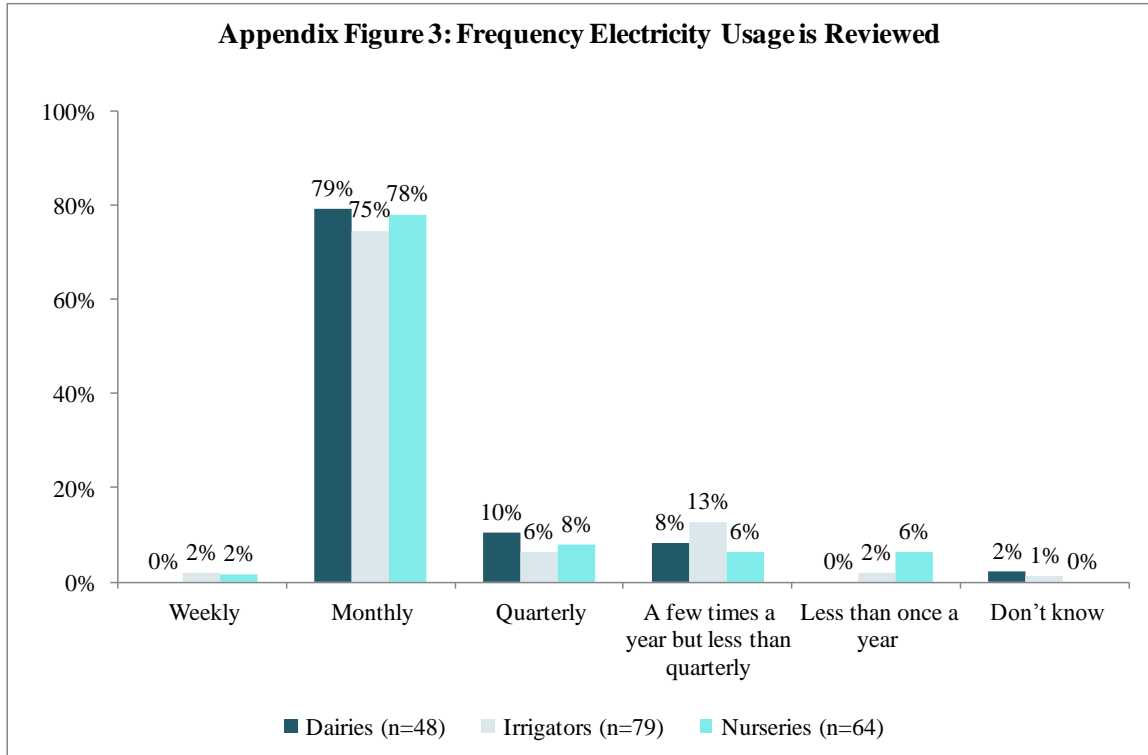
Letters indicate a number is significantly higher at 95 percent confidence than the corresponding segment.
Q26. Does this facility track the usage of electricity, natural gas, or both?

The majority of facilities report using the bill to track electricity use (77-90 percent), with irrigators being more likely to use the meter to track electricity use at 40 percent than dairies (27 percent) or nurseries (34 percent). (Appendix Figure 2)



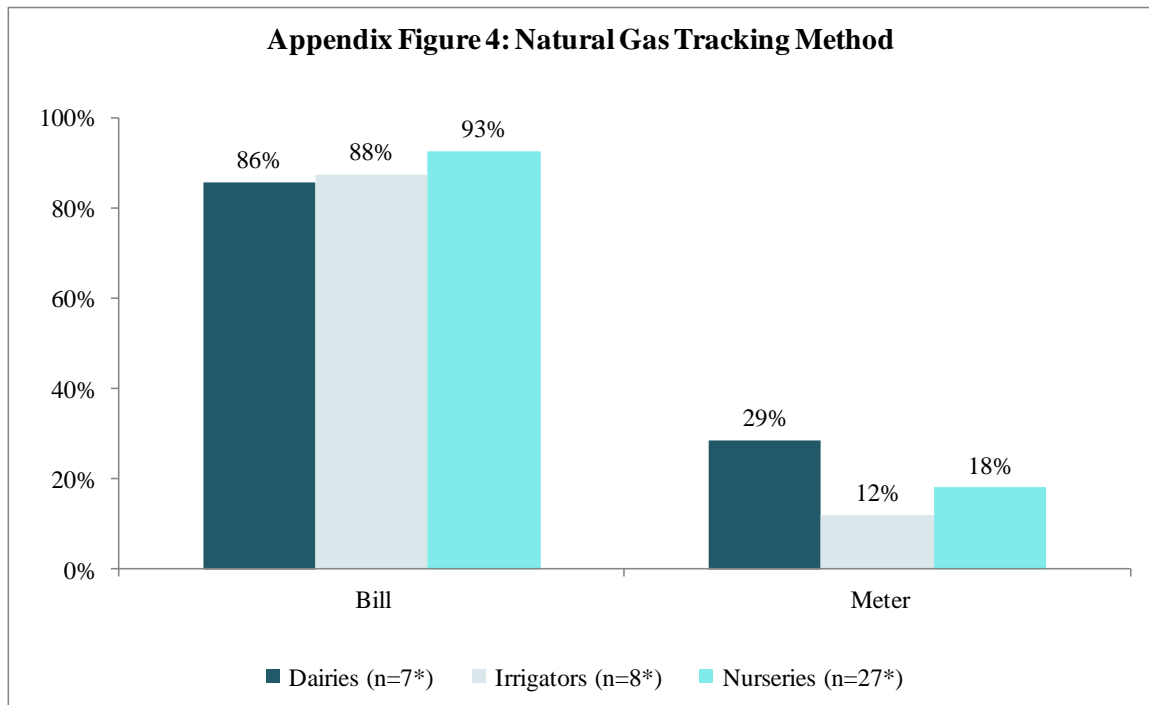
Q27. Is electricity usage tracked via the bill, the meter, or some other way?

Tracked electricity usage is most commonly viewed on a monthly basis for dairies, irrigators, and nurseries at 75-79 percent. (Appendix Figure 3)



Q28. How often is the tracked information for electricity usage typically reviewed?

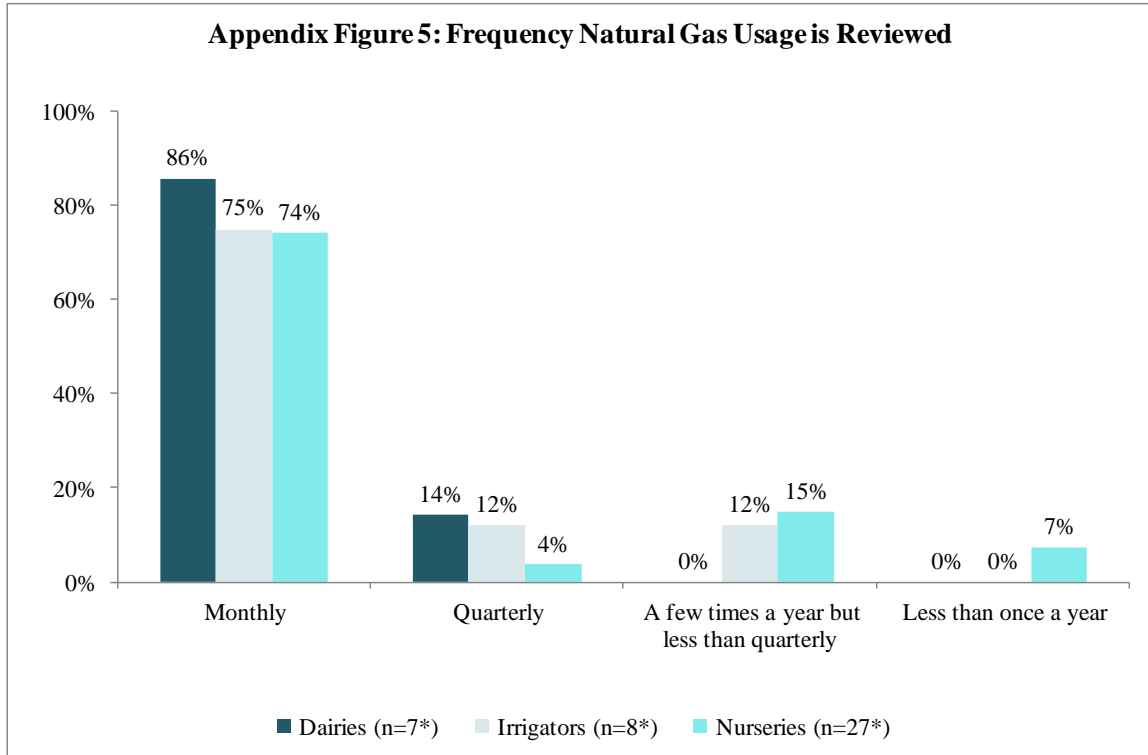
The majority of facilities report using the bill to track natural gas use (86-93 percent), with dairies being more likely to use the meter to track electricity use at 29 percent than are irrigators (12 percent) or nurseries (18 percent). (Appendix Figure 4)



*Small base size (<30) interpret results with caution.

