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Existing Building Renewal/ Commercial Real Estate Research: - Market Characterization - Attitudes and Behavior of Owners and Service Providers

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Executive Summary

NEEA is interested in deepening the penetration of energy efficiency into new and existing commercial buildings and to achieving large savings in this sector. This report focuses on existing buildings.

This study characterizes some important physical features of the privately owned large office building market in the four states served by NEEA: Washington, Oregon, Idaho, and Montana. SBW based the building type distribution for the territory on the Commercial Building Stock Assessment (CBSA) and the CoStar database. This study includes telephone surveys of 100 large office-building owners and managers and 75 service providers in order to gauge their attitudes and behavior in relation to energy efficiency.

Key Findings

Most building owners and managers (86%) believe that energy efficiency is important, with slightly more than half (57%) believing that energy efficiency influences the profitability of their building. Fifty-three percent also believe that energy efficiency influences the attractiveness of the building to prospective tenants.

Most owners and managers (69%) consider themselves knowledgeable about energy efficiency, and about half had heard of NEEA or BetterBricks. Additionally, a little less than half of owners/managers have done a study in the last two years to determine how they might save energy. Of those who have not, about a third was not aware of the possibility of audit or benchmarking studies.

Owners who have made capital improvements in the last two years (47%) did so mainly because of equipment breaking down. They named several motivations for using energy-efficient options, but almost all of them included reducing costs. It is clear that, while motivations about tenant needs, environment, and others are of interest to owners, these are not likely to be compelling unless cost savings are also demonstrable. Still, there is reason to think that addressing additional motives could help make the argument.

Less than 20% of respondents indicated that budget allocations accompanied their energy-savings goals. This could represent an opportunity to engage owners in energy savings. Related to this is the fact that about half of building owners report that there is someone in the organization responsible for managing energy or reducing consumption. Convincing owners to designate such a person and to provide regular goals and budget allocations for achieving the goals is a good opportunity to have an impact.

Owners do not believe investors and financiers are interested in or knowledgeable about energy efficiency in making financing decisions. Educating actors in this part of the market

could have a strong impact on owners' awareness of energy efficiency and motivation to commit to it.

None of the companies interviewed evidenced all of the elements of Strategic Energy Management (SEM)[1]. The area that is most in need of work is having an annual budget for implementing energy efficient improvements, where only 14% had done so. The next least frequent "yes" answer was about setting energy efficiency goals, at 24%.

Service providers generally consider themselves sufficiently knowledgeable and skilled to promote energy efficiency. Almost all service providers interviewed report that they at least occasionally recommend designs or products that exceed local codes. Over two-thirds of them consider energy efficiency to be a part of their market identity. Further, most interviewed firms participate in professional development and training in the area of energy efficiency.

Most (83%) architectural/design firms say they provide integrated design services, and almost all (92%) at least occasionally recommend energy assessments or benchmarking studies and recommend products and designs that exceed code requirements. These responses might imply that service providers in NEEA territory are more skilled and knowledgeable than expected. On the other hand, while most at least occasionally make the recommendations mentioned here, only about half do it frequently, so there is room for improvement.

Most service providers (60%) have heard of NEEA, but fewer (41%) are aware of BetterBricks. Plainly, NEEA has work to do in raising awareness of NEEA and BetterBricks among service providers. Improvement in this area can translate to increased awareness and commitment from the owners of the buildings they service.

Recommendations

Full SEM has yet to take root among the interviewed companies. There are opportunities for impact through major educational campaigns with owners that target several topics:

1. The availability and benefits of energy audits and benchmarking studies
2. The benefits of setting energy goals and regularly allocating budget to achieving them
3. The existence of NEEA and BetterBricks and the resource they offer
4. The benefit of identifying a person or position in the company that is responsible for energy use, management, and reduction

[1] At the point of writing this report, NEEA is still finalizing the definition of SEM. As such, we based the analysis for the presence of SEM on questions related to goal setting, operational practices, capital improvements, budget and staff.

Financiers could be a source of knowledge and motivation to pursue energy-efficient versions of projects that owners undertake, but this would take an educational effort from NEEA, as owners do not consider financiers interested in energy savings.

As one would expect, profitability motivates building owners when they take on energy-related projects. However, they are also concerned with other issues, including environmental issues and attractiveness to tenants. Building owners certainly connect profitability to attractiveness to tenants. These and other motivations should be the subject of market research on which messaging combinations would be most effective in motivating owners to take on energy-efficiency projects. Demonstration projects and tools could also be part of this research, making it more informative and potentially making the ultimate messaging more effective.

1. Introduction

The purpose of this study is to characterize and understand the market served by two Northwest Energy Efficiency Alliance (NEEA) initiatives: Existing Building Renewal (EBR) and Commercial Real Estate (CRE).

Specifically, this study targets privately owned office buildings in the four-state region (Washington, Oregon, Idaho, and Montana) served by NEEA. The EBR market comprises buildings with at least 20,000 square feet of floor area, and the CRE market comprises buildings with at least 50,000 square feet of floor area.

The objectives of this study are to:

1. Characterize the building stock in these markets,
2. Obtain relevant data from the owners of these buildings about their practices and attitudes relevant to energy efficiency and sustainability, and
3. Provide information about the practices and attitudes of the firms that provide energy-relevant services to these building owners.

These findings will help NEEA develop and fine-tune the EBR and CRE initiatives.

This report contains four additional sections and five appendices.

- ***Methodology*** discusses the survey sample, including the sample frame for both the owner survey and the subsequent service provider survey. This section includes the sample disposition for each survey.
- ***Market Characterization*** describes the critical physical characteristics of the buildings that make up the EBR/CRE market, such as their floor area.
- ***Owner and Service Provider Survey Findings*** provides a discussion of important findings from each of the surveys.
- ***Conclusions and Recommendations*** offers recommendations that may aid those charged with conducting similar studies in the future for NEEA.
- ***Appendices A and B*** contain the two survey instruments.
- ***Appendix C*** presents the distribution of building types and the disposition of the surveys in the two survey samples.
- ***Appendices D and E*** provide frequency tabulations for each item found respectively in the owner and service-provider surveys.
- ***Appendix F*** contains frequency tabulations for each item found in both the owner and service provider surveys.

2. Methodology

SBW utilized secondary data from the following two sources to characterize the market and to develop the sampling frame for the owner and service provider surveys:

- The 2009 Commercial Building Stock Assessment[2] (CBSA), and
- An extract from the CoStar® commercial property database[3].

CBSA is a compendium of data from several studies (conducted by NEEA) which collected building-characteristics data for samples of buildings representing various portions of the regional building stock. CoStar is a commercial real-estate database populated with building characteristic data from a variety of sources, including public records (e.g., SEC filings), reports from leasing agents and from agencies like the Green Building Council.

We used these secondary sources to create a list of the commercial buildings that comprise the markets relevant to NEEA's EBR and CRE Initiatives. For the purposes of this study, we defined the EBR market as all privately owned office buildings located in the NEEA service area that contained more than 20,000 square feet (SF) of floor space. The CRE market has the same definition except that only office buildings larger than 50,000 SF are included.

The following sections describe the extraction of the necessary data from CBSA and CoStar and the subsequent development of the sampling frame, methodology and sample disposition for the owner and service provider surveys.

2.1. Extracting Data on Target Buildings from CBSA

NEEA provided the CBSA database, which includes 2,061 building records with 12 different building types. We applied the following filters to identify the buildings that comprise the EBR and CRE markets.

- Bld_Type = office
- AreaBin = >20,000 SF
- Owner Type = private

These filters produced a sample of 230 records consisting of office buildings with an area greater than 20,000 square feet. The building owner type in the CBSA database was not always present or reliable, so we performed a separate analysis to determine private or public building

[2] Data was supplied by NEEA in the file called CBSA ANALYSIS DATA_With_Site_Information062111.xls.

[3] Data obtained under NEEA license from www.costar.com.

ownership, bringing the sample to 167 buildings. Table 67 (on page 79 in Appendix C) shows a breakdown of the listed records (not weighted). The bold rows in the table are the EBR/CRE market.

For this study, EBR and CRE markets were limited to privately owned buildings. CBSA contains some information about the type of owner for each building but it does not reliably categorize public and private ownership. When available, we used the CoStar Owner name to determine public or private ownership, but when this was not available, we used county assessor data. A public building might have an owner name starting with "State of _" or might have zero tax obligations in the assessor data.

The CBSA database includes a sample of the different building types in NEEA's service territory as well as a weighting factor for each record that represents of the entire population of that building type in the territory. This allows the calculation of the total number of any specific building type in the territory.

2.2. Extracting Data on Target Buildings from the CoStar Database

We accessed the CoStar database using workstations at NEEA. We extracted records for several different buildings types, for Washington, Oregon, Idaho, and Montana. (NEEA service area includes only a portion of Montana.) The extract included buildings with rentable building area greater than 15,000 square feet, and one of the following building types: Flex, Health Care, Hospitality, Industrial, Office, Retail, Specialty, Sport, or Sports and Entertainment. Although this study is limited to "office" building types of 20,000 square feet or greater, we drew a more extensive sample to maximize the chance of matching with buildings listed in CBSA (CoStar and CBSA do not necessarily agree on a building type). The CoStar extract includes 28,749 records, 951 of which have been demolished or are under construction, bringing the sample to 27,798 records.

The CoStar listing was broken into two categories, "CoStar New Construction" and "CoStar Other." NEEA compiled the CBSA data in 2007. The CoStar new construction list supplements CBSA with data on CRE-relevant construction since CBSA data collection ended. We applied the following filters to extract the CoStar New Construction group data:

1. Building Status = existing
2. Property Type = office
3. Year Built >2007
4. Rentable Building Area > 50,000 SF

The EBR relevant CoStar records include the CRE group and other records defined as follows:

1. Building Status = existing
2. Property Type = office
3. OR Year Built <2007 and Rentable Building area >20,000 SF

As for CBSA, we based the public/private building owner assignment on the CoStar listed owner name when available and on a Google search otherwise. Table 68 (on page 79 in Appendix C) shows the breakdown for the CoStar listing.

The CoStar dataset was limited to certain building types with the building owner types only assigned manually to only a portion of the population, so we cannot infer information about the overall market distribution from this dataset.

CoStar does not report quantitative estimates of its coverage rate as CBSA does, so we do not know what portion of the current EBR and CRE markets the CoStar population represents.

2.3. Sampling Frame for the Owner and Service Provider Surveys

2.3.1. Developing the Owner Survey Sampling Frame

We used the secondary data extracted from CBSA and CoStar to create a sampling frame for the Owner Survey. The sampling frame comprises records for the three sample groups—CBSA, CoStar New Construction, and CoStar Other. We used the Property IDs to look up the building location and contact information from the CBSA and CoStar database sheets. Table 1summarizes the number of buildings for the sample, by their sample source.

Table 1: Sampling Frame for Owner Survey

Sample Group	Number of Buildings
CBSA	230
CoStar New Construction	108
CoStar Other	1,104
Total	1442

The CBSA database does not include any building owner or property manager information. To obtain this information, we matched CBSA records to CoStar records when possible. The CoStar database includes a combination of company name, contact person, and phone number for the building owner, property manager, and leasing agent for each record. The matching was done by

address when possible, but often included a search for the property in Google® maps to determine possible alternative addresses and by looking for the address and parcel number in county assessor data. We could not match all of the CBSA records to a CoStar record, so we had to obtain contact information for those sites through Google, Hoovers, and county assessor data.

In order to determine the best contact information source, we administered the owner survey to a test group of the first 15 qualifying CBSA sample records. For these records, we used the contact information from CoStar when available, with supplemental information from the Hoovers database, Assessor data, and a Google search. The result of the test was that the CoStar owner or CoStar property manager information is the best source when the company name, contact name and phone number are all available, otherwise, pre-screening work had to done to determine the appropriate contact person. From this, we developed an algorithm for populating the "Priority Contact Fields," which uses the following logic:

1. If the owner name, contact name, and phone number are available, use that (12.0% of sample)
2. If the property manager name, contact name, and phone number are available, use that (12.3% of sample)
3. If neither is available, use available owner, leasing agent, and property manager information to conduct pre-screening calls to determine the "person responsible for major capital planning and operational policies at the facility," and populate the priority contact fields with the pre-screened call information. (75.7% of sample)

2.3.2. Service Provider Sampling Frame

Originally, the sampling frame for the service provider survey was the list of service providers referred to us by owner survey respondents. The owner survey asked for a firm name and office location (some service providers have more than one office location). Once we removed duplicate referrals to the same firm and office location, the list contained 193 unique service providers. We dropped 141 of the 334 referrals shown in Table 2 because they were duplicates, contact information was missing, or they declined the interview. The resulting list was not a sufficiently large sample to meet the survey goal of 75 service providers.

To supplement the sample frame, we obtained information from Hoovers for firms that had 20 or more employees, were located in the states served by NEEA, and that had one of the North American Industry Classification System (NAICS) descriptions shown in Table 2. The NAICS descriptions below are the company types that were referred the most by the owner surveys and we applied this filter to build the sampling frame. The 20 or more employee size limit was to ensure that we included firms with the technical and staffing capability to provide service to

large office buildings. We excluded service providers previously identified through the owner survey from the Hoovers service provider list.

Of the entire service provider sample, 31% came from the owner survey and 69% came from Hoovers.

Table 2: Sample Frame for Service Provider Survey

Sample Source and NAICS Description	Count of Service Providers
Owner Survey	**334**
Hoovers	**742**
Architectural and Engineering Services	12
Architectural Services	62
Electrical Contractors	333
Plumbing and HVAC Contractors	333
Specialty Contractors	2
Grand Total	**1076**

2.4. Interview Methodology and Sample Disposition

SBW's subcontractor, Opinion Dynamics Corporation, conducted telephone interviews with the owners and service providers.

2.4.1. Owner Survey Completions and Disposition

SBW provided the sample for the owner survey to Opinion Dynamics Corporation, the subcontractor for the interviewing called each owner to administer the survey. Table 3 shows the results of this effort by sample source. We were able to successfully complete surveys with about 10% of the owners. Thirty of the surveyed owners were from the CBSA sample, and 70 were from the CoStar sample.

Table 3: Completed Owner Survey Sample Summary

Sample Source	Sample Frame	Survey Completed?	
		Yes	No
CBSA	230	30	200
CoStar New Construction	108	11	97
CoStar Other	961	59	902
Total	**1299**	**100**	**1199**

The completed sample includes 56 buildings in the EBR market, 11 in the CRE market, and 33 buildings fall within both markets.

The total square footage of the 100 buildings in the owner sample represents 3.09% of the total market. For a confidence level of 90%, the square footage of the target market is 234,568,730 with a confidence interval of ±61,245,615 SF.

For sites that did not have the contact information for the owner or property manager, we made pre-screening calls to obtain the contact information for the person "responsible for capital planning at the facility." Opinion Dynamics reiterated this screen when they conducted their survey calls. Table 4 shows the breakdown of the owner survey respondents by title.

Table 4: Owner Survey - Respondent Title

Respondent Title	Count	Percentage
President/Owner	13	13.0%
Property Manager	34	34.0%
Other Senior Executive	10	10.0%
Facility engineer/Manager	20	20.0%
Consultant	1	1.0%
Other Senior Management	14	14.0%
Asset Management	4	4.0%
Other	3	3.0%
(Don't know)	1	1.0%
Grand Total	**100**	**100.0%**

X1. What is your title?

2.4.2. Service Provider Survey Completions and Disposition

We processed the owner survey responses and developed the service provider frame as described above, including the service providers from the Hoovers database. Table 5 shows the number of survey completions by sample source.

Table 5: Completed Service Provider Survey Sample Summary

Sample Source	Sample Frame	Survey Completed?	
		Yes	No
Owner Referral	334	31	303
Hoovers	742	44	698
Total	**1076**	**75**	**1001**

A sample size of 75 was set, with quotas of 15 each of five business categories. It was not possible to find, recruit, and complete 15 interviews in some categories (Controls and Maintenance). With NEEA's approval, we increased the interviews in some other categories so that we could fulfill the target for total number of interviews. Table 6 reveals the result of these efforts.

Table 6: Service Provider Survey - Firm Primary Business Category

Business Category	Count	Percentage
Architecture/Design	12	16%
Lighting	15	20%
Controls	5	7%
Maintenance	10	13%
Mechanical	33	44%
Grand Total	**75**	**100%**

S2. How would you define your firm's primary business category?

Table 7 shows the titles of the interviewees.

Table 7: Service Provider Survey - Respondent Title

Title	Count	Percentage
President/Owner	23	31%
Principal	2	3%
Other senior executive	6	8%
Consultant	4	5%
Other - please specify in the box below	40	53%
Total	**75**	**100%**

S1. What is your title?

Due to the small sample size of the service provider survey, we caution against extrapolating the findings to the population.

3. Market Characterization

3.1. Building Component

We derived the findings on building count and floor area from the data extracted from CBSA and CoStar. Pertinent findings from the owner survey inform on the people component (i.e., percentage who own or manage the buildings, number of tenants, etc.) of market characterization.

Table 8 shows estimates of building count and floor area for EBR and CRE markets, including all private and public buildings, as derived from the two secondary sources.

There are two estimates for CBSA. The first is a simple sum of the number of buildings listed and their respective floor area. CBSA also contains regional weights. When applied, these weights yield an estimate of all buildings and their floor area in the EBR and CRE markets.

CoStar reports rentable floor area and building counts for the buildings that it lists. Although the CBSA database includes all office-building sizes, the dataset pulled from CoStar was limited to the target market of buildings 20,000 SF and larger.

Table 8 shows that while the CBSA database reports only 50 more buildings than the CoStar database for buildings larger than 50,000 SF, the total floor area for those CBSA buildings is 85,742,791 SF (or 32.4%) greater than the total floor area of the CoStar buildings. However, for buildings between 20,000 and 50,000 SF, CoStar reports 652 more buildings than CBSA, with a floor area that is 16,383,448 SF (or 21.48%) more than that reported by CBSA. The CBSA database is reporting larger building areas than the CoStar database, likely because CoStar provides "rentable" floor area while CBSA provides "gross" floor area.

We cannot infer information for the building group with less than 20,000 SF as the CoStar dataset only includes buildings greater than 20,000 SF.

Table 8: Office Building Count and Floor Area Estimates for EBR and CRE

Building Area Bin	CBSA Listing Building Count	CBSA Listing Gross Floor Area (SF)	CBSA Weighted Building Count*	CBSA Weighted Gross Floor Area (SF)	CoStar Building Count	CoStar Rentable Floor Area
> 50k SF (EBR and CRE)	167	45,149,833	1,740	306,939,612	1,690	221,196,821
> 20k SF < 50k SF (EBR only)	63	2,008,798	2,108	68,098,834	2,760	84,482,282
< 20 k SF	170	1,382,322	25,952	150,501,059		
Total	**400**	**48,540,953**	**29,800**	**525,539,505**		

The CBSA data shows privately owned office buildings greater than 20,000 square feet have the largest average floor area (217,205 SF), followed by publically owned office buildings (179,946 SF) and then by hospitals (163,432 SF). The most common building type is Dry goods retail (18%), and there is only a 3% vacancy rate in the population. See the CBSA distribution of building types in Table 67 in Appendix C.

3.2. People Component (based on the Owner Survey)

3.2.1. Role of Respondent's Company

Most of the respondents from the Owner Survey (61%) are property owners. Among those who are not property owners, 83% manage property (see Table 9).

We noted differences when we compare the samples derived from CBSA and from CoStar. We completed 30 owner surveys from the CBSA sample group. In this group, there is a nearly even split between the property owners and property management/owner agent (see Table 10).

As the CoStar database included more sample sites, a larger number of 70 respondents completed the owner survey in this sample group. This group contained more property owner respondents than the CBSA sample group, comprising 67% of the population (see Table 11).

Table 9: Owner Survey - CBSA & CoStar Samples Combined

Company Role	Count	Percentage
Property Owner	**62**	**61%**
Non-Property Owner	**40**	**39%**
Property management	33	83%
Owner's agent	4	10%
Other	3	8%
Grand Total	**102**	**100%**

F0a. What role does your company play in managing or operating this company?

Table 10: Owner Survey - Role CBSA Respondent's Company Plays in Managing or Operating Facility

Company Role	Count	Percentage
Property Owner	**15**	**47%**
Non-Property Owner	**17**	**53%**
Property management	14	82%
Owner's agent	3	18%
Grand Total	**32**	**100%**

F0a. What role does your company play in managing or operating this company?

Table 11: Owner Survey - Role CoStar Respondent's Company Plays in Managing or Operating Facility

Company Role	Count	Percentage
Property Owner	**47**	**67%**
Non-Property Owner	**23**	**33%**
Property management	19	83%
Owner's agent	1	4%
Other	3	13%
Grand Total	**70**	**100%**

F0a. What role does your company play in managing or operating this company?

3.2.2. Proportion of Space Occupied by Respondent

Among property owners, just over half (53%) occupy the building; 16% occupy the whole building. Among the non-owners, most (78%) do not occupy the building (see Table 12).

For the CBSA sample group, the property owners occupy at least a portion of the facility in 53% of cases; however, the non-property owners occupy at least a portion of the facility in only 28% of cases. This indicates that the building owner is more likely to occupy their own facility than the property managers are (see Table 13).

For the CoStar sample group, the property owners are almost evenly split on whether they occupy at least a portion of the facility or not. The non-property owners occupy a portion of the facility in only 12% of cases. This reiterates the fact that the building owner is more likely to occupy their own facility than the property managers are (see Table 14).

Table 12: Owner Survey - Proportion of the Space Respondent Occupies (CBSA and CoStar Samples Combined)

Proportion Range	Count	Percentage
Property Owner	**62**	**62%**
0	29	47%
1-19	15	24%
20-39	5	8%
60-79	1	2%
80-99	1	2%
100	10	16%
Don’t know	1	2%
Non-Property Owner	**37**	**37%**
0	29	78%
1-19	2	5%
20-39	1	3%
40-59	1	3%
60-79	2	5%
80-99	1	3%
Refused/Don't know	2	5%
Don’t know (if the company is a property owner or not)	**1**	**1%**
Grand Total	**100**	**100%**

Table 13: Owner Survey - Proportion of the Space CBSA Respondent Occupies

Proportion Range	Count	Percentage
Property Owner	**15**	**50%**
0	7	47%
1-19	4	27%
20-39	1	7%
80-99	1	7%
100	2	13%
Non-Property Owner	**14**	**47%**
0	10	71%
1-19	1	7%
40-59	1	7%
60-79	1	7%
80-99	1	7%
(Don't Know)	**1**	**3%**
(Don't know)	1	100%
Grand Total	**30**	**100%**

F1. What proportion of the space at this facility does <SUBJECT> occupy?

Table 14: Owner Survey - Proportion of the Space CoStar Respondent Occupies

Proportion Range	Count	Percentage
Property Owner	**47**	**67%**
0	22	47%
1-19	11	23%
20-39	4	9%
60-79	1	2%
100	8	17%
(Don’t know)	1	2%
Non-Property Owner	**23**	**33%**
0	19	83%
1-19	1	4%
20-39	1	4%
60-79	1	4%
(Refused)	1	4%
Grand Total	**70**	**100%**

F1. What proportion of the space at this facility does <SUBJECT> occupy?

3.2.3. Number of Tenants Occupying the Building

Table 15 shows that most (72%) of the buildings are occupied by between 1 and 19 tenants. This finding is similar to the sample groups from CBSA (67%) and CoStar (74%) (see Table 16 and Table 17).

Table 15: Owner Survey - Number of Tenants Currently Occupying the Building (CBSA and CoStar Samples Combined)

Tenant Range	Count	Percentage
0	1	1%
1	9	9%
2 – 19	63	63%
20-39	8	8%
40-59	4	4%
80-99	3	3%
100	1	1%
120	1	1%
Owner Occupied	10	10%
Grand Total	**100**	**100%**

Table 16: Owner Survey - Number of Tenants Currently Occupying the CBSA Building

Tenant Range	Count	Percentage
1	2	7%
2-19	18	60%
20-39	3	10%
40-59	3	10%
80-99	1	3%
100	1	3%
Owner Occupied	2	7%
Grand Total	**30**	**100%**

F2. Including <SUBJECT>, how many tenants currently occupy this building?