Q29. Is natural gas usage tracked via the bill, the meter, or some other way?

Tracked natural gas usage is most commonly viewed on a monthly basis for dairies, irrigators, and nurseries at 74 to 86 percent. (Appendix Figure 5)



*Small base size (<30) interpret results with caution.

Q30. How often is the tracked information for natural gas usage typically reviewed?

Appendix C: Additional Tables

Appendix Table 2. How Learned about Strategic Energy Management			
	Dairies	Irrigators	Nurseries
Self awareness/Always done this/Previous employer	15%	19%	24%
Newsletters/magazines/ Newspaper/TV/General media	24%	13%	18%
A utility company (general)	-	4%	2%
Word of mouth	4%	6%	5%
This survey	7%	4%	5%
NEEA (Northwest Energy Efficiency Alliance)	2%	2%	2%
Public Utility District (PUD)	6%	-	2%
BPA (Bonneville Power Authority)	-	4%	-
Idaho Power	2%	3%	2%
ETO (Energy Trust of Oregon)	-	1%	6%
An educational facility	-	-	2%
Workshops/educational seminars	2%	2%	3%
Puget Sound Energy	4%	1%	2%
Pacific Power	4%	-	2%
Equipment distributor	9%	-	2%
Internet	-	-	2%
Contractor	-	1%	-
A supplier	2%	2%	-
Rocky Mountain Power	2%	2%	-
Environmental groups (general)	2%	2%	-
Oregon Association of Nurseries	-	-	6%
<i>Base (n)</i>	55	91	63

Q3A. How did you first learn about strategic energy management practices?

Appendix Table 3. Actions Taken in the Past Two Years to Reduce Energy Usage

	Dairies (a)	Irrigators (b)	Nurseries (c)
Lighting reduction, turning lights off when not in use	46%	37%	31%
Equipment Operations and Maintenance	38%	34%	24%
Equipment operation schedule or turning equipment off when not in use	20%	31%	21%
Equipment settings (decreasing temperature, pressure, motor speed)	20%	28%	28%
Insulate pipes or tanks	4%	15% ^a	18% ^a
Leak tag program / leak detection and repair (check for air leaks.)	5%	11%	12%
Upgraded equipment	9%	10%	5%
Removing equipment	5%	10%	8%
Upgraded lighting	6%	2%	2%
Weatherizing	1%	2%	6%
Production floor cleaning practices	1%	7%	2%
General conservation/ awareness	-	2%	7%
Changed heater/furnace	-	-	6%
Upgraded irrigation system	1%	5%	3%
Monitor usage	-	2%	2%
Replaced windows	-	2%	1%
Provided employee education	1%	2%	-
Control our water usage	1%	2%	1%
Energy audit	2%	-	-
Use solar energy	1%	-	1%
Use wood heat	-	-	1%
Other	5%	8%	9%
No actions taken in the past two years	14%	8%	9%
Don't Know	-	2%	-
Refused	1%	-	-
Base (n)	79	123	87

Letters indicate a number is significantly higher at 95 percent confidence than the corresponding segment.
 Q31. What actions have been taken in the past two years to reduce energy usage at this facility?

Appendix Table 4. Industry Trade Associations

	Dairies (a)	Irrigators (b)	Nurseries (c)
Oregon Association of Nurseries	-	-	41%
Dairy association (general)	13%	-	-
Nursery/gardening association (general)	-	1%	12%
Farm Bureau (general)	1%	2%	3%
Wine association (general)	-	-	1%
Meat association (general)	-	1%	-
Organic association (general)	-	-	1%
Hay association	-	2%	-
Landscaping association (general)	-	-	1%
Another industry association	5%	6%	3%
None	78% ^c	87.0% ^c	36%
Don't Know	2%	2%	1%
Base (n)	79	123	87

Letters indicate a number is significantly higher at 95 percent confidence than the corresponding segment.
 Q51. Does your company belong to any of the following industry associations?

Appendix D: Questionnaire

CATEGORY: Move-In from sample

- 1 Food processing
- 2 Dairies
- 3 Irrigators (farmers/growers)
- 4 Nurseries
- 5 Small manufacturing business (100 or fewer employees)
- 6 Medium manufacturing businesses (101 to 250 employees)

break

COMPANY: Move-In from sample

[OPEN END]

break

CITY: Move-In from sample

[OPEN END]

break

STATE: Move-In from sample

[OPEN END]

break

SIZE. Move-in number of employees from sample

break

NOTE: INTRODUCTION / SCREENER

NOTE: THE ABBREVIATED NAME FOR NORTHWEST ENERGY EFFICIENCY ALLIANCE IS "NEEA." THIS IS PRONOUNCED "NEE-ah."

NOTE: Gatekeeper Intro:

Hello, I'm _____ calling on behalf of the Northwest Energy Efficiency Alliance. I need to speak to the person responsible for making decisions about energy use for the (RESTORE: [COMPANY NAME]) facility located in (RESTORE: [CITY], [STATE]).

NOTE: Energy Decision-Maker Intro (once energy decision-maker is reached):

Hello, I'm _____ from MSI calling on behalf of the Northwest Energy Efficiency Alliance, also referred to as NEEA. We're conducting a study to better understand how industrial and agricultural facilities in the Northwest region manage their energy use. Your participation will help NEEA design and deliver energy efficiency tools for businesses like yours in our region.

We are only interested in your experiences and opinions, and at no time will I attempt to sell you anything. This survey will take 10 to 15 minutes to complete; and all responses will be kept confidential.

break

NOTE: SCREENER

SC1. Are you the person who is responsible for making decisions about energy usage for the facility in (RESTORE: [CITY], [STATE])?

- 1 Yes
- 2 No {ASK FOR REFERRAL}
- REF

break

SC2. What is your job title?

- 1 Chief Executive Officer/President
- 2 Senior Vice President/Vice President
- 3 Energy Manager
- 4 Plant Manager
- 5 Senior Engineer
- 6 Other [SPECIFY:S]
- DK
- REF

break

SC3. How involved are you in energy management for this facility, including any energy efficiency or energy reduction efforts?

- 1 Very involved
- 2 Somewhat involved
- 3 Not very involved, or
- 4 Not at all involved
- DK
- REF

{IF SC3=3, 4, DK, REF, TERMINATE: 101}

break

SC4. How would you describe the facility your business occupies at this location?
(TECHNOTE: Ask as open end, do not read codes. ACCCEPT 1 MENTION)

- 1 A food processing facility or plant
- 2 A dairy
- 3 A nursery or greenhouse facility
- 4 An agricultural farm or other type of crop growing operation
- 5 Another type of manufacturing facility or plant

- 7 A metal manufacturing facility
- 8 A fertilizer manufacturing facility
- 6 Something else [SPECIFY:S]
- DK
- REF

{ IF SC4=6, DK, REF, TERMINATE:102 }

break

{ IF SC4=3 or 4 ASK SC8; OTHERWISE, SKIP TO SC5 }

SC8. Do you use irrigation equipment at this facility?

- 1 Yes
- 2 No
- DK
- REF

{ IF SC8=2, DK, REF AND SC4=4, TERMINATE:108 }

break

SC5. About how many full and part time employees work at this facility?

- [RECORD NUMBER OF EMPLOYEES 1-9998]
- 9999 10,000 or more
 - DK
 - REF

{ IF SC4=5 AND SC5=251 THRU 9999, TERMINATE: 103 }

{ IF SC5=DK, REF, TERMINATE: 104 }

break

SC6. Does your company have more than one facility?

- 1 Yes
- 2 No
- DK
- REF

{ IF SC6=DK, REF, TERMINATE:105 }

break

{ IF SC6=2 SET SC7=SC5 }

SC7. In total, about how many employees does your company currently have across all its sites and locations combined? Your best guess is fine.