Table 17: Owner Survey - Number of Tenants Currently Occupying the CoStar Building

Tenant Range	Count	Percentage
0	1	1%
1	7	10%
2-19	45	64%
20-39	5	7%
40-59	1	1%
80-99	2	3%
120	1	1%
Owner Occupied	8	11%
Grand Total	**70**	**100%**

F2. Including <SUBJECT>, how many tenants currently occupy this building?

4. Owner and Service Provider Survey Findings

This section highlights survey findings from the surveys of owners and service providers. The responses to each question in the two surveys are in the Appendices D and E.

4.1. Owner Survey

This section presents the findings from the owner survey. In analyzing the findings, we looked at mean ratings, standard deviation, and percent responses for the bottom three boxes (i.e., ratings of 0-3 on a 0 - 10 scale) and for the top three boxes (i.e., ratings of 7-10 on a 0-10 scale).

4.1.1. Attitudes and Value of Energy Efficiency

Building owners and managers rate the importance of reducing energy costs and improving energy efficiency very highly (see Table 18). Between 86 and 90% rated these items 7 or more on a 0–10 scale (with 0 being on the negative/low importance end, and 10 being on the positive/high importance end), with a mean of over 8. There is only a small amount of variation, as seen by the standard deviation of 1.6. Respondents generally rated the importance of sustainability lower on the scale, but still relatively high; over 60% rated it 7 or higher. Very few people gave these areas a very low rating (0–3).

A series of questions about how influential the energy efficiency of the building is on profitability, on attractiveness to tenants and investors, on asset value, and on financing showed that profitability and attractiveness to tenants were the areas where the most influence is perceived. Over half of respondents gave these areas a high rating (7 or higher) in the areas of profitability, and attractiveness to tenants and buyers. Respondents are less optimistic about the influence of energy efficiency on financiers.

Table 18: Attitudes Toward Energy Efficiency (n=100)

Attitudes and value of energy efficiency	Mean Rating	Standard Deviation	Percent Responses (Ratings of 0-3)	Percent Responses (Ratings of 7-10)
Importance of Reducing Energy Costs	8.5	1.6	1.0%	89.9%
Importance of Improving Energy Efficiency	8.2	1.8	2.0%	85.9%
Importance of Improving Sustainability	7.2	2.3	5.0%	62.0%
Influence of Energy Efficiency on Profitability	6.3	2.5	17.2%	56.6%
Influence of Energy Efficiency on Attractiveness to Prospective Tenants	6.2	2.7	15.3%	52.0%
Influence of Energy Efficiency on Attractiveness to Buyer/Investors	6.1	2.8	19.6%	53.3%
Influence of Energy Efficiency on Asset Value	5.8	2.8	22.3%	43.6%
Influence of Energy Efficiency on Decision Making of Financial Backers	5.4	3.0	24.4%	41.1%
Influence of Energy Efficiency on Financing Terms	3.5	3.1	52.2%	24.4%

V2. On a scale of 0 to 10, where O is "Not at all important" and 10 is "Extremely important", how important are the following when managing the operations of this property? How important is…."

V3. On a scale of 0 to 10, where 0 is "Not at all," and 10 is "Very much," how much do you think this building's energy efficiency influences the following?"

4.1.2. Energy Efficiency and Sustainability Knowledge

Table 19 shows that building owners and managers consider themselves knowledgeable about actions taken to improve energy efficiency and sustainability at their property (69 and 60% gave ratings of 7–10, respectively), with sustainability knowledge coming in slightly lower overall (with means of 7.2 and 6.8, respectively).

Table 19: Respondent Knowledge of Energy Efficiency and Sustainability (n=100)

Attitudes and value of energy efficiency	Mean Rating	Standard Deviation	Percent Responses (Ratings of 0-3)	Percent Responses (Ratings of 7-10)
Personal Knowledge of Actions to Save Energy at Property	7.2	1.8	4.0%	69.0%
Personal Knowledge of Actions to Improve Sustainability at Property	6.8	2.3	11.0%	60.0%

AK1. On a scale of 0 to 10, where 0 is "Not at all knowledgeable," and 10 is "Extremely knowledgeable," how would you rate your knowledge of specific actions your company can take to save energy at this property?"

AK1s. On the same scale, how would you rate your knowledge of actions to improve sustainability at this property?

4.1.3. Energy Efficiency during Purchase Process and in Financing or Refinancing

Interviewed owners purchased three buildings and refinanced 12 buildings within the last two years. For the three buildings purchased within the last two years, energy efficiency influenced only one purchase and for two of these buildings energy efficiency influenced the financial backer in the purchase. Of the 12 instances of buildings refinanced within the last two years, respondents perceived neither energy efficiency nor sustainability to be a factor in any financial backer's decision.

4.1.4. Capital Improvements and Equipment Changes

Forty-seven buildings received capital improvements within the last two years. At those 47 buildings, property owners upgraded 75 systems (see Table 20). Of the 75 improvements, the single largest end use affected by these improvements was HVAC (68% of respondents, and 45% of responses), followed by lighting (49% of respondents and 31% of responses).

Table 20: Building Systems Focus of Capital Improvements (n=47)

Building System Upgraded	Count	Percentage of Responses	Percentage of Respondents
HVAC	32	42.7%	68.1%
Lighting	23	30.7%	48.9%
Building Envelope	5	6.7%	10.6%
Interior Structure/Walls	3	4.0%	6.4%
Elevators	2	2.7%	4.3%
Solar Energy System	2	2.7%	4.3%
Remodel	2	2.7%	4.3%
Water/Hot Water	1	1.3%	2.1%
Other	4	5.3%	8.5%
(Refused)	1	1.3%	2.1%
Total	**75**	**100.0%**	**159.6%***

* This is a multiple response question, so the total can be more than 100%.

C3. What building systems were the focus of these capital improvements?

Over 85% of the 47 respondents who made capital improvements reported their motivation as increasing energy efficiency. A substantial majority (66%) cited equipment breakdown or a regular maintenance schedule as their motivation. Some of these varied motivations clearly occurred within the same owner (since 85% cited increasing energy efficiency), thus showing that multiple motivations are often involved.

Table 21: Motivation for Capital Improvements (n=47)

Motivation	Count	Percentage of Respondents
Increase Energy Efficiency	40	85.1%
Equipment Breakdown or Maintenance Schedule	31	66.0%
Tenant Improvements per Contract, Lease Agreement, or Request	27	57.4%
Increase Sustainability	25	53.2%
Market Positioning	23	48.9%
Advantageous Financing Terms	3	6.4%
Other Reason	15	31.9%

U1. I'm interested in <SUBJECT>'s motivation for making these capital improvements. I'm going to read a list of factors that could have motivated <SUBJECT> to make improvements. After I read each one, please tell me if it was a motivating factor.

Forty respondents (see Table 21 above) stated that increasing energy efficiency was one of their reasons for performing capital improvements in the last two years. We asked them about their objectives for increasing energy efficiency. Ninety percent of the respondents cited decreasing owner expenses as an objective for making the improvements. Comfort and environmental reasons were the other top objectives (75 and 73%, respectively). Respondents cited other objectives as well, as seen in Table 22. As with the motivations for making improvements, there were very clearly multiple objectives in making the improvements, but decreasing owner expenses is usually one of the top reasons. One could conclude that the best way to motivate owners to make energy efficiency improvements is to point out the financial benefits. One could also say that it will take more to persuade owners if NEEA wanted to promote changes based on non-financial motivations.

Table 22: Objective for Capital Improvement to Increase Energy Efficiency (n=40)

Objective	Count	Percentage of Respondents
Decrease Owner Expenses	36	90.0%
Increase Comfort	30	75.0%
Environmental Reasons	29	72.5%
Decrease Tenant Expenses	26	65.0%
Increase the Value of Property	24	60.0%
Satisfy Tenant Requests or Concerns	23	57.5%
Energy Efficiency or Sustainability Certification	17	42.5%
Satisfy Financial Backers' Requests or Concerns	7	17.5%

U3. You said that one of <SUBJECT>'s motivations for improvements was to increase the energy efficiency of the property. I'm going to read some objectives companies may have for increasing energy efficiency. After I read each one, please tell me if it was an objective for the capital improvements you mentioned.

4.1.5. Recent Energy Efficiency Behaviors

Over the last two years, 41% of buildings had a study done with a goal of energy reduction. Of those, 73% had an audit done (Table 23), with this approach being by far the most common one (57% of responses). Benchmarking and energy monitoring virtually tied in frequency of mention (21 and 19%, respectively).

Table 23: Type of Study Conducted at Property (n=41)

Type of Study	Count of Responses	Percentage of Responses	Percentage of Respondents
Energy Audit or Assessment	30	57%	73%
Benchmarking study	11	21%	27%
Energy monitoring	10	19%	24%
(Don't know)	2	4%	5%
Total	**53**	**100%**	**129%***

* This is a multiple response question, so the total can be more than 100 %.

B1. What term best characterizes the most recent study conducted at this property? Would you call it an ….

Fifty-nine buildings (see Table 117 in Appendix D) did not have an energy-reduction study during the prior two years. Of these, 39% were not aware that they could conduct such studies to identify ways to reduce energy use (see Table 24).

Ninety respondents had not undergone energy monitoring (see Table 118, which shows that 10 had undergone energy monitoring). Of these, 39% were not aware of the possibilities for energy monitoring, demand management systems, or software to track or improve energy consumption (see Table 25).

There is room to improve building owner awareness of energy studies and related methods for monitoring energy consumption that could assist in increasing energy efficiency and reducing building operating costs.

Table 24: Aware of Assessment, Monitoring, or Benchmark Opportunities to Identify Ways to Reduce Building Energy Use (n=59)

Response	Count	Percentage
Yes	36	61%
No	23	39%

B2. Are you aware of any assessment, monitoring or benchmarking opportunities through which your company could identify ways to reduce building energy use?

Table 25: Aware of Energy Monitoring, Demand Management Systems, or Software Property Could Use to Track or Improve Energy Consumption (n=90)

Response	Count	Percentage
Yes	50	56%
No	39	43%
(Don't Know)	1	1%

B3. Are you aware of any energy monitoring or demand management systems or software this property could use to track or improve its energy consumption?

4.1.6. Energy Efficiency Plans, Policies and Behaviors

We asked all respondents if they had energy efficiency plans or policies in place, and 31% report that they do (see Table 121 in Appendix D). In addition, 24% of buildings have specific energy efficiency goals or requirements in place. Clearly, there is room for increased efforts in this area.

Table 26: Energy Efficiency Policies (n=100)

Policy	Count	Percentage
Energy Efficiency Policies in Place at Facility	31	31.0%
Energy Reduction Goals or Efficiency Requirements in Place at Facility	24	24.0%

PP1. Does <SUBJECT> have any energy efficiency policies at this facility?

PP2. Has <SUBJECT> set any energy reduction goals or efficiency requirements at this facility?

Of the 24 with established policies on energy reduction goals or efficiency requirements, a strong majority had goals with specific targets, specific completion dates, and specific budgets indicating a serious focus on energy efficiency (see Table 27), and nearly all (92%) were authorized by senior management. These figures seem to indicate that these companies are serious about energy efficiency. However, given that only 24% have goals at all, this means that roughly 17% of the entire sample has become this serious about energy goals (24% with energy reduction goals × ~70% with specific targets).

Table 27: Specific Energy Reduction Goals (n=24)

Energy Reduction Goal	Count	Percentage
Goals Include Specific Numeric Target for Energy Savings	16	66.7%
Goals Include Specific Completion Date	15	62.5%
Goals Include Specific Budget	17	70.8%
Goals Authorized by Senior Management	22	91.7%

PP3. I have some questions about these goals or requirements for this facility.
a. Do the goals specify numeric targets for energy savings? b. Do the goals include a completion date? c. Do the goals include a budget? d. Are the goals authorized by senior management?