- [RECORD NUMBER OF EMPLOYEES 1-9998]
- 9999 10,000 or more
 - DK

REF

{IF SC4=5 AND SC7=251 THRU 9999, TERMINATE: 106}

{IF SC7=DK, REF, TERMINATE:107}

{IF SC4=5 AND SC7=1 THRU 50 TERMINATE: 109}

break

CELL. SET CELL

- 1 {Set if SC4=1} Food processing
- 2 {Set if SC4=2} Dairies
- 3 {Set if SC4=4} Irrigators (farmers/growers)
- 4 {Set if SC4=3} Nurseries
- 5 {Set if (SC4=5 OR SC4=7 OR SC4=8) AND SC7=1 THRU 100}
Small manufacturing business (100 or fewer employees)
- 6 {Set if (SC4=5 OR SC4=7 OR SC4=8) AND SC7=101 THRU 250}
Medium manufacturing businesses (101 to 250 employees)

break

TOP THREE CONCERNS

Q1. What are your company's top three concerns for this facility?
(Probe for specifics, probe for three mentions)

[OPEN END:L]

break

FAMILIARITY WITH ENERGY MANAGEMENT, SEM

Q2. How familiar is this facility with energy efficient operating practices, such as turning equipment or lights off when not in use, maintaining equipment so that it runs efficiently, checking for air leaks, etc.? Are you... (Read list)

- 1 Very familiar
 - 2 Somewhat familiar
 - 3 Not very familiar
 - 4 Not at all familiar
- DK
REF

break

{IF Q2=1 THRU 3, ASK Q2A; OTHERWISE, SKIP TO Q3}

Q2A. When did this facility first learn about energy efficient operating practices, for example turning equipment or lights off when not in use, maintaining equipment so that it runs efficiently, checking for air leaks, etc?

- 1 Less than 1 year ago
- 2 1 to less than 2 years ago
- 3 3 to less than 4 years ago
- 4 More than 4 years ago
- DK
- REF

break

Q3. Strategic Energy Management, or S-E-M, is a system of practices that leads to reliable and persistent energy savings. At a minimum, these practices include setting a goal related to energy, dedication of resources by top leadership to achieve the goal, ensuring staff regularly reports progress toward the goal to top management.

How familiar are you with Strategic Energy Management practices? (*READ LIST*)

- 1 Very familiar
- 2 Somewhat familiar
- 3 Not very familiar
- 4 Not at all familiar
- DK
- REF

break

{IF Q3=1 THRU 3, ASK Q3A; OTHERWISE, SKIP TO Q4}

Q3A. How did you first learn about strategic energy management practices?

(ASK AS OPEN END. ACCEPT UP TO 8 MENTIONS. IF A PERSON'S NAME IS MENTIONED, PROBE FOR COMPANY AND ROLE. IF RESPONDENT SAYS, "A UTILITY, A STATE OR FEDERAL AGENCY, A TRADE CONFERENCE," PROBE FOR THE SPECIFIC ONE, AND INPUT IN OTHER SPECIFY.)

- 1 NEEA (Northwest Energy Efficiency Alliance)
- 2 BPA (Bonneville Power Authority)
- 3 ETO (Energy Trust of Oregon)
- 4 NWFPA (Northwest Food Processors Association)
- 5 Oregon Association of Nurseries
- 6 Equipment distributor
- 7 DOE (U.S. Department of Energy)
- 8 Other [OTHER: S]
- DK
- REF

break

DESIGN: ROW GRID, RANDOMIZE Q4-Q6

For each of the energy management systems I name, please tell me whether you are very familiar, somewhat familiar, not very familiar, or not at all familiar with the program.
How familiar are you with...(READ LIST)?

- 1 Very familiar
- 2 Somewhat familiar
- 3 Not very familiar
- 4 Not at all familiar
- DK
- REF

Q4. Continuous Energy Improvement or C-E-I, through NEEA (Northwest Energy Efficiency Alliance)

Q5. Energy Smart Industrial, through BPA (Bonneville Power Authority) and public utilities

Q6. {SHOW IF STATE=OR} Industrial Energy Improvement, through ETO (Energy Trust of Oregon)

break

IMPORTANCE OF ENERGY MANAGEMENT PRACTICES

DESIGN: ROW GRID, RANDOMIZE Q7-Q13

For each item I read, please tell me whether it is very important, somewhat important, not very important or not at all important to your company.

How important is...(READ LIST)?

- 1 Very important
- 2 Somewhat important
- 3 Not very important
- 4 Not at all important
- DK
- REF

Q7. Having specific energy reduction goals

Q8. Having a dedicated “energy manager” or “energy champion” responsible for energy reduction practices

Q8. Reporting energy consumption to top management

Q9. Reporting reduced energy use to top management

Q10. Providing energy management training to staff

Q11. Actively tracking energy usage

Q12. Investing in energy efficient devices and equipment

Q13. Replacing worn out equipment with energy efficient equipment

break

GOAL SETTING

Q14. Does your company set energy reduction goals for this facility?

- 1 Yes
- 2 No
- DK
- REF

break

{IF Q14=2 OR DK/REF, ASK Q14A; OTHERWISE, SKIP TO FILTER ABOVE Q15}

Q14A. Will your facility definitely, probably, probably not, or definitely not set energy reduction goals for this facility within the next two years?

- 1 Definitely will
- 2 Probably will
- 3 Probably will not
- 4 Definitely will not
- DK
- REF

break

{IF Q14=1, ASK Q15; OTHERWISE, SKIP TO Q23}

Q15. Are these goals set in terms of an overall reduction in energy usage, or in terms of “energy intensity” which is the amount of energy used per unit of production?

- 1 Overall reduction in energy usage
- 2 Reduction in “energy intensity”
- DK
- REF

break

Q16. In terms of a percentage reduction per year, what is your facility’s specific goal for {SHOW IF Q15=1 OR DK/REF: energy} {SHOW IF Q15=2: energy intensity} reduction?

- [RECORD NUMBER 1-99] % per year
- DK
- REF

break

Q17. Approximately how long ago were these goals set?

- 1 Less than 1 year ago
 - 2 1 to less than 2 years ago
 - 3 3 to less than 4 years ago
 - 4 More than 4 years ago
- DK
REF

break

Q18. What organizations, if any, influenced the decision to set {SHOW IF Q15=1 OR DK/REF: energy} {SHOW IF Q15=2: energy intensity} reduction goals?

(ASK AS OPEN END. ACCEPT UP TO 8 MENTIONS. IF A PERSON'S NAME IS MENTIONED, PROBE FOR COMPANY AND ROLE. IF RESPONDENT SAYS, "A UTILITY, A STATE OR FEDERAL AGENCY, A TRADE CONFERENCE," PROBE FOR THE SPECIFIC ONE, AND INPUT IN OTHER SPECIFY.)

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 - 4 NWFPA (Northwest Food Processors Association)
 - 5 Oregon Association of Nurseries
 - 6 Equipment distributor
 - 7 DOE (U.S. Department of Energy)
 - 8 Other [OTHER: S]
- DK
REF

break

SUPPORT FROM COMPANY LEADERSHIP

Q19. Would you describe the level of management support for your facility's {SHOW IF Q15=1 OR DK/REF: energy} {SHOW IF Q15=2: energy intensity} reduction goals as...*(READ LIST)*?

- 1 Very supportive
 - 2 Somewhat supportive
 - 3 Not very supportive
 - 4 Not at all supportive
- DK
REF

break

{IF Q19=1-4, ASK Q20; OTHERWISE SKIP TO Q21 }

Q20. What factors contributed to your of rating management support for your facility's {SHOW IF Q15=1 OR DK/REF: energy} {SHOW IF Q15=2: energy intensity} reduction goals as [RESTORE Q19]. (*Probe for specifics*)

[OPEN END:L]

break

Q21. Does your facility have a full-time employee dedicated to implementing the facility's {SHOW IF Q15=1 OR DK/REF: energy} {SHOW IF Q15=2: energy intensity} reduction goals?

1 Yes

2 No

DK

REF

break

Q22. Is someone at your facility is a designated "energy manager" or an "energy champion" who is charged with implementing the {SHOW IF Q15=1 OR DK/REF: energy} {SHOW IF Q15=2: energy intensity} reduction goals?

1 Yes

2 No

DK

REF

break

{ASK Q22A IF Q14=1 OTHERWISE SKIP TO Q23}

Q22A. Is progress toward achieving the {SHOW IF Q15=1 OR DK/REF: energy} {SHOW IF Q15=2: energy intensity} reduction goals at your facility regularly reported to the top leadership of your company?

1 Yes

2 No

DK

REF

break

{ASK ALL}

Q23. Does staff at your facility receive training on energy management?

1 Yes

2 No

DK

REF

break

{ IF Q23=1, ASK Q24; OTHERWISE SKIP TO Q25 }

Q24. Which of the following topics are typically included in energy management training for staff at your facility? (*READ LIST. ACCEPT UP TO 8 MENTIONS.*)

[RANDOMIZE CODES 1-7]

- 1 Purchasing efficient equipment
 - 2 Efficient operation of equipment
 - 3 Tracking energy use
 - 4 Setting energy reduction goals
 - 5 Writing an energy management plan
 - 6 Available technical resources (where to go for help)
 - 7 Availability of financial incentives for projects
 - 8 Any others [OTHER: S]
- DK
REF

break

TRACKING OF ENERGY USAGE

Q25. Is energy usage regularly tracked at this facility?

- 1 Yes
 - 2 No
- DK
REF

break

Q25A. Is energy usage at your facility regularly reported to the top leadership of your company?

- 1 Yes
 - 2 No
- DK
REF

break

{ IF Q25=1 ASK Q26; OTHERWISE SKIP TO Q31 }

Q26. Does this facility track the usage of electricity, natural gas, or both? (*ACCEPT UP TO 2 MENTIONS*)

- 1 Electricity only
- 2 Natural gas only
- 3 Both electricity and natural gas
- 4 Other fuel [OTHER: S]

DK
REF

break

{ IF Q26=1 OR 3, ASK Q27; OTHERWISE SKIP TO FILTER ABOVE Q29 }

Q27. Is electricity usage tracked via the bill, the meter, or some other way?
(ACCEPT UP TO 3 MENTIONS)

- 1 Bill
- 2 Meter
- 3 Some other way [OTHER: S]
- DK
- REF

break

Q28. How often is the tracked information for electricity usage typically reviewed?

- 1 Daily
- 2 Weekly
- 3 Monthly
- 4 Quarterly
- 5 A few times a year but less than quarterly
- 6 Less than once a year
- 7 Never
- DK
- REF

break

{ IF Q26=2 OR 3, ASK Q29; OTHERWISE SKIP TO Q31 }

Q29. Is natural gas usage tracked via the bill, the meter, or some other way?
(ACCEPT UP TO 3 MENTIONS)

- 1 Bill
- 2 Meter
- 3 Some other way [OTHER: S]
- DK
- REF

break

Q30. How often is the tracked information for natural gas usage typically reviewed?

- 1 Daily
- 2 Weekly
- 3 Monthly
- 4 Quarterly

- 5 A few times a year but less than quarterly
- 6 Less than once a year
- 7 Never
- DK
- REF

break

**ENERGY MANAGEMENT BEHAVIOR – OPERATIONS AND MAINTENANCE
ACTIVITIES**

Q31. Now let's turn to your facility's efforts to save energy.
What actions have been taken in the past two years to reduce energy usage at this facility? (*ASK AS OPEN END, ACCEPT 9 MENTIONS*)

[RANDOMIZE CODES 1-8]

- 1 Leak tag program / leak detection and repair (check for air leaks.)
- 2 Lighting reduction, turning lights off when not in use
- 3 Equipment operation schedule or turning equipment off when not in use
- 4 Equipment settings (decreasing temperature, pressure, motor speed)
- 5 Removing equipment
- 6 Equipment Operations and Maintenance
- 7 Production floor cleaning practices
- 8 Insulate pipes or tanks
- 9 Or something else [OTHER: S]
- 10 No actions taken in the past two years [VOL]
- DK
- REF

break

{ IF Q31=1-9, ASK Q32; OTHERWISE, SKIP TO Q35 }

Q32. Has your facility observed energy savings resulting from any of these actions?

- 1 Yes
- 2 No
- DK
- REF

break

Q33. Did your facility receive technical assistance for any of these actions?

- 1 Yes
- 2 No
- DK
- REF

break

{IF Q33=1 ASK Q34, OTHERWISE SKIP TO FILTER ABOVE Q35}

Q34. Who provided the technical assistance for these actions?

(ASK AS OPEN END. ACCEPT UP TO 8 MENTIONS. IF A PERSON'S NAME IS MENTIONED, PROBE FOR COMPANY AND ROLE. IF RESPONDENT SAYS, "A UTILITY, A STATE OR FEDERAL AGENCY, A TRADE CONFERENCE," PROBE FOR THE SPECIFIC ONE, AND INPUT IN OTHER SPECIFY.)

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 - 2 BPA (Bonneville Power Authority)
 - 3 ETO (Energy Trust of Oregon)
 - 4 NWFPA (Northwest Food Processors Association)
 - 5 Oregon Association of Nurseries
 - 6 Equipment distributor
 - 7 DOE (U.S. Department of Energy)
 - 8 Other [OTHER: S]
- DK
REF

break

{IF Q31=10, ASK Q35; OTHERWISE, SKIP TO Q36}

Q35. What were the barriers to implementing actions to reduce energy usage at your facility?

(ASK AS OPEN END. ALLOW UP TO 6 RESPONSES.)

- 1 Too expensive to implement
 - 2 Expensive to maintain
 - 3 Do not have technical skills to implement
 - 4 Cannot get approval from management
 - 5 Other priorities demand resources
 - 6 Other [OTHER: S]
- DK
REF

break

ENERGY MANAGEMENT BEHAVIOR – CAPITAL IMPROVEMENTS

Q36. Has your facility installed energy efficient equipment during the past two years?

- 1 Yes
 - 2 No
- DK
REF

break

{IF Q36=1, ASK Q37; OTHERWISE, SKIP TO Q43}

Q37. Is your facility currently in the process of installing energy efficient equipment?

- 1 Yes
- 2 No
- DK
- REF

break

Q38. What information does your facility rely upon to tell if the equipment that is purchased is energy efficient? (*ASK AS OPEN END. ALLOW UP TO 5 RESPONSES.*)

- 1 Efficiency rating or label of equipment
- 2 Equipment dealer said it was efficient
- 3 Personal experience
- 4 Met utility rebate requirements
- 5 Other [OTHER: S]
- DK
- REF

break

Q39. Has your facility specifically quantified the amount of energy savings from these projects?

- 1 Yes
- 2 No
- DK
- REF

break

Q40. What factors motivated your facility to install energy efficient equipment? (*ASK AS OPEN END. ALLOW UP TO 5 RESPONSES.*)

- 1 Save energy and money
- 2 The equipment distributor or manufacturer recommended it
- 3 Recommended in an energy audit
- 4 Tax incentives or rebates
- 5 Other [OTHER: S]
- DK
- REF

break

Q41. Which of the following financial incentives, if any, did your company receive for installing energy efficient equipment at this facility? (*READ CODES 1 THRU 4. ALLOW UP TO 4 RESPONSES.*)

- 1 Federal tax credit
 - 2 State tax credit
 - 3 Rebate or incentive from a utility, other organization or institution
 - 4 Or something else [OTHER: S]
 - 5 None [VOL]
- DK
REF

break

{ IF Q41=3, ASK Q42; OTHERWISE, SKIP TO Q43 }

Q42. Which utility, organization or institution provided the incentive, tax credit, or rebate?
(ASK AS OPEN END. ALLOW UP TO 5 RESPONSES.)

- 1 BPA (Bonneville Power Authority)
 - 2 ETO (Energy Trust of Oregon)
 - 3 Utility (*Probe for specific utility*)
 - 4 State or Federal Government
 - 5 Other [OTHER: S]
- DK
REF

break

ENERGY EFFICIENT EQUIPMENT

Q43. Does your facility have a specific policy that says you should replace worn out equipment with “high efficiency” equipment – that is, equipment that is more efficient than what is considered standard efficiency or code at the time of purchase?

- 1 Yes
 - 2 No
- DK
REF

break

Q44. Is your company aware of energy efficient equipment for the type of work done at this facility?

- 1 Yes
 - 2 No
- DK
REF

break

{IF Q44=1, ASK Q45; OTHERWISE, SKIP TO Q46}

Q45. Has your company been aware of energy efficient equipment for the type of work done at this facility for... (*READ CODES 1 THRU 4*)?

- 1 Less than 1 year
- 2 1 to less than 3 years ago
- 3 3 to less than 4 years ago, or
- 4 More than 4 years ago
- DK
- REF

break

Q46. Do your equipment dealers emphasize energy efficiency when explaining your equipment options... (*READ CODES 1 THRU 3*)?