Over half of the 100 respondents reported adopting operational practices to increase energy efficiency at their facilities, including energy efficient lighting, occupancy sensors, reducing hours of operation, control systems, energy management systems, and programmable thermostats (see Table 28). This indicates that even owners who have not formalized specific goals are taking serious actions. NEEA should investigate further whether goal setting precedes or tends to be the result of specific changes in practices.

Table 28: Adopted Operational Practices to Increase Energy Efficiency at Facility (n=100)

Response	Count	Percentage
Yes	56	56%
No	42	42%
(Don't Know)	2	2%

PP5. Has <SUBJECT> adopted any operational practices to increase energy efficiency at this facility?

One question asked whether the company allocated a budget to achieving energy reduction goals, and another asked whether the company allocated a budget to achieving efficiency improvements (see Table 126 and Table 131 in Appendix D). Twenty-nine respondents (29%) said yes to one or both of these questions. Where any budget was allocated to these purposes, the average allocation was 11.5% of the facility's operating budget. Table 29 shows this, as well as the distribution of budget percentages. There is room for substantially increasing the portion of this market that regularly allocates budget for these efficiency purposes.

Table 29: Proportion of Facility Annual Operating Budget Used for Implementing Energy Efficiency Investments and/or Goals (n=29)

Percent of Budget	Count of Respondents	Percentage of Respondents
2	2	7%
5	4	14%
10	6	21%
15	3	10%
20	2	7%
25	1	3%
40	1	3%
50	2	7%
(Don't know)	7	24%
(Refused)	1	3%
Mean Percent	**11.5**	

PP8. What proportion of this facility's annual operating budget is used for implementing energy efficiency improvements?

4.1.6.1 Incidence of Strategic Energy Management (SEM)

NEEA initiatives promote Strategic Energy Management as a framework for advancing the commitment of large businesses to energy efficiency. At the point of writing this report, NEEA is still finalizing the definition of SEM for CRE. For analysis in this report, the categories of the framework that we are considering are as below, and may not represent all the final elements of SEM:

1. Goal setting
2. Operational Practices
3. Capital improvements
4. Budget
5. Staff

The survey of owners/managers included questions that address each of these categories, including two for goal setting. We have provided the responses to each of those questions in other parts of this report for different research questions. However, we repeated them here for convenience so that we can consider those elements together.

Goal Setting: only 24% of the surveyed businesses reported that they had set energy-reduction goals for the company. Among those, 92% reported that senior management authorized the goals (See Table 30 and Table 31).

Table 30: Goal Setting - Energy Reduction Goals or Efficiency Requirements in Place at Facility

Response	Count	Percentage
Yes	24	24%
No	75	75%
(Don't Know)	1	1%
Grand Total	**100**	**100%**

PP2. Has <SUBJECT> set any energy reduction goals or efficiency requirements at this facility?

Table 31: Support from Top Management – Energy Reduction Goals Authorized by Senior Management

Response	Count	Percentage
Yes	22	92%
No	1	4%
(Don't Know)	1	4%
Grand Total	**24**	**100%**

PP3D. Are the goals authorized by senior management?

Operational Practices: Fifty-six percent of respondents indicate that they have adopted operational practices geared toward increasing energy efficiency.

Table 32: Adopted Operational Practices to Increase Energy Efficiency at Facility

Response	Count	Percentage
Yes	56	56%
No	42	42%
(Don't Know)	2	2%
Grand Total	**100**	**100%**

PP5. Has <SUBJECT> adopted any operational practices to increase energy efficiency at this facility?

Capital Improvements: Slightly under half of the respondents indicated that their companies had made major capital improvements within the last two years (see Table 33)

Table 33: Capital Improvements - Any Major Capital Improvements Made Within the Last Two Years

Response	Count	Percentage
Yes	47	47%
No	51	51%
(Don't Know)	2	2%
Grand Total	**100**	**100%**

C2. Have there been any major capital improvements at this facility in the last two years, which could include replacing lighting, heating or cooling equipment?

Budget: only 14% said that they had annual budgets for implementing energy efficiency improvements.

Table 34: Budget - Annual Budget in Place for Implementing Energy Efficiency Improvements at Facility

Response	Count	Percentage
Yes	12	14%
No	69	83%
(Don't Know)	2	2%
Grand Total	**83**	**100%**

PP7. Does <SUBJECT> have an annual budget for implementing energy efficiency improvements at this facility?

Staff: Over half reported having an individual in the company who is responsible for identifying methods to reduce energy use.

Importantly, none of the respondents answers "yes" to all of these questions, meaning that none of the respondents evidenced all of the elements of SEM. However, in three areas,

nearly half or more received positive responses. The area that is most in need of work is the annual budget for implementing energy efficiency improvements, where only 14% of the companies had such a budget. The next least frequent "yes" answer was about energy efficiency goals, at 24%.

Table 35: Staff - Individual Present at Company with Responsibility of Identifying Methods to Reduce Building Energy Use

Response	Count	Percentage
Yes	55	55%
No	45	45%
Grand Total	**100**	**100%**

H1. Is there anyone at your company (yourself included) whose job responsibilities include identifying ways to reduce building energy?

4.1.7. BetterBricks Awareness

Fifty-three percent of respondents have heard of NEEA and 49% have heard of BetterBricks (see Table 36). They heard of BetterBricks largely from professional or trade organizations (27%). The next largest category is an online source at 12% (see Table 135 in Appendix D). Clearly, professional and trade associations are a very strong information channel for NEEA and its programs.

Table 36: Awareness of NEEA and BetterBricks (N=100)

Program	Count	Percentage
Aware of Northwest Energy Efficiency Alliance	53	53%
Aware of BetterBricks	49	49%

N1. Before today, had you heard of the Northwest Energy Efficiency Alliance?

N2. Have you heard of BetterBricks?

As seen in Table 37, owners know about BetterBricks' education and training programs (65%). Thirty-seven percent are aware of Carbon4Square, and 35% are aware of Kilowatt Crackdown. High-Performance Portfolio is the least well known at 29%. Less than half of those aware of each program have participated in them.

Table 37: BetterBricks Program Awareness and Participation

BetterBricks Program	Aware Count	Percentage Aware (n=49)	Participated Count	Percentage Participated*
Education & Training Programs	32	65.3%	13	40.6%
Carbon4Square	18	36.7%	8	44.4%
Kilowatt Crackdown	17	34.7%	8	47.1%
High-Performance Portfolio	14	28.6%	5	35.7%

* The percentages in this column are based on those who are aware of each program (i.e., based on the "Aware Count" column)

N4. Have you heard of any of the following BetterBricks offerings?

N5. Have you ever: a. Participated in Kilowatt Crackdown? / b. Participated in Carbon4Square? / c. Used the BetterBricks High-Performance Portfolio Framework? / d. Participated in a BetterBricks Education or Training Program? / e. Visited the BetterBricks website?

(Note: For smooth reporting, the answer for "e. Visited the BetterBricks website" is in Table 38 below).

When the 49 respondents who were aware of BetterBricks were asked which BetterBricks tools and resources they had used, the most frequent response was the website (55%), followed by resources for benchmarking (43%), and reading case studies (35%). Overall, these respondents have used a wide variety of tools (see Table 38).

Table 38: BetterBricks Tools and Resources Utilization (n=49)

BetterBricks Tools & Resources	Count	Percentage
Viewed Website	27	55.1%
Accessed Resources about Benchmarking	21	42.9%
Read Case Studies	17	34.7%
Accessed Resources about Building Tune-Ups	15	30.6%
Read Operations & Management Best Practices	15	30.6%
Accessed Resources about Conducting a Scoping Study	14	28.6%
Read the Green Opportunity Index	3	6.1%
Utilized the Symptoms Diagnosis Tool	2	4.1%

N6. I'm going to read a list of BetterBricks tools and resources. After I read each one, please tell me if you have used the tool or resource before. Have you ….

4.1.8. Barriers to Taking Action

Table 39 combines the results of all of the questionnaire items asking for agreement or disagreement with statements about potential barriers to taking energy efficiency actions in their buildings. The table presents several approaches to analyzing the data, starting with mean ratings on the 0-to-10 scales, their standard deviations, followed by the percentage of respondents who gave very low ratings (0–3) and the percentage who gave very high ratings (7–10).

Out of all measures, the strongest endorsement was for the statement about split incentives, that is, that tenants would reap most of the benefits of the efficiency (and the owners would bear the cost). Forty-five percent and 48% respectively *disagreed* that "Tenants are willing to pay higher rent for an energy efficient building" and that "Tenants are willing to pay higher rent for a sustainable building." Considering this, we can summarize the three highest barriers pertaining to tenants as, "Tenants reap the benefits of energy efficiency but would be unwilling to pay more for it."

The barrier that yields the biggest split in responses (i.e., some quite high and some quite low) is the statement that the owner lacks the capital to invest in energy-efficient equipment. The percentage of respondents who gave this a high endorsement (7–10) is the second highest among all the items, but this item also received one of the largest percentages of low endorsements (0–3).

Very few respondents considered the lease structure or existing financial agreements to be barriers (about 20% gave these strong endorsements).

Table 39: Agreement to Statements Regarding Barriers to Taking Action (n=100)

Statement	Mean Rating (Agreement)	Standard Deviation	Percentage of Responses (Ratings of 0–3)	Percentage of Responses (Ratings of 7–10)
Tenants reap most of the benefits of Energy Efficiency	5.5	2.9	27%	41%
It is difficult to get approval for energy efficiency improvements from financial backers	4.5	2.6	36%	22%
It's hard to figure out what energy efficient equipment to buy	4.3	2.8	46%	21%
It is difficult to get external approval for energy efficiency improvements	4.1	2.9	46%	22%
Not enough capital to invest in energy-efficient equipment	3.9	3.3	52%	27%
Tenants are willing to pay higher rent for an energy efficient building	3.8	2.6	45%	18%
The lease structure of this property makes it difficult to invest in energy efficiency	3.6	3.1	57%	20%
Tenants are willing to pay higher rent for a sustainable building	3.6	2.6	48%	15%
Existing financial agreements make it difficult to invest in energy efficiency at this property	3.3	3.0	63%	19%

BA1. I am going to read a list of statements that may apply to this property. Using a scale from 0 to 10, where 0 is "Strongly Disagree" and 10 is "Strongly Agree," please indicate your level of agreement with the following statements.

4.1.9. Decision Maker

4.1.9.1 Implementing Methods for Reducing Building Energy Use

Fifty-five percent of the sampled buildings employ a person on site that is responsible for identifying methods for reducing building energy use (see Table 164 in Appendix D). This person is most often a property manager (35%) or a building or facility manager (27%), except in cases where there is a position specifically for managing sustainability or conservation, which was true for 13% of the sample (see Table 40).

Table 40: Individual Responsible for Reducing Energy Use (n=55)

Title	Count	Percentage
Property management	19	35%
Facility Engineer/Manager	15	27%
Conservation or sustainability manager	7	13%
Unclassifiable	5	9%
Company officer	2	4%
Other	7	13%

H2. What is the job title of this individual (who is responsible for identifying ways to reduce building energy use)?

4.1.9.2 Hiring Contractors

Seventy-three percent of these individuals who are responsible for identifying ways to reduce building energy use are also responsible for hiring or contracting with designers or contractors to complete work at the facility (see Table 166).

In cases where there is no one responsible for reducing energy use, 29% reported that the person responsible for such contracting is the partner, principal, president, CEO or owner. Fifty-nine percent reported that the person responsible for this activity is not the top-level personnel (see Table 41).

In summary, where an individual is specifically responsible for conservation and/or sustainability, it is most likely to be a property manager or facility engineer or manager, and that person is most likely to be the one hiring or contracting facility work. When there is no such person specifically responsible for conservation/sustainability, the person most likely to do the contracting for facility work would be a corporate officer or partner/principal. This implies that NEEA's efforts for this initiative should take into account that they are speaking to someone who is not specifically responsible for conservation or sustainability, but who has broader responsibilities. Another implication is that there may be opportunities for increasing the number of buildings that have such a specialist.

Table 41: Person Responsible for Hiring Contractors

Title	Buildings with on-site person responsible for reducing energy use (n=55)		Buildings without on-site person responsible for reducing energy use (n=45)	
	Count	Percentage	Count	Percentage
Property management	19	35%	2	4%
Facility Engineer/Manager	15	27%	5	11%
Conservation or sustainability manager	7	13%	0	0%
Unclassifiable	5	9%	0	0%
Company officer	2	4%	13	29%
Partner/Principal	0	0%	10	22%
President/CEO/Owner	0	0%	3	7%
Manager	0	0%	2	4%
Other	7	13%	5	11%
Don't Know	0	0%	5	11%

Table 42: Person Responsible for Making Decisions Regarding Equipment Additions or Replacement when No One is Responsible for Conservation or Sustainability (n=45)

Title	Count	Percentage
Corporate Officer-Not Principal, Partner, Owner, or President	13	29%
Partner/Principal	10	22%
Chief Engineer or Facility Manager	5	11%
President/CEO/Owner	3	7%
Property Manager	2	4%
Manager	2	4%
Other	5	11%
Don't Know	5	11%
Total	**45**	**100%**

H4. What is the title of the individual who is responsible for hiring designers or contractors to perform work at this facility?

4.2. Service Provider Survey

This section presents findings from the service provider survey.

4.2.1. Number of Northwest Offices

For the majority of respondents, 73% (see Table 43) represent companies that only have one office in the Pacific Northwest, likely indicating that these are mainly local firms with a local focus.

Table 43: Number of Northwest Offices (n=75)

Number Offices	Count	Percentage
1	55	73%
2	9	12%
3	4	5%
4	1	1%
5	1	1%
6	2	3%
7	1	1%
8	1	1%
(Don't know)	1	1%

S3. How many offices does your firm have in the four states of the Pacific Northwest? [If necessary: Washington, Oregon, Idaho, and Montana]

4.2.2. Size and Nature of Market Served

The 75 firms have all performed work in privately owned buildings in the Pacific Northwest in the last 2 years. They serviced an average of 214 commercial buildings per firm in the last two years, with a median of about 90. They served an average of 115 office buildings, and an average of 79 retail buildings. A more detailed list of commercial building types serviced is in Appendix E, but these companies appear to be generalists in terms of the building types they serve.

The proportion of work that each firm has performed on existing buildings, versus new construction, in the Pacific Northwest in the last two years is an average of 66% of their total business.

Table 44: Proportion of Overall Work Performed for Existing Buildings, as Opposed to New Construction, in the Pacific Northwest in the Last Two Years (n=75)

Proportion	Count	Percentage
0	1	1%
1-19	4	5%
20-39	6	8%
40-59	13	17%
60-79	20	27%
80-99	25	33%
100	6	8%
Mean Proportion	**65.9**	

FS4. Approximately what proportion of your overall work during the last two years was done for existing buildings, as opposed to new construction projects? Again, please count only buildings in the Pacific Northwest.

4.2.3. Service Types

The average amount of work that each firm performs in their primary business category varies between 56 and 81% (breakdown shown in Table 45). Therefore, while a strong majority of work is in a specialized area, some of these firms perform more than one kind of service.

Table 45: Proportion of Firm's Office Building Work Performed in Primary Business Category in the Pacific Northwest in the Last Two Years (n=75)

	Architecture/ Design (n=12)		Controls (n=5)		Lighting (n=15)		Maintenance (n=15)		Mechanical (n=33)	
Proportion	**n**	**%**	**n**	**%**	**n**	**%**	**n**	**%**	**n**	**%**
0	0	0%	0	0%	0	0%	0	0%	2	6%
1-19	3	25%	0	0%	2	13%	1	10%	2	6%
20-39	2	17%	1	20%	3	20%	0	0%	3	9%
40-59	1	8%	0	0%	0	0%	3	30%	1	3%
60-79	1	8%	0	0%	2	13%	3	30%	2	6%
80-99	0	0%	1	20%	3	20%	3	30%	8	24%
100	5	42%	3	60%	4	27%	0	0%	15	45%
(Don't know)	0	0%	0	0%	1	7%	0	0%	0	0%
Grand Total	**12**	**100%**	**5**	**100%**	**15**	**100%**	**10**	**100%**	**33**	**100%**
Mean Proportion	56.4		81.0		57.7		60.5		75.4	

NE1. You said that your company's primary business category was <S2 ANSWER>. What proportion of your company's office building work in the last two years falls into this category?

4.2.4. Energy Efficiency Advice

Over 90% of the interviewed architecture/design firms at least occasionally experience clients asking for greater energy efficiency than is required in local codes, and almost half of those say they get such requests frequently (see Table 46). In addition, 100% of these firms make recommendations that exceed local codes at least occasionally.

Table 46: Frequency that Architecture/Design Firms Recommends Designs or Products with Greater Energy Efficiency than Current Building Codes Require (n=12)

	Clients Seek Designs or Products		Firm Recommends Designs or Products	
Frequency	**Count**	**Percentage**	**Count**	**Percentage**
Frequently	5	42%	9	75%
Occasionally	6	50%	3	25%
Never	1	8%	0	0%

EP1. I'd like to know if and how energy efficiency is discussed between your firm and office building clients. How often do your clients come to your firm specifically looking for designs and products that are more energy efficient than current building codes require? Would you say that this happens frequently, occasionally, or never?

These firms report an average of 47% of their office building projects having specific energy goals or targets exceeding current building code requirements.

Table 47: Proportion of Office Building Projects with Specific Energy Goals or Targets Beyond Current Building Code Requirements Experienced by Architecture/Design Firms (N=12)

Proportion	Count	Percentage
0	1	8%
1-19	2	17%
20-39	3	25%
40-59	2	17%
60-79	1	8%
80-99	2	17%
100	1	8%
Mean Value	**47.3**	

EP3. About what percentage of your office building *projects* have specific energy efficiency goals or targets other than meeting the requirement of current building codes?

Almost all of the architecture/design firms (10 of 12) report that they provide integrated design services.

Table 48: Firm Provides Integrated Design Services (n=12)

Response	Count	Percentage
Yes	10	83%
No	1	8%
(Don't Know)	1	8%

EP7. Does your company provide integrated design services?

Over 90% of all firms interviewed say that they at least occasionally recommend energy assessments or benchmark studies; over half do so frequently.

Table 49: Frequency that Firm Recommends Clients Conduct an Energy Assessment or Benchmark Study for Building (n=75)

Frequency	Count	Percentage
Frequently	39	52%
Occasionally	30	40%
Never	6	8%

EP8. How often, if ever, does your company recommend that clients conduct an energy assessment or benchmarking study for their buildings? (IF NEEDED: like an energy audit, or energy monitoring)

4.2.5. Attitudes and Value of Energy Efficiency

Table 50 shows that the interviewed firms consider energy efficiency to be part of their market identity as well as, to a slightly lesser extent, sustainability. They say that about half of their clients seek this expertise. Unfortunately, they feel that their clients are not willing to pay more for energy efficiency.

Table 50: Firm and Client Attitude toward Energy Efficiency (n=75)

Statement	Mean Rating (Agreement)	Standard Deviation	Respondent Percentage (Ratings of 0-3)	Respondent Percentage (Ratings of 7-10)
Expertise in energy efficiency is part of my firm's market identity	7.3	2.5	10.7%	70.7%
Expertise in sustainability is part of my firm's market identity	6.8	2.7	13.3%	62.7%
Our office building clients seek expertise in Energy Efficiency	6.5	2.2	10.7%	52.0%
Our office building clients seek expertise in Sustainability	5.9	2.6	18.7%	48.0%
Our office building clients care more about being perceived as energy efficient, e.g., the public relations benefits, than actual efficiency levels	5.8	2.5	23.3%	46.6%
Our office building clients are willing to pay more for energy efficient designs or equipment	5.4	1.9	14.7%	28.0%

V1. I'm going to read a few statements. Please use a scale of 0 to 10, where 0 is "strongly disagree" and 10 is "strongly agree" to indicate how much you agree or disagree with each statement.

Table 51 tells a similar story: respondents experience clients placing a relatively high importance on energy efficiency, but Table 50 shows that they usually do not want to pay more for it.

Table 51: Importance of Energy Efficiency to Client (n=75)

Statement	Mean Rating (Importance)	Standard Deviation	Respondent Percentage (Ratings of 0-3)	Respondent Percentage (Ratings of 7-10)
Importance of Energy Efficiency to Office Building Clients	7.0	1.8	6.7%	65.3%
Importance of Sustainability to Office Building Clients	5.9	2.1	14.7%	40.0%

V2. On a scale of 0 to 10, where 0 is "Not at all important," and 10 is "Extremely important," how important do you think energy efficiency is to your office building clients?

V3. How important do you think sustainability is to your office building clients? [REPEAT SCALE IF NEEDED]

4.2.6. Barriers to Taking Action

Table 52 lists the barriers that respondents offered in an open-ended question asking them what the barriers to pursuing energy efficiency were. The results are not surprising: most (76%) cite cost, and 27 percent cite lack of cost effectiveness. About one quarter indicate a lack of knowledge or awareness is holding them back. Lack of financing is surprisingly low in mentions as a perceived barrier, as is split incentives.

Table 52: Barriers Faced in Pursuing Energy Efficiency (n=75)

Barriers to Energy Efficiency	Count of Responses	Percentage of Responses	Percentage of Respondents
First cost or cost generally	57	43.5%	76.0%
Not Cost Effective	20	15.3%	26.7%
Lack of Knowledge/Awareness	18	13.7%	24.0%
Building & Code Constraints	8	6.1%	10.7%
Performance Uncertainty	4	3.1%	5.3%
Competing Priorities	4	3.1%	5.3%
Lack of Availability	4	3.1%	5.3%
Coordinating Decision Makers	3	2.3%	4.0%
Split Incentives	1	.8%	1.3%
Lack of Financing	1	.8%	1.3%
No Barriers	2	1.5%	2.7%
Other	8	6.1%	10.7%
Don't Know	1	.8%	1.3%
Total	**131**	**100.0%**	**174.7%***

*This is a multiple response question, so answers will add up to more than 100 %.

BA1. There are many factors that might influence your firm's ability to recommend or provide energy efficient solutions for your clients. I'm interested in the barriers your firm faces in pursuing energy efficiency. What are some of the barriers your firm faces in this area?

4.2.7. Seeking Information about Energy Efficiency

Most (88%) of these firms have at least one employee responsible for actively seeking out information about various aspects of energy efficiency (see Table 53).

Table 53: Firm Seeking Information about New Technology and Practices

Employee Currently Present at Firm Responsible for:	Count	Percentage
Actively Searching Information About Energy Efficiency Products or Equipment	66	88%
Actively Searching Information About Energy Efficient Design Practices	61	81%
Actively Searching Information About Energy Efficient Operational Practices	55	73%

I1. Does anyone at your company actively search for information about energy efficient products or equipment?

I2. Does anyone at your company actively search for information on energy efficient *design practices*?

I3. Does anyone at your company actively search for information on energy efficient *operational* practices?

4.2.8. Energy Efficiency Training and Certifications

As indicated in Table 54, most of these firms participate in professional development and training in the area of energy efficiency (between 69 and 84%, depending on the type).

Table 54: Participate in Professional Development & Training (n=75)

Professional Development & Training Topics	Count of Responses	Percentage of Responses	Percentage of Respondents
Efficient Equipment and Products	62	31.6%	82.7%
Efficient Design Practices	63	32.1%	84.0%
Efficient Building Operations Practices	52	26.5%	69.3%
Other	19	9.7%	25.3%
Total	**196**	**100.0%**	**261.3%***

*This is a multiple response question, so answers will add up to more than 100 %.

K1. Does your company pursue professional development or training opportunities for employees on any of the following topics?

We asked respondents what format they preferred for professional development activities. They divided their responses approximately evenly among four formats: classroom-based training, instructor-led webinars, intensive workshops and self-directed online training.