- 1 Always
- 2 Sometimes, or
- 3 Never
- DK
- REF

break

ISO/LEAN

Q47. Is this facility ISO-9000 certified for quality management?

- 1 Yes
- 2 No
- DK
- REF

break

Q48. Is this facility ISO-14000 certified for environmental management?

- 1 Yes
- 2 No
- DK
- REF

break

Q49. Does this facility practice Lean manufacturing?

- 1 Yes
- 2 No
- DK
- REF

break

{ IF SC6=1, ASK Q50; OTHERWISE SKIP TO Q51 }

Q50. Are decisions regarding implementation of energy management and energy efficiency programs usually made at the individual facility level, or at a corporate or company-wide level?

- 1 At the facility level
- 2 At the corporate or company-wide level
- DK
- REF

break

INDUSTRY ASSOCIATIONS

Q51. Does your company belong to any of the following industry associations? (*READ CODES 1 THRU 6*)

[RANDOMIZE CODES 1-5]

- 1 { SHOW IF CELL=1 } Northwest Food Processors Association
- 2 { SHOW IF CELL=4 } Oregon Association of Nurseries
- 3 Northwest High Performance Enterprise Consortium
- 4 Tech America
- 5 Manufacturing 21
- 6 Another industry association [OTHER: S]
- 7 None
- DK
- REF

break

FAMILIARITY WITH NEEA

Q52. How familiar are you with NEEA and its initiatives? Would you say that you are... (*READ CODES 1-4*)?

- 1 Very familiar
- 2 Somewhat familiar
- 3 Not very familiar
- 4 Not at all familiar
- DK

break

FIRMOGRAPHICS

These last few questions are for classification purposes only.

F1. Is this facility best described as:
(*READ CODES 1-2*)

- 1 A free standing building or facility
- 2 Occupied space that is part of a larger building, industrial park, or office complex
- DK
- REF

break

F2. Does your organization own or lease this facility?

- 1 Own
- 2 Lease
- DK
- REF

break

For this facility, approximately how much is spent annually on:

- [RECORD \$ AMOUNT: \$0 - \$100,000]
- 100001 More than \$100,000
- DK
- REF

- F3A. Electricity
- F3B. Natural Gas
- F3C. Propane / Liquefied Petroleum Gas
- F3D. Diesel
- F3E. Gasoline
- F3F. Coal / Coke

break

F4. About what proportion of your total operating costs for this facility (not including labor costs) would you say are accounted for by your total energy costs? (*READ CODES 1-5*)

- 1 Less than 1%
- 2 1% to less than 5%
- 3 5% to less than 10%
- 4 10% to less than 20%
- 5 More than 20%
- DK
- REF

break

{If SC6=1, ASK F5; OTHERWISE SKIP TO F8}

F5. In total, how many facilities does your company have? If you are unsure, your best guess is fine.

[RECORD NUMBER OF FACILITIES 1-999]
DK
REF

break

{IF F5=2 THRU 999 ASK F5A THRU F6D; OTHERWISE SKIP TO F8}

F5A. In what state is your facility headquarters located?

[OPEN END RECORD STATE]

break

{IF F5=2 THRU 999 ASK F6A THRU F6D; OTHERWISE SKIP TO F8}

How many facilities do you have in...

[RECORD NUMBER OF FACILITIES 0-999]

DK

REF

F6A. Washington

F6B. Oregon

F6C. Idaho

F6D. Montana

break

How many employees work at the facility(s) in...

[RECORD NUMBER OF EMPLOYEES 0-999]

DK

REF

F7A. {SHOW IF F6A=1 THRU 999} Washington

F7B. {SHOW IF F6B=1 THRU 999} Oregon

F7C. {SHOW IF F6C=1 THRU 999} Idaho

F7D. {SHOW IF F6D=1 THRU 999} Montana

break

F8. Approximately what were the TOTAL REVENUES for your company in 2010?

(READ CODES 1-7)

- 1 Under \$100,000
- 2 \$100,000 to less than \$250,000
- 3 \$250,000 to less than \$500,000
- 4 \$500,000 to less than \$1 million
- 5 \$1 million to less than \$5 million
- 6 \$5 million to less than \$10 million
- 7 \$10 million or more

DK

REF

break

{If SC6=1, ASK F9}

F9. Approximately what percentage of your company's total revenues were accounted for by this facility?

- 1 Less than 1%
- 2 1% to less than 5%
- 3 5% to less than 10%
- 4 10% to less than 20%
- 5 More than 20%
- DK
- REF

break

These are all the questions I have. Thank you for your participation.

Appendix E: Verbatim Responses to Open End Questions

Q1. What are your company's top three concerns for this facility?

Dairies

How to pay my bills. That's the only concern I have at this point. /WE/ No.

I don't know. It has nothing to do with energy. /WE/ Nothing that would concern what you're doing.

The cost of electricity. Electricity use. Dependability. Power outages. We would like to have a quick response. We have a generator. We would like a response in a reasonable amount of time. We are on wells out here. We have no access to water out here. The water supply does not come out to us.

Survival, profitability, and efficiency.

Making enough money to pay the bills. /WE/ Making enough money to feed the cows. /WE/ Staying healthy.

Good employee management and efficiency. /WE/ No.

To be efficient. /SPE/ Using our time properly. Not wasting our speed. Maintaining cleanliness to make a profit.

Producing a lot of milk. Making money.

Making money and staying afloat. /WE/ No.

Profitability and efficiency. /WE/ Nothing. I think that covers it.

Fuel prices. Future energy prices. We get charged for on-demand power, not per kilowatt-hour, which is a big concern for our operation.

Making a profit. Supplying employment. Becoming more efficient in the way we do business. /WE/ That's all.

Buyability. /WE/ Animal health.

Energy efficiency. Market prices.

Keeping the goats healthy. Keeping and acquiring customers. Maintaining our health inspection certificate.

In terms of energy or considering everything? In general, the economy is our first concern. I guess our second concern would be energy. /WE/ Third is the stability of the dollar, I guess.

Profit. Being competitive. Health.

Profit. /WE/ Nothing.

Staying in business. /SPE/ Will the milk price will stay at a price where we can make a profit? /WE/ Our energy costs should stay down at 20 percent. /WE/ No.

Costs, because business is tight right now. /WE/ No.

Making money. Making a profit. Taking good care of the cows. /WE/ That covers it.

Healthy and comfortable animals. The efficient conversion of forage to milk. The responsible and efficient use of energy.

Energy efficiency is not one of them. First, the economics of business. Second, environmental concerns and regulations. Third, sustaining the business. /SPE/ Being able to get a decent price for a product. /SPE/ Being able to stay in business.

Trying to stay in business. More efficiency in our operation. I don't know what the third one would be.

Making more money than we spend.

We want to make money. /WE/ Profit, revenue and expenses.

First, producing milk. This is a dairy farm. The bottom line is profit. /WE/ Trying to make a living. /WE/ No.

First, maintenance. Second, energy efficiency.

Making money. /WE/ Producing quality milk. /WE/ Employee happiness. /WE/ No.

The cost of electricity. There is no three-phase electricity here, so I am paying more for my dairy. /SPE / I have a friend who uses three-phase power. For three-phase power, it is hard to get the equipment into the barn. It takes more than a three-horsepower motor to run it, and I do not have the space. /WE/ That covers it.

How to stay in business. /WE/ Lower energy costs. /WE/ Conservation of energy.

Profitability. /WE/ Efficiency. /WE/ No.

The price of milk and the price of feed. /ANY/ Nothing that jumps out of me. Health.

I'd say it's our labor, our costs, and environmental issues.

The pricing on commodities. Export markets. Conservation.

Too many government regulations. No price income for products. Availability of legal employees.

Well, energy usage and reducing them. /SPE/ I'm looking at \$1,000 a month in energy usage. /WE/ No.

Managing and increasing our production. /WE/ No.

Milk quality. /SPE/ Milk costs. /WE/ Environmental quality.

First, energy efficiency. Second, making a profit and staying out of the red.

First, profitability. Second, the costs of production. Third, long-term viability./WE/ Right now, we have been producing below costs and we need to profit to keep things going. /WE/ If we don't find a better way to cover our costs, we are not going to be around in the next few years. /SPE/ Our feed costs are the biggest issue. The cost of power is creeping up. /WE/ No.

The price of energy. /WE/ No, nothing else.

I don't know, other than the fact that we do not make much money at it. /WE/ The costs of having milk culled. /WE/ No.