Table 55: Preferred Professional Development Format (n=71)

Preferred Professional Development Format	Count of Responses	Percentage of Responses	Percentage of Respondents
Classroom-based Training	31	26.1%	43.7%
Instructor-led Webinar	29	24.4%	40.8%
Intensive Workshops	26	21.8%	36.6%
Self-directed Online Training	25	21.0%	35.2%
Presentation/Supplier Meeting	3	2.5%	4.2%
Mentorship/On-Job Training	2	1.7%	2.8%
Other	3	2.5%	4.2%
Total	**119**	**100.0%**	**167.6%***

* This is a multiple response question, so answers will add up to more than 100 %.

K2. What is your company's preferred format for professional development or training in energy efficiency or sustainability?

By a wide margin, the most frequent provider of education, training, and professional development has been the utilities at 60% (see Table 56

Table 56). The next most frequent provider, at 35%, is BOMA, and then AIA at 28%. The "Other" category accounts for a large percentage of respondents and responses, and a further breakout of that category is in Appendix E, though most are other professional or trade organizations.

Table 56: Education, Training, or Professional Development Program Offered (n=75)

Program Offered	Count	Percentage of Responses	Percentage of Respondents
An electric or gas utility	45	25.4%	60.0%
Building Owners and Managers Association (BOMA)	26	14.7%	34.7%
American Institute of Architects (AIA)	21	11.9%	28.0%
Northwest Energy Education Institute	18	10.2%	24.0%
Cascadia Green Building Council	15	8.5%	20.0%
International Facility Management Association (IFMA)	7	4.0%	9.3%
Other	45	25.4%	60.0%
Grand Total	**177**	**100.0%**	**236.0%***

* This is a multiple response question, so answers will add up to more than 100 %.

K3. Have your or your colleagues ever participated in an Education, Training or Professional Development program offered by the following organizations?

Fifty-six percent of the respondents report that at least one employee has a professional certification in energy efficiency or sustainability (see Table 204 in Appendix E). Of those, a large majority of companies (71%) has a LEED certification, and this is, by far, the most common type (see Table 57). Appendix E contains a longer list of certification types.

Table 57: Firm Employee with Energy Efficiency or Sustainability Certification (n=42)

Energy Efficiency or Sustainability Certification	Count of Responses	Percentage of Responses	Percentage of Respondents
LEED	30	47.6%	71%
Certified Energy Manager	15	23.8%	36%
Building Operator Certification	6	9.5%	14%
Other	12	19.0%	29%
Total	**63**	**100.0%**	**150.0%***

* This is a multiple response question, so answers will add up to more than 100 %.

K4a. Please tell me which certifications are held by any of your employees, beginning with ….

4.2.9. BetterBricks Awareness

The majority of service providers interviewed have heard of NEEA (60%), but fewer are aware of BetterBricks (41% of 31 respondents) (see Table 206 and Table 207 in Appendix E).

BetterBricks Awards is the best-known BetterBricks program among the service providers interviewed (35%, see Table 58).

Education and training programs as well as BetterBricks Integrated Design Lab Network were at 25 and 23% respectively, but almost two-thirds of those aware had participated in those programs. It is worth noting that this translates to about 16% of the service providers interviewed

having participated in the education and training programs. This leaves plenty of room for gains in this area. The other programs were much less well known, and only 33% of the High-Performance Portfolio had any participants.

Table 58: Respondent Awareness & Utilization of BetterBricks Programs

BetterBricks Program	Aware Count	Percentage Aware (n=75)	Participated Count	Percentage Participated
BetterBricks Awards	26	35%	N/A	
Education & Training Programs	19	25%	12	63%
BetterBricks Integrated Design Lab Network	17	23%	11	65%
Kilowatt Crackdown	9	12%	N/A	
Carbon4Square	9	12%	N/A	
High-Performance Portfolio	9	12%	3	33%

N4. Have you heard of the following offerings?

N6. Have you or your colleagues ever …

We asked the 31 respondents who had heard about BetterBricks which resources of the program they had used. By far, the most used resource was the website at about 94% (see Table 59), followed by reading case studies (77%), and accessing resources about benchmarking (65%). The three least-used resources, and therefore, the area with the most potential for increases, are resources for conducting a scoping study, the Green Opportunity Index, and the Symptoms Diagnosis Tool.

Table 59: Respondent Utilization of BetterBricks Resources (n=31)

BetterBricks Tools & Resources	Count	Percentage
Viewed Website	29	93.5%
Read Case Studies	24	77.4%
Accessed Resources about Benchmarking	20	64.5%
Accessed Resources about Building Tune-Ups	15	48.4%
Read Operations & Management Best Practices	14	45.2%
Accessed the Performance Modeling & Energy Engineering Document	9	29.0%
Accessed Resources about Conducting a Scoping Study	8	25.8%
Read the Green Opportunity Index	6	19.4%
Utilized the Symptoms Diagnosis Tool	5	16.1%

N5. I'm going to read a list of BetterBricks tools and resources. After I read each one, please tell me if you have used the tool or resource before. Have you ….

4.3. Comparisons of Owners and Service Providers on Applicable Questions

We asked some questions of both owners and service providers. These included two attitude questions and questions about awareness of NEEA, BetterBricks, specific BetterBricks Programs, and what Better Bricks tools each respondent (or his/her company) had accessed. Below are the tables that show the results of those comparisons, along with tests of the statistical significance of differences between the two groups. We tested the data at the 90% confidence level (although almost all significant differences were significant at the 95% level. We include the p-value in the supporting table when there is a statistically significant difference between the findings. We indicate with "ns" in the supporting table when there is no statistically significant difference between the findings.

4.3.1. Attitudes

Table 60 shows that most of owners (85%) place high importance on improving energy efficiency but only 57% of the service providers believe that energy efficiency is important to their office building clients. This indicates that the owners think of themselves as more concerned with energy efficiency than their service providers perceive them to be.

Table 61 shows the same pattern on sustainability, and reinforces the finding that both groups place more importance on energy efficiency than on sustainability.

Table 60: Importance of Improving Energy Efficiency

Response	Owners (n=100)		Service Providers (n=75)		
	Count	Percentage	Count	Percentage	P-Value
0 – Not at all Important	0	0	0	0	
1	0	0	0	0	
2	0	0	0	0	
3	2	2%	5	6%	
4	4	4%	1	1%	
5	3	3%	8	9%	
6	5	5%	12	14%	
7	12	12%	13	15%	
8	28	28%	24	28%	
9	13	13%	6	7%	
10 - Extremely Important	32	32%	6	7%	
(Don't know)	1	1%			
Percent 7–10		**85%**		**57%**	**0.001**

Owner Survey:

V2. On a scale of 0 to 10, where 0 is "Not at all important," and 10 is "Extremely important," how important are the following when managing the operations of this property? How important is…. [ROTATE] a. Improving energy efficiency b. Improving sustainability

Service Provider Survey:

V2. On a scale of 0 to 10, where 0 is "Not at all important," and 10 is "Extremely important," how important do you think energy efficiency is to your office building clients?

Table 61: Importance of Improving Sustainability

Response	Owners (n=100)		Service Providers (n=75)		
	Count	Percentage	Count	Percentage	P-Value
0 - Not at all Important	2	2%	0	0%	
2	1	1%	4	5%	
3	2	2%	7	8%	
4	4	4%	7	8%	
5	15	15%	12	14%	
6	14	14%	15	18%	
7	11	11%	13	16%	
8	20	20%	9	11%	
9	10	10%	4	5%	
10 - Extremely Important	21	21%	4	5%	
Percent 7–10		**62%**		**36%**	**0.002**

Owner Survey:

V2. On a scale of 0 to 10, where 0 is "Not at all important," and 10 is "Extremely important," how important are the following when managing the operations of this property? How important is…. [ROTATE] a. Improving energy efficiency b. Improving sustainability

Service Provider Survey:

V2. On a scale of o to 10, where 0 is "Not at all important," and 10 is "Extremely important," how important do you think energy efficiency is to your office building clients?

V3. How important do you think sustainability is to your office building clients? [REPEAT SCALE IF NEEDED]

4.3.2. NEEA and BetterBricks Awareness

Over half of both groups had heard of NEEA before the day of the interview, but there was no statistical difference between them in this awareness (see Table 62). Awareness of BetterBricks was lower for both and not statistically difference from each other (see Table 63).

Table 62: Respondent Heard of Northwest Energy Efficiency Allicance Before Today

Response	Owners (n=100)		Service Providers (n=75)		
	Count	Percentage	Count	Percentage	P-Value
Yes	53	53%	45	60%	ns*
No	46	46%	30	40%	
(Don't Know)	1	1%	0	0%	

For both surveys:

N1. Before today, had you heard of the Northwest Energy Efficiency Alliance?

*ns = not significant

Table 63: Respondent Heard of BetterBricks Before Today

Response	Owners (n=100)		Service Providers (n=75)		
	Count	Percentage	Count	Percentage	P-Value
Yes	49	49%	31	41%	ns
No	51	51%	44	59%	

For both surveys:

N2. Have you heard of BetterBricks?

Table 64 summarizes the source of awareness of BetterBricks. The categories in bold were pre-coded categories; the "Other" responses were coded into the remaining categories. Service providers were considerably more likely than owners to have heard about BetterBricks from its website and from classes. Owners were much more likely to have heard of BetterBricks from a trade or professional organization than any other source (though the difference from service providers' awareness was non-significant). It may be that professional and trade organizations are the best information channel for owners and service providers (but especially owners) and that classes and other media may be the best way to reach service providers.

Table 64: How First Heard about BetterBricks

Response	Owners (n=49)		Service Providers (n=31)		
	Count	Percentage	Count	Percentage	P-Value
BetterBricks website	**1**	**2%**	**4**	**13%**	0.024
Word of mouth	**3**	**6%**	**1**	**3%**	ns
NEEA website	**1**	**2%**	**1**	**3%**	ns
Other:					
In a class	2	4%	7	23%	0.005
Trade or Professional Organization	13	27%	5	16%	ns
Media-Other	2	4%	5	16%	0.031
NEEA or Better Bricks-Other	3	6%	4	13%	ns
Utility	2	4%	3	10%	ns
Other	7	14%	1	3%	ns
Online-Other (incl. email)	6	12%	0	0%	0.023
(Don't know)	**6**	**12%**	**0**	**0%**	0.023
Rating Agency	3	6%	0	0%	ns

For both surveys:

N3. How did you FIRST hear about BetterBricks?

We asked those who indicated knowing about BetterBricks about their awareness of four specific programs. The owners were statistically significantly more aware of Carbon4Square, High-

Performance Portfolio Framework, and Education and Training programs. On the other hand, service providers were more aware of Kilowatt Crackdown (see Table 65).

Table 65: Better Bricks Programs Respondents Have Heard Of

Better Bricks Program*	Owners (n=49)		Service Providers (n=31)		
	Count Yes	Percentage	Count Yes	Percentage	P-Value
Education & Training Programs	32	65%	19	25%	<0.001
Carbon4Square	18	37%	9	12%	<0.001
High-Performance Portfolio Framework	14	29%	9	12%	0.009
Kilowatt Crackdown	2	4%	5	16%	0.031

Note: The Better Bricks Awards program and Integrated Design Lab Network were not included in the program list in the owner questionnaire

For both surveys:

N4. Have you heard of any of the following offerings?

A very different pattern emerged in terms of tools and resources actually accessed from BetterBricks (see Table 66). For every resource where there was a statistically significant difference, service providers had more often used the resources.

Table 66: Better Bricks Resources Respondents Have Accessed

Better Bricks Program*	Owners (n=49)		Service Providers (n=31)		
	Count Yes	Percentage	Count Yes	Percentage	P-Value
Benchmarking	21	43%	20	65%	0.027
Conducting a Scoping Study	14	29%	8	26%	ns
Building Tune-Ups	15	31%	15	48%	ns
Green Opportunity Index	3	6%	6	19%	0.035
Case Studies	17	35%	24	77%	<0.001
Read Operations & Management Best Practices	15	31%	14	45%	ns

Note: Some programs were not included in the program list in the owners or service provider questionnaire.

N6 (for the Owner Survey) and N5 (for the Service Provider Survey). I'm going to read a list of BetterBricks tools and resources. After I read each one, please tell me if you have used the tool or resource before. Have you ….

5. Conclusions and Recommendations

5.1. Conclusions

5.1.1. Owners

- Most owners rate the importance of energy efficiency very highly (at least 7 on a 0–10 scale), but fewer owners rate sustainability so highly. Very few respondents gave either idea a low rating (0–3).
- The main reasons owners are concerned with energy efficiency are profitability and attractiveness to tenants. Respondents do *not* think that energy efficiency influences investors or financiers.
- About 2/3 of respondents consider themselves knowledgeable about how they can save energy and improve sustainability in their buildings.
- About half of the owners had made capital improvements in the last two years, and those improvements were largely on HVAC systems and lighting. Most owners initiated these improvements when equipment broke down. They stated multiple motivations, with the motivation that was common to almost all projects was saving the owner money. Thus, saving money on energy is the most direct path to convincing owners to do energy efficiency upgrades, but NEEA may combine this with other possible areas of concern to sell the idea.
- A little less than half of the respondents said they had had a study done in the last two years to see how they might save energy, usually via an energy audit. Of that majority of owners who had *not* had a study done, over a third was not aware that they could do so. There is room to increase building owner awareness of energy studies and their benefits.
- Less than 20% of respondents indicated that budgets and completion dates accompanied their energy-saving targets. Almost a third of respondents said that they had allocated budget either to achieve energy reduction or efficiency improvements. The average budget for these improvements was 11.5% of the operating budget. There is room to increase the portion of the market that regularly allocates budget for these purposes.
- Over half of the owners said that they had adopted operational practices to increase energy efficiency.
- Only about half of building owners interviewed were aware of NEEA or BetterBricks. The most common method of becoming aware of them is through professional or trade organizations. There is still a way to go before all owners are aware, and other communication methods might be necessary to get there.

- The highest barrier to taking energy efficiency actions, according to building owners is the split incentives barrier. Owners believe that tenants are unwilling to pay for energy efficiency upgrades, but they are the ones who will benefit the most from them. Very few owners think that existing lease structures of financial agreements are barriers to energy efficiency actions.
- About half of the building owners said that there is someone in the organization specifically tasked with reducing energy use. When there is such a person, it is usually the property manager or the facility engineer/manager. In these cases, the responsible person is also responsible for hiring/contracting with designers or contractors to complete the work. If there is no person responsible for saving energy, a corporate officer, but usually not the owner or CEO, is generally responsible for such hiring. NEEA should be aware that about half the time when they approach someone responsible for these office buildings, they would be talking to someone with broad responsibilities. This may be an opportunity for NEEA to promote creating a position of responsibility for energy use reduction.
- None of the companies interviewed show all of the elements of SEM. The incidence of having an annual budget for energy efficiency improvements (14%) and goal setting (24%) are particularly low.

5.1.2. Service Providers

- A large majority of service providers interviewed are local businesses with only one office in the four-state Pacific Northwest. The work that they have performed in the last two years has been primarily on existing buildings, which is not surprising given the economic conditions of this period.
- Almost all architectural/design firms find that at least occasionally their clients ask for greater energy efficiency than is required by code. Almost half experience this from their clients frequently, and they say that almost half of their clients' projects have specified energy goals or targets that exceed the code requirements.
- Most architectural/design firms in NEEA's territory provide integrated design services.
- Almost all architectural/design firms at least occasionally recommend energy assessments or benchmarking studies, and over half do so frequently.
- Over 2/3 of the service providers interviewed consider energy efficiency as part of the firm's market identity. Half experience their clients as seeking this expertise, though they believe that few of their clients want to pay for energy efficiency.
- From the service providers' perspective, the main barriers to energy efficiency are cost and perceived lack of cost effectiveness. Lack of knowledge or awareness is also a factor, but very low on the list of barriers is lack of financing or split incentives.

- Most service providers participate in professional development and training in the area of energy efficiency. Their preferences for the format of this training are nearly evenly divided into classroom-based training, instructor-led webinars, intensive workshops, and self-directed online training. They have received most of this training from utilities. A distant second is the BOMA and AIA organizations. Over 2/3 of the firms have LEED certification.
- The majority of service providers interviewed have heard of NEEA, but fewer are aware of BetterBricks. They are most aware of BetterBricks Awards, though none has participated in that program. About a quarter are aware of the BetterBricks education and training programs, and its integrated design lab network, but almost 2/3 of those aware of them have actually participated. Of those aware, almost all have visited the website. There is considerable opportunity to increase awareness of the BetterBricks programs and resources.

5.2. Recommendations for Program Design and Implementation

The recommendations based on this study's findings fall into two categories: Awareness/Knowledge and Motivation for energy efficiency and sustainability.

5.2.1. Awareness and Knowledge

- Educational campaigns could be undertaken to address certain areas of energy efficiency knowledge that owners lack:
  - The existence and benefits of energy audits and benchmarking
  - The benefits of setting energy goals and regularly allocating budget to achieving them
  - The existence of NEEA and BetterBricks, and the resources they offer
  - The benefit of identifying a person or position in the company that is responsible for energy use, management, and reduction.
- Financiers could be a source of knowledge and motivation to pursue energy-efficient versions of projects that owners undertake, but this would take an educational effort from NEEA, as owners do not consider financiers interested in energy savings.
- Most service providers interviewed participate in professional development and training in energy efficiency, and they most frequently get this training from utilities. They prefer classroom, instructor-led webinars, and intensive workshops for this training. These venues represent an opportunity for NEEA to influence what they learn. NEEA can also reach them through BOMA and AIA.

- While a majority of interviewed service providers had heard of NEEA (and fewer of BetterBricks) there are still many who are not aware. An educational campaign to make more service providers aware of NEEA and BetterBricks could improve this situation.

5.2.2. Motivation

- Saving money and profitability will remain a critical piece of decision making by owners when undertaking energy-related projects, but they are interested in energy efficiency in particular, and sustainability to a lesser extent. NEEA may want to consider these factors in combination with profitability as a selling point for taking the energy-efficient path.
- The split incentives barrier is an important one. Linking attractiveness to tenants (and therefore profitability) with energy efficiency could be effective in dealing with this barrier.
- Almost all architecture/design firms recommend design and products with greater efficiency than the local code requires at least occasionally, but less than half do so frequently. Similarly, most service providers of all types interviewed recommend audits and benchmarking studies at least occasionally, but only half do so frequently. Since a very strong majority of firms interviewed considers energy efficiency as part of their market identity, NEEA may be able to persuade them to increase the frequency of making these recommendations. This could be an additional channel of communication and motivation between NEEA and building owners.

5.3. Recommendations for Future Research

This study has yielded several lessons that NEEA should consider when developing plans for similar research in the future.

- Matching independently derived listings of commercial buildings is challenging. The term "building" is ill defined and each listing source will have its own definition, e.g., CBSA and CoStar. Even if defined identically, buildings may have more than one street address, so different listing sources may not use the same address. In addition, few if any listing sources use standardized addresses or even addresses that are good enough that they can be standardized, so machine matching will often fail and even manual matching will be thwarted.
- It is difficult to obtain good contact information for owners of commercial buildings. None of the listing sources used in this study had sufficiently good information. We had to make hundreds of pre-screening calls in order to identify the name and telephone number for the owners or a person that is close enough to the owner organizationally that they can accurately represent owner attitudes. Owners have little reason to make themselves easy to identify and various gatekeepers may thwart even pre-calling to their places of work. However, pre-

calling is the only way to obtain sufficiently good contact information for use by a survey lab.

- Unless they have received significant recent services from NEEA initiatives, it will be hard to get owners or their immediate representatives to cooperate. Incentives are useful, but still response rate will be low. This is particularly important if NEEA initiatives focus on narrowly defined markets that a relatively small population of building owners.
- Small building lists, such as those that have participated in a building assessment survey like CBSA, may be attractive because they link to other critical data, e.g., detailed information on buildings systems and equipment. However, given the low response rate from owners, they may not be large enough lists to support the desired survey completion quotas.
- It may be highly desirable to link information from service providers to the properties of building owners that utilize their services. However, response rates are likely to be low for service providers, just as it is from building owners. The number of referrals obtained from owners will likely not be sufficient to support the desired completion quota for service provider surveys.

Appendix A: Owner Survey Instrument

This appendix contains the survey instrument administered to owners.

Northwest Energy Efficiency Alliance
Existing Building Renewal (EBR)
Commercial Market Baseline Survey

This survey is designed to develop a baseline of energy efficiency practices and market characteristics for NEEA's Existing Building Renewal target market. This survey will be conducted among owners and operators of existing office buildings greater than 20,000 square feet in the Pacific Northwest.

Note to Reviewer: Response categories without parentheses will be read aloud to responses; response categories in parentheses are pre-coded responses to open-ended responses – respondents will not be prompted with these potential responses. Response categories may be alpha or numeric, depending on how question will be programmed and read to respondents.

CONTENTS

IN. INTRODUCTION AND CONTACT SCREENER

INTRO. Hello, my name is [INTERVIEWER NAME] and I'm calling from Opinion Dynamics on behalf of the Northwest Energy Efficiency Alliance. May I please speak with [CONTACT NAME]?

(IF PERSON NOT FOUND/NO LONGER EMPLOYEE:
I'm looking for the person responsible for major capital planning and operational policies for the building at <SADDR> in <CITYST>. NEEA visited this building as part of a research effort in 2007, and we're contacting all of the buildings in this research study to learn about energy efficiency investments they may have made since then.
As a show of appreciation, we can send a check for $50 or donate $50 to the American Red Cross for completing our fifteen-minute interview. May I please speak with the person responsible for major capital planning at this building?)

READ WHEN CONTACT FOUND:
The Northwest Energy Efficiency Alliance visited the building at <SADDR> in <CITY> as part of a research effort in 2007, and we're contacting all of the buildings in this research study to learn about energy efficiency investments they may have made since then. This survey should take about 15 minutes and your responses are completely confidential. As a show of appreciation, we can send a check for $50 or donate $50 to the American Red Cross for completing our interview.

F. FACILITY OCCUPANCY

F0. Is your company the owner or partial owner of this property, <FACILITY> in <CITYST>?
01. Yes
02. No
98. (Don't Know)
99. (Refused)

Generate SUBJECT="your company" if F0=1; SUBJECT="the owner of the property" if SUBJECT<>1

[ASK IF F0<>1]
F0a. What role does your company play in managing or operating this company?
01. Property management
02. Owner's agent
00. Other (specify)
98. (Don't Know)
99. Refused)

F1. What proportion of the space at this facility does <SUBJECT> occupy? (IF NEEDED: Please give me your best estimate)
00. [NUMERIC OPEN END; 0-100]
998. (Don't know)

999. (Refused)

[SKIP IF F1=100]

F2. [IF F1<>0, Read: "Including <SUBJECT>,"] how many tenants currently occupy this building?

00. [NUMERIC OPEN END – up to three digits]
998. (Don't know)
999. (Refused)

[ASK IF F1<>100]

F3. What is the occupancy status of the building?

1. Fully leased
2. Partially leased
3. Vacant
98 (Don't know)
99 (Refused)

L. LANGUAGE

TL. My next set of questions includes some questions that use the term "energy efficiency" and some that use the term "sustainability." For the purposes of this survey I am going to use the term "energy efficiency" to refer to the concept of using less energy for a given service, like cooling or lighting.

I am going to use the term "sustainability" to refer to the concept of "meeting the needs of the present without compromising the ability of future generations to meet their needs." The concept of "sustainability" may include energy efficiency, but could also include things like using green building materials.

V. ATTITUDES AND VALUE OF ENERGY EFFICIENCY

[ASK ALL RESPONDENTS]

V1. On a scale of 0 to 10, where 0 is "Not at all Efficient," and 10 is "Extremely Efficient," how energy efficient is this property?