The cost of supplies. /WE/ I don't know. /WE/ No.

Encroachment on agricultural land. /WE/ Commodity prices. /WE/ No.

Our milk place, paying the bills, and the weather. /SPE/ Warm and sunny weather, non-flooding, with the grass growing.

The cost of production. /WE/ Energy costs. /WE/ Feed costs.

Survival. /WE/ Environmental compliance. /WE/ No.

The price for the product. Input costs. Labor.

Keeping it going. The price of milk is number one. Efficiency, I guess. The health of the animals.

Producing a good quality product. /WE/ Keeping the costs as low as we can. /WE/ Trying to survive. /WE/ No.

Things we can do to lower our energy bills. We changed the pumps and motors to cut back on our energy usage. /WE/ No.

Number one is trying to make a profit. There is nothing more than that.

Milk prices and energy prices. Costs. Efficiency for energy.

The milk price and feed troughs. /WE/ The cost for both. Those are our main concerns. /WE/ No.

We'll say it revolves around energy usage. It's an older barn, so we're talking about herd health and efficiency. It's not an efficient design because it is old. /WE/ We live in a hydraulic floodway. The barn sits low, so it floods. We'd like to move it to higher ground for the safety of our cows. /WE/ No.

Feed costs, waste management and crop management.

Milk prices. /WE/ Hay prices. /WE/ The economy. /WE/ No.

General upgrades.

Not going bankrupt. /WE/ Keeping it here. /WE/ No.

Profitability. There isn't any.

Profit. Environmental regulations and energy costs. /SPE/ Energy costs. You name it.

Cost, sustainability and environmental stewardship.

Quality products. /WE/ Efficiency. /WE/ Less waste. /WE/ No.

The bottom line. /WE/ Making a profit. /WE/ Sustainability. /WE/ No.

Feeding the animals. /WE/ Keeping the cows milked. /WE/ Keeping the cows comfortable. /SPE/ Without comfort or food, they won't produce milk. /WE/ No.

Profitability is my top concern. /WE/ No.

Energy is too expensive. /WE/ No.

Costs. /WE/ Sales. The environment. /WE/ No.

Efficiency. /WE/ Possibilities for growth. /WE/ No.

Feed costs, repair costs and regulation.

Good quality milk. Healthy animals. Input cost.

I don't have any concerns. /ANY/ None at all.

Safety and profitability.

The cows, waste disposal and cleanliness. /WE/ Weather. Water availability.

Irrigators (farmers/growers)

The availability of irrigation water and proper weather. /WE/ Proper timing for putting in the crops. /WE/ Being able to sell our crops, and the bills and other costs that are involved.

Survival. /WE/ Taking care of the resource land here. Good management.

Prices. The weather. /WE/ No.

Our top concern would be our income. /WE/ Free time. /WE/ Quality of life.

Energy cost, fertilizer cost and feed cost.

Productivity, efficiency and safety.

The cost of the power bills. /SPE/ The price of fuel. /SPE/ The price of equipment.

Weather. There is nothing else.

An adequate supply of labor. A good return for our crops. Reducing our costs.

Being able to produce within reason. Making money. Being able to produce effectively enough that we make a little money. /WE/ Growing some good crops and raising top-quality cattle. /WE/ Doing it efficiently. /SPE/ Being able to cut costs and have good weight gains on our cattle, and having good production of grains and hay. Decent equipment so we can do our farming.

We don't have any concerns. We don't sell anything. /WE/ No.

To be a good steward of the land. Preserving natural resources. Using irrigation efficiently.

We are just trying to make enough money to pay our bills and raise enough hay to feed the cows. /WE/ That is it.

The costs of growing the crops. /WE/ Energy needs at specific times. Weather.

Our top concerns every year are the weather, making a profit and taking care of the employees.

Profitability and longevity.

The pesticide regulations from the government. Healthcare. Taxes on the farm.

Quality crops, having good yields and growing crops at the lowest cost.

The prices are going up.

Overcoming production limitations. Adjusting our production for market demand.
Profitability.

Keeping everything growing. We have to check for bugs and adjust the chemicals to see which weeds are growing.

Safety.

Profit.

First, labor costs. Second, energy costs. Third, all other external costs. /SPE/ Equipment costs.

The top three are profits, expenses and whatever comes out. We have to make something. /WE/ That's the biggest one. The expense is the biggest one.

The price of our irrigation pumps and the water. That's all going up. I've been thinking about making a generator for my canal and all the electricity prices are going up. /WE/ The price of fuel.

We are concerned that there will be a market for our product.

The price for income. Trouble selling clover seed. That's it.

Flooding. Currently, finding a new renter. /WE/ I don't know.

Rising electric rates. /WE/ The labor supply. That has been okay. The economy kind of affects our bottom line, too.

Getting water from year to year. The price of electricity is going up. We are almost going out of business because of that. /WE/ That's about it.

The cost of energy, equipment and labor.

We would like the electrical power to remain stable. /WE/ No.

Just making a living and trying to keep our heads above water. The input prices are getting really high.

The energy costs. I have propane for the greenhouse. /WE/ Fuel for my equipment.

Making ends meet.

First, the cost of energy. Second, bigger inputs and labor. Third, market stability. /SPE/ Fuel and fertilizer. /SPE/ Not really. /SPE/ Price fluctuations. Mainly downward prices. We are hoping that the price of commodities stays the same. /WE/ No.

The price of the commodities we grow. The cost of the energy we consume.

The price of fuel. The price of energy. The commodity that we put up.

Making a profit. Becoming more efficient while trying to develop a better product. Keeping costs down while increasing my yield.

Selling it is my main concern. /WE/ Trying to get a recycling plan. /WE/ Being profitable enough to take care of my employees. /WE/ No.

Power prices, water availability and the price.

Making hay for the cattle. Improvement of the land. Trying to make a living.

Production. Quality. /WE/ No.

A good apple crop.

Making money. /WE/ No.

The price of electricity and the price of fuel. I can't think of anything else.

Energy savings, safety, and efficiency. /SPE/ Workflow. We are always trying to save a buck.

The use of power. I guess there's the maintenance of the pivot itself. We try to keep everything up so everything works properly. /WE/ No, not particularly. I think that covers the irrigation.

Sales. /WE/ Fuel costs. /WE/ Energy costs. /WE/ Chemical costs. We spend a lot on energy while we're processing.

The cash roll so we can make money coming in and going out. The government is making farming hard. Weather.

Reducing the energy input. More insulation.

The economy.

Cost.

The cost of electricity. The cost of water. Property taxes.

Making money. Being efficient. Safety.

Price, availability, and reliability.

Water. We have to irrigate 12 acres. Energy costs. Market vulnerability, as we are producers of commodities.

Probably the bottom line. /SPE/ Being able to make my payment. /WE/ My crops.

Efficiency and profitability.

Trying to make a profit in the low economy. The government is about pull corn. We don't get paid enough.

Making sure we have to be running 24/7 in the summertime. Water management. Fertilizer and hay management.

I don't know what you mean. Making a profit.

Profitability.

Making ends meet. /WE/ Being here next year. /WE/ A profitable venture. We have tended toward strip-till compared to conventional tillage. /WE/ We are involved in energy efficiency with a local co-op.

Regulations. /SPE/ The government regulations that are coming down the pipeline, and the state unemployment. There is a lot of fraud. The state insurance and wages for our employees. /WE/ Those are the top three.

Keeping the electricity bill down as low as we can. /SPE/ No.

Keeping the price of fuel down. Running our tractors. Keeping the price of produce up. Being able to pay for our labor and the fuel prices. Tractors are expensive. I want to pass it on. We also have to pay the capital gains tax. /WE/ That is all.

Labor. /SPE/ Just finding enough labor to do the job. /WE/ The cost of equipment. /SPE/ How high it's going. /WE/ Marketing and finding places to sell thing to.

Regulation. Commodity prices. Making people understand that farmers are important.

Currently, the horse market is hurting everybody in the horse business. /SPE/ We are without adequate ways to sell or utilize the call horses. They have to be safe for kids to ride. Our not being able to sell them for slaughter hurts other businesses. /WE/ No.

The weather. /WE/ The prices for energy. Livestock. The prices for machinery.

The price of energy.

Trying to make a profit. /WE/ No.

Making money.

The cost of energy. The price of crops at sale.

The weather. Market prices. The availability of labor when I need it.

Getting power for cheaper use. /WE/ How to deal with regulations. /SPE/ Food regulations. /WE/ Making a profit.

Energy use, fertilizers and fuel. /WE/ No.

Staying in business.

The cost of diesel fuel. Transportation costs. The cost of electricity.

The economy. /WE/ The demand for our product. /WE/ Production costs.

Keeping costs down. Marketing. Improving the farm.

Making money and better improving the ground and soil. Making sure that everything runs smoothly. /WE/ No.

The cost of operating six pivots. /WE/ No.

The cost of power. The cost of seeds. The cost of diesel fuel.

The availability of fuel at a reasonable cost. Fuel and electricity will increase substantially.

The cost of energy. /WE/ Being able to make a go in the economy. Turning a profit.

Profit, sustainability and growth.

Generating revenue. Minimizing expenses. Safety.

Water, weather and the market. /WE/ No.

The petroleum costs. The cost of energy. Fertilizer costs.

The best quality product, with quantity and quality at a low cost. /WE/ Safety is one of our number one issues. /SPE/ The safety of employees. /WE/ No.

Keeping costs down. /WE/ The cost of fuel is way high. The chemicals for our fields. /WE/ No.

Saving money. Efficiency and labor.

The overhead costs and the commodity prices.

Energy costs. The conservation of natural resources, and having the energy available when needed.

Energy to run the pivots. The price of fuel. Managing the feed yards.

First, saving money on fuel. Second, making a profit. Third, safety for the workers. /SPE/ When I say fuel, I mean diesel fuel. Making trips to town more useful. /SPE/ No.

Being as efficient as we can.

Making a profit. /WE/ Put things back into the land, as in not burning it out. /WE/ Keeping it a beautiful place to live.

The price of power. /WE/ Borrowing money. Having the market.

Profit, the environment and energy reduction.

Electricity use for irrigation for pumps. Fuel. /WE/ No.

Income, expenses and flooding. /SPE/ Cash flow. /SPE/ Cash flow and labor. /SPE/ That's a concern for the farm. We don't know when that may be. /WE/ No.

Bees, warm weather, and distribution.

Energy costs./WE/ Competitive costs. /WE/ Diesel costs. /WE/ Inflation.

We are interested in energy self-sufficiency, rainwater catchment, and funding for capital projects.

First, profitability. Second, taking care of the land. /WE/ No.

Government interference.

Weather. The price of utilities. The cost of equipment.

Production, marketing and input costs.

Labor. /SPE/ The availability of quality labor. Weather. /SPE/ We are a fresh produce operation. We need appropriate weather. Crop yields. /SPE/ A high yield.

Coming up with money to re-gravel the roadway. /WE/ We're an organic farm, and one of our huge concerns is seed. We grow a lot of it, but we also have to buy some. /WE/ Making sure our customers get their produce when they want it.

The bottom line is money. /SPE/ Income balanced with the expenses, such as electricity, diesel, gas and propane. /WE/ We are concerned with the amount of generation and operating in cold temperatures. How much of that heat is generated by electricity, propane, diesel and gas? /WE/ That's about it.

Taking care of the land and making a living. Learning how to transfer it to my family in a businesslike way. I am almost ready to retire. /WE/ That's it.

Getting our bills paid. Collecting money.

Nurseries

Energy. We use a lot of natural gas. Keeping the bill down. Costs and diseases.

Energy costs, labor costs, and taxes.

Sales, cost management, and facilities improvement.

Profitability, quality production and the efficient use of resources.

Energy. The cost of products.

Probably the cost of electricity for pumping and for our greenhouse fans. That's two. I don't think I have three. /WE/ No.

Staying profitable, environmentally friendly and safe.

Survival, landscaping and labor.

Weather, customers, and the economy. /SPE/ Customers tend to not show up to buy things if the sun isn't shining.

Water management. Insects. /SPE/ Insect control with aphids and white flies. /WE/ No.
Weed management. /WE/ No.

The top concern is making a good and enjoyable living for everyone involved in the company. Producing a good product while we're at it. /WE/ Doing it in an environmentally sensitive way.

Cost management. Plant health

Selling the product and keeping the expenses down. /WE/ Keeping within the government regulations. /WE/ No.

The prices of energy. The impact of the new BPA line. The economy and if I can continue to stay in business.

Making enough money to keep doing this. /WE/ Growing good quality plants. /WE/ Not causing any kind of pollution and not using things that are damaging to the environment. /WE/ That's about it.

I don't know. It is more or less education. Sales at the farmer's market. /WE/ No.

Sales, efficient production and customer satisfaction.

Sales.

The big concern is that were being taken over by the city and they're moving us into a land use plan. They have zoned us as an industrial employment area. /WE/ That's the biggest concern. We've been providing oxygen and habitat for nature, and they want to destroy all of this for a higher economic return. /WE/ That covers it.

Water. /SPE/ Heat. /WE/ Those are my primary two. Also, things that are related to energy and input costs.

Making a money profit. Producing a good crop. Efficiency. The efficient use of employees. /WE/ No.

Keeping the business running with the economy the way it is. /SPE/ It's the same concern as any other small business, I would think. /WE/ No.

Sales, quality and input. /SPE/ Quality means good life plants without insects or diseases. /SPE/ Input meaning the time, energy and cost put into our business. /WE/ No.

The economy. /WE/ That's probably it.

Gophers, rain and heat. /WE/ Gophers are a threat to the lilies that we grow. They eat the roots. /WE/ There is so much rain. Acid rain and thick rain. The water stays on the ground for too long and it's polluted. /WE/ In the open field, the temperature has been getting higher and higher in the past few years, especially in the summertime. /WE/ Several times we are without electricity, but we have a generator so that's taken care of.

Making money. Saving money and growing quality products.

The marketability of our product is our number one concern. The cost of doing business is the other.

Costs. Operating costs. Market conditions.

Making money and enjoying it.

Sales would be number one. Profits and the economy. /WE/ No.

Energy use. Labor. Getting orders.

Trying to stay in business without cost. We are already operating at a loss and we will be for a while. /WE/ No.

Water. /WE/ No.

Water management. Soil. Weed control. /SPE/ Types of soil. We use top-quality soil to maintain proper water control in the pots so they don't drain too fast or too slowly. /SPE/ Weed control. We try to maintain a clean nursery. /WE/ No.

Temperature.

The economy. Energy costs. /WE/ No.

To produce a good product. /WE/ Keeping our efficiency. /WE/ The timeliness of crop maturity.

Energy conservation. /SPE/ Keeping the place heated without spending a fortune on physical plant upgrades. /SPE/ Repairs and maintenance of things that get neglected due to finances. Product and packaging upgrades. /SPE/ Purchasing new plant material and having the proper size of product for customer needs. /WE/ Nothing else.

Money. /WE/ A quality product. /WE/ Customer satisfaction. /WE/ No.

Making money. /WE/ That's it.

Production. Efficiency. Diversity. /WE/ No.

Staying in business. /WE/ Field usage. /SPE/ How much we use is one of the highest expenses. /WE/ Taxes. /SPE/ They are so high. They pretty near kill the business. Federal, state and local taxes. /WE/ No.

I am not sure how to answer. /WE/ Staying in business. /WE/ No.

Inflation on energy, gas, oil, and everything. /WE/ No.

Safety, profit and sustainability. /WE/ No.

First, customer service like an increase in business. Second, weather. Third, the increasing costs of things like energy.

Urban sprawl. /WE/ The age of the owners. /WE/ Garbage. /WE/ Energy. /WE/ No.

Fuel costs. /WE/ Not really. Our power. The electricity isn't bad, but diesel is out of sight. /WE/ Just the cost of doing business. /WE/ No.

Production. /WE/ Sales. /WE/ Quality. /WE/ No.

Making a profit. I don't know. /WE/ The economy. People keep coming and buying.

Certification. /WE/ The cost of energy use. Sustainability. /WE/ No.

The price of natural gas. Industrial and unemployment insurance. Property tax.

Growing healthy vegetables. Feeding hungry people. The overall utilization of what we have been left with.

Coming out of the red. Making it to the next year. Putting out a good product.

Environmental concerns like ground water and water pollution. /WE/ No.

Energy prices. /WE/ The economy. /WE/ Weather. /WE/ No.

Weather. Income.

The price of energy. The cost. Dependability and conservation. They go hand in hand.

First, making a profit. Second, work efficiency. Third, production quality.

Maintenance and repairs. /WE/ Getting more customers.

Safety, energy and profits.

Energy use and conservation. The expense of plastic supplies.

Finances. The cost of energy. Fuel, insurance, and supplies. Immigration.

Sales.

Sales. Production costs. /WE/ No.

First, customers. Second, sales. Third, profit.

Heating costs and water costs. We are going on water heaters and power outages. We have a whole bunch of plants. We don't want the power to go out.

First, growing top-quality plants. Second, energy. /SPE/ How we can save some energy. Third, making sure we can help the customer.

First, the sale of our products. Second, flexibility and adaptability. /SPE/ The markets are always changing. Products that are hot one year aren't hot the next year. Third, energy costs.

Making money. We just do retail. /WE/ Nothing else, really. We grow our own plants. Trying to keep costs down, I guess, but that's true of everybody. /WE/ No.

Maximizing our energy efficiency. /WE/ Increasing our profitability. /WE/ No.

Making money. Profitability. The efficient use of labor and materials.

A reliable labor supply. /WE/ Production efficiency. /WE/ Resource utilization efficiency. /WE/ No.

Propane and where to get the money for propane. Growing the plants, of course. /WE/ No.

Selling enough to make a living. Environmental regulations.

The percentages for the cost of goods, labor and overhead. /WE/ No.

Efficiency. /WE/ Waste reduction. /WE/ Management. /WE/ No.

Good weather. /WE/ Supply. /WE/ Nothing else.

Use energy the best way we know how. Cut down on energy for heat. Being careful not to put anything into the air that shouldn't be to keep it as safe as possible for the people. If we are not careful, we are going to destroy own country. /WE/ No.

The economy, government regulations, and the cost of diesel. /SPE/ No.

Sales, quality control and labor.

Energy costs and fertilizer costs. /WE/ Customer service. /SPE/ As far as the customers are satisfied with my business's product and it is convenient for them to get here on my hours. /WE/ That's it.

Safety. /SPE/ Employee safety. /WE/ Energy cost reduction. /SPE/ Controlling our energy costs with equipment. The impact on the surrounding environment. /SPE/ We don't want any damage to the areas we occupy with what we grow. /WE/ No.

Q20. What factors contributed to your rating of management support for your facility's energy/energy intensity reduction goals as supportive/not supportive.

Dairies

Just keeping it in the forefront of our operation and making sure that every time we get together, we talk about it. /WE/ No

Mgmt support goals: Very supportive

The cost of prints and our overall costs.

Mgmt support goals: Very supportive

The use of kilowatts.

Mgmt support goals: Very supportive

We do everything we can within our system to be energy-efficient. /WE/ No.

Mgmt support goals: Very supportive

Because we are the management. /WE/ No.

Mgmt support goals: Very supportive

The cost of the energy. /WE/ No.

Mgmt support goals: Somewhat supportive

The service from our utility company in the information they send out.

Mgmt support goals: Somewhat supportive

We are the owners. We do what we can. /WE/ No.

Mgmt support goals: Somewhat supportive

You know how hired help is. They just don't care. /WE/ Whoever is paying the bills is the one watching all of this. /WE/ No.

Mgmt support goals: Not very supportive

Irrigators (farmers/growers)

Well, I'm the manager.

Mgmt support goals: Very supportive

It is financial. If we save energy, we save money.

Mgmt support goals: Very supportive

We want to keep reducing our energy usage. /WE/ Wind power stinks. It's a waste of money. It is too expensive to produce.

Mgmt support goals: Very supportive

I'd say it is just because that's what is being brought out. Being aware of what needs to be done.

Mgmt support goals: Very supportive

Well, the fact that they pay attention to the goals and they come very quickly when we call. /WE/ I don't think so.

Mgmt support goals: Very supportive

It's just me. I want to save them money.

Mgmt support goals: Very supportive

Basically the fact that I can save money by reducing my energy costs. /WE/ No.

Mgmt support goals: Very supportive

I do it myself. /WE/ Well, that's basically it. That's why it is very important.

Mgmt support goals: Very supportive

I'm the boss.

Mgmt support goals: Very supportive

Well, it's the bottom line. Making the company more viable financially.

Mgmt support goals: Very supportive

No. /WE/ Continuous oversight on usage. /WE/ That is all I can think of now.

Mgmt support goals: Very supportive

The continued increase in power has been phenomenal. We are trying to stop that. /SPE/
Well, I'd like to keep a bit of the money in my own pocket instead of giving it to the power company.

Mgmt support goals: Very supportive

The people who work for us know that if we don't make a living they don't have a job, so they support this.

Mgmt support goals: Very supportive

I have to report once a month. /WE/ No.

Mgmt support goals: Very supportive

Through discussions. /SPE/ Management discussions and the interest shown at them.
/WE / No.

Mgmt support goals: Very supportive

The dollar. /WE/ It boils down to the bottom line. Something can be implemented when saving dollars. /WE/ No.

Mgmt support goals: Very supportive

Setting the goals to reach it. Economic factors. Trying to get our power usage and fuel usage and irrigation costs. The cost per acre of production. /WE/ That's good.

Mgmt support goals: Somewhat supportive

We're probably not doing as good a job as we could.

Mgmt support goals: Somewhat supportive

It is mostly for the profitability in the end. There is less need to reduce our consumption. /WE/ No.

Mgmt support goals: Somewhat supportive

If we can afford it or not because of the debt factor. /WE/ No.

Mgmt support goals: Somewhat supportive

I don't know. /WE/ There are not always people here to turn the power off or whatever.

Mgmt support goals: Somewhat supportive

They weren't involved.

Mgmt support goals: Not at all supportive

Nurseries

Costs. /SPE/ We try to keep them as low as possible. /WE/ That's the main thing. We look at revenue versus cost, and when the cost keeps increasing our revenues don't go up per year. We're kind of reluctant to increase.

Mgmt support goals: Very supportive

They are actually informed each month as far as what we are doing, and they give input about other things we can do. They are very involved.

Mgmt support goals: Very supportive

The cost. /WE/ I would say that's the primary thing.

Mgmt support goals: Very supportive

Just my basic training and trying to reduce our costs. /WE/ No.

Mgmt support goals: Very supportive

The cost. /SPE/ Cost reduction. /WE/ No?

Mgmt support goals: Very supportive

Our pay checks and our profit margins. /SPE/ Because our use and energy savings directly affects those two. /WE/ No.

Mgmt support goals: Very supportive

Because I am the management and it is my bottom line. That makes me very supportive of anything that saves me money. /WE/ No.

Mgmt support goals: Very supportive

I am the factor as I am the sole employee. /WE/ No.

Mgmt support goals: Very supportive

Savings. /WE/ No.

Mgmt support goals: Very supportive

Commitment, ongoing education, and the actions taken. /WE/ No.

Mgmt support goals: Very supportive

Cost. /WE/ No.

Mgmt support goals: Very supportive

When we did an audit on our energy consumption, we set our goals based on that. /SPE/

Management ordered the energy audit. /WE/ No.

Mgmt support goals: Very supportive

I would say it's the price and the cost. /SPE/ Trying to keep the heating bills down and cold air out. Being more efficient with it.

Mgmt support goals: Very supportive

The energy cost. /WE/ Profits. /WE/ Labor costs. /WE/ No.

Mgmt support goals: Very supportive

It is encouraged as part of our culture and our business strategy. /WE/ No.

Mgmt support goals: Very supportive

I'm supporting myself. I'm the management. I am self-employed and I am the only one here. /WE/ No.

Mgmt support goals: Very supportive

Just do the best I can is all I can say. /WE/ No.

Mgmt support goals: Very supportive

First of all, the cost I have to pay. /WE/ Which plants I produce and when I get them in the springtime. When I do my seeding. /WE/ No.

Mgmt support goals: Very supportive

The cost of energy and global warming. /SPE/ The consequences of global warming are very severe. If we do nothing, we will be out of business. /WE/ It is a catastrophe.

Mgmt support goals: Somewhat supportive

Because we don't really have anything cast in stone. We do not have a written plan. /WE/ No.

Mgmt support goals: Somewhat supportive

Energy costs. /WE/ Trying to be more environmentally conscious.

Mgmt support goals: Somewhat supportive

Looking at the energy bill and seeing what we can cut down on. /WE/ No.

Mgmt support goals: Somewhat supportive

I think it is because of our revenue. It has been difficult to implement. /WE/ The costs involved. /WE/ No.

Mgmt support goals: Not very supportive

¹ Market Strategies interviewers probe with the question “What else” which they shorten to “WE”, and “Can you be more specific?” which they shorten to “SPE” in the verbatim responses.