Not At All Efficient	Extremely Efficient	DK	Ref.
0	10	98	99

V2. On a scale of 0 to 10, where 0 is "Not at all Important," and 10 is "Extremely Important," how important are the following when managing the operations of this property? How important is… [ROTATE]

Not At All Important	Extremely Important	DK	Ref.
0	10	98	99

a. Reducing your energy costs
b. Improving energy efficiency
c. Improving sustainability

V3. On a scale of 0 to 10, where 0 is "Not at all," and 10 is "Very much," how much do you think this building's energy efficiency influences the following? [ROTATE]

Not At All	Very much	DK	Ref.
0	10	98	99

a. Attractiveness to prospective tenants
b. Profitability
c. Asset value
d. Attractiveness to buyers/investors
e. Financing terms (e.g., refinancing; better interest rate)
f. The decision making of your financial backers.

AK. Energy Efficiency Awareness and Knowledge

AK1. On a scale of 0 to 10, where 0 is "Not at all knowledgeable," and 10 is "Extremely knowledgeable," how would you rate your knowledge of specific actions your company can take to save energy at this property?

Not At All Knowledgeable	Extremely Knowledgeable	DK	Ref.
0	10	98	99

AK1s. On the same scale, how would you rate your knowledge of actions to improve sustainability at this property?

Not At All Knowledgeable	Extremely Knowledgeable	DK	Ref.
0	10	98	99

P. Energy Efficiency during Purchase Process

P1. Did <SUBJECT> purchase this property…
1. Within the last two years, or
2. More than two years ago? (NOTE: If respondent says "about two years ago", record as "within the last two years") [SKIP TO SECTION FR]
8. (Don't Know) [SKIP TO SECTION FR]
9. (Refused) [SKIP TO SECTION FR]

[ASK IF P1=1]

P2. Was the property's energy efficiency a factor in <SUBJECT>'s decision to purchase the property?

1. (Yes)
2. (No)
8. (Don't know)
9. (Refused)

P2s. Was the property's sustainability a factor in <SUBJECT>'s decision to purchase the property?

1. (Yes)
2. (No)
8. (Don't know)
9. (Refused)

P3. To the best of your knowledge, did the energy efficiency of this property affect the financial backer's decision to lend or invest in this property? (IF NEEDED: In other words, did this property's energy efficiency level – whether it was high or low – factor into financial backer's decision to back the purchase of this property?)

1. (Yes)
2. (No)
8. (Don't know)
9. (Refused)

P3s. Did the *sustainability* of this property affect the financial backer's decision to lend or invest in this property?

1. (Yes)
2. (No)
8. (Don't Know)
9. (Refused)

FR. Energy Efficiency for Financing or Re-Financing

FR1. Has this property been refinanced in the last two years?

1. (Yes)
2. (No)
8. (Don't Know)
9. (Refused)

[ASK IF FR1=1]

FR2. To the best of your knowledge, did the energy efficiency of this property affect the financial backer's decision to refinance the property?

1. (Yes)
2. (No)
8. (Don't Know)
9. (Refused)

[ASK IF FR1=1]

FR2s. Did the *sustainability* of this property affect the financial backer's decision to refinance

the property?
1. (Yes)
2. (No)
8. (Don't Know)
9. (Refused)

CI. Capital Improvements and Equipment Changes

[ASK IF P1=1]

C1. Were any major capital improvements made as part of the building purchase?
1. (Yes)
2. (No)
8. (Don't know)
9. (Refused)

[ASK ALL]

C2. Have there been any major capital improvements at this facility in the last two years, which could include replacing lighting, heating or cooling equipment? (IF NEEDED: For example, antiquated heating and cooling systems) [IF C1=1, preface with, "in addition to improvements made at the time of purchase"]
1. (Yes)
2. (No)
8. (Don't Know)
9. (Refused)

[ASK IF C1=1 OR C2=1]

C3. What building systems were the focus of these capital improvements? (IF needed: for example, building envelope, interior structure or materials, façade update, HVAC) [OPEN END; MULTIPLE RESPONSE - prompt for 1-3 largest replacements]
1. (Heating, Ventilation or Air Conditioning)
2. (Building Envelope – e.g., insulation, air sealing, roof, fenestration)
3. (Lighting)
4. (Water/Hot water)
5. (Interior structure/walls)
6. (Façade update)
7. (Site work / Landscaping)
00. (Other – Specify)
98. (Don't Know)
99. (Refused)

U. Energy Efficiency's Role in Capital Improvements

[ASK SECTION IF C1=1 OR C2=1]

U1. I'm interested in <SUBJECT>'s motivation for making these capital improvements. I'm going to read a list of factors that could have motivated <SUBJECT> to make improvements. After I read each one, please tell me if it was a motivating factor. [ROTATE; [1=YES, 2=NO, 96=Not Applicable, 98=Don't Know, 99=Refused]

a. Market positioning [IF NEEDED: to attract or retain tenants]
b. Tenant improvements [IF NEEDED: as part of contract/lease agreement, or requested]
c. Equipment breakdown or maintenance schedule
d. Increase energy efficiency
e. Increase sustainability
f. Advantageous financing or re-financing terms
g. Any other factors? (Specify) [ANCHOR]

U2. Of the factors we've just discussed, what was <SUBJECT>'s primary motivation for making capital improvements?
1. (Market positioning) [For example, to attract or retain tenants]
2. (Tenant improvements – contracted or requested)
3. (Equipment breakdown or maintenance schedule)
4. (Increase energy efficiency)
5. (Increase sustainability) [For example, construction or interior materials]
6. (Advantageous financing or re-financing terms)
7. ([IF U1g=1, READ IN RESPONSE HERE])
8. (Don't know)
9. (Refused)

[IF U1=4 OR U2=4]

U3. You said that one of <SUBJECT>'s motivations for improvements was to increase the energy efficiency of the property. I'm going to read some objectives companies may have for increasing energy efficiency. After I read each one, please tell me if it was an objective for the capital improvements you mentioned. [ROTATE] [1=YES, 2=NO, 96=Not Applicable, 98=Don't Know, 99=Refused]
a. Decreasing expenses for owners
b. Decreasing expenses for tenants
c. Achieving energy efficiency or sustainability certification
d. Using less energy for environmental reasons
e. Increasing comfort
f. [SKIP IF F1=100] Satisfying tenant requests or concerns
g. Increasing value of the property
h. Satisfying financial backers' requests or concerns
i. [ANCHOR] (Other – specify)

[IF U3c=1]

U4. What energy efficiency or sustainability certification was <SUBJECT> applying for? [MULTIPLE RESPONSE]
1. (LEED)
2. (Energy Star)
3. (ASHRAE (pronounced "ASH-RAY"))
4. (Other – specify)
98. (Don't Know)
99. (Refused)

B. Recent Energy Efficiency Behaviors

[ASK ALL]

B1. In the past two years, has this property undergone any studies to identify ways to reduce building energy use? (IF NEEDED: For example, an energy audit, monitoring or benchmarking study to assess energy use)

1. (Yes)
2. (No)
8. (Don't know)
9. (Refused)

[IF B1=1]

B1a. What term best characterizes the most recent study conducted at this property? Would you call it an…[ROTATE; multiple response]

1. Energy Audit or Assessment
2. Energy monitoring,
3. Benchmarking study, or
00. Something else? (Specify)
98. (Don't know)
99. (Refused)

[ASK IF B1=2,8,9]

B2. Are you aware of any assessment, monitoring or benchmarking opportunities through which your company could identify ways to reduce building energy use?

1. (Yes)
2. (No)
8. (Don't know)
9. (Refused)

[ASK IF B1a<>2]

B3. Are you aware of any energy monitoring or demand management systems or software this property could use to track or improve its energy consumption?

1. (Yes)
2. (No)
8. (Don't know)
9. (Refused)

PP. Energy Efficiency Plans and Policies

[ASK ALL]

PP1. Does <SUBJECT> have any energy efficiency policies at this facility?

1. (Yes)
2. (No)
8. (Don't know)
9. (Refused)

PP2. Has <SUBJECT> set any energy reduction goals or efficiency requirements at this facility?
1. (Yes)
2. (No)
8. (Don't know)
9. (Refused)

[ASK IF (C1=1 OR C2=1) & PP2==1]
PP2a. Did <SUBJECT> establish these goals or requirements as part of the capital improvements we discussed earlier?
1. (Yes)
2. (No)
8. (Don't know)
9. (Refused)

[ASK IF PP2=1]
PP3. I have some questions about the energy reduction goals for this facility. [ROTATE; 1=Yes, 2=No, 98=Don't Know, 99=Refused]
a. Do the goals specify numeric targets for energy savings?
b. Do the goals include a completion date?
c. Do the goals include a budget?
d. Are the goals authorized by senior management?

[ASK IF PP2=1]
PP4. Can you provide an example of energy reduction or efficiency goals for this facility?
[OPEN RESPONSE, No, DK, REF]

[ASK ALL]
PP5. Has <SUBJECT> adopted any operational practices to increase energy efficiency at this facility?
1. (Yes)
2. (No)
8. (Don't know)
9. (Refused)

[ASK IF PP5=1]
PP6. Can you provide an example of these operational practices?
[OPEN RESPONSE, No, DK, REF]

[ASK IF PP3c<>1]
PP7. Does <SUBJECT> have an annual budget for implementing energy efficiency improvements at this facility?
1. Yes
2. No
8. (Don't know)
9. (Refused)

[ASK IF PP7=1 OR PP3c=1]
PP8. What proportion of this facility's annual operating budget is used for implementing energy efficiency improvements? (IF NEEDED: "Your best guess is fine")

00. (NUMERIC OPEN END)
00. (None; we don't have one)
98. (Don't know)
99. (Refused)

N. BETTERBRICKS AWARENESS

N1. Before today, had you heard of the Northwest Energy Efficiency Alliance?

1. (Yes)
2. (No)
98. (Don't know)
99. (Refused)

N2. Have you heard of BetterBricks?

1. (Yes)
2. (No) [SKIP TO NEXT SECTION]
98. (Don't know) [SKIP TO NEXT SECTION]
99. (Refused) [SKIP TO NEXT SECTION]

[ASK IF N2=1]
N3. How did you FIRST hear about BetterBricks? (IF RESPONDENT SAYS "INTERNET" probe for whether it was through search or another website, and record website name)

1. (NEEA website)
2. (BetterBricks website)
3. (Search or online advertising)
4. (Word of mouth)
5. (Vendor)
00. (Other, specify)
98. (Don't know)
99. (Refused)

[ASK IF N2=1]
N4. Have you heard of any of the following BetterBricks offerings? [ROTATE; 1=Yes 2=No 98=Don't Know 99=Refused] Have you heard of…

a. Kilowatt Crackdown?
b. Carbon4Square?
c. the High-Performance Portfolio Framework?
d. BetterBricks Education & Training Programs?
e. [ANCHOR] Any other BetterBricks offerings? (SPECIFY)

[ASK IF ANY N4a-e=1 OR ASK IF N3<>2]

N5. Have you ever… [1=Yes 2=No 98=Don't Know 99=Refused; ROTATE]

a. [ASK IF N4a=1] Participated in the Kilowatt Crackdown?
b. [ASK IF N4b=1] Participated in Carbon4Square?
c. [ASK IF N4c=1] Used the BetterBricks High-Performance Portfolio Framework?
d. [ASK IF N4d=1] Participated in a BetterBricks Education or Training program?
e. [ASK IF N3<>2] Visited the BetterBricks website?

[ASK IF N2=1]

N6. I'm going to read a list of BetterBricks tools and resources. After I read each one, please tell me if you have used the tool or resource before. Have you… [ROTATE; 1=Yes 2=No 98=Don't Know 99=Refused]

a. Accessed resources about Benchmarking?
b. Accessed resources about conducting a scoping study?
c. Accessed resources about Building Tune-Ups?
d. Read the Green Opportunity Index?
e. Read Case Studies?
f. Read Operations & Management Best Practices?
g. Used the Symptom Diagnosis Tool?

BA. Barriers to Taking Action

BA1. I am going to read a list of statements that may apply to this property. Using a scale from 0 to 10 where 0 is 'Strongly Disagree' and 10 is 'Strongly Agree,' please indicate your level of agreement with the following statements. (IF NEEDED: If the statement does not apply to this property, please tell me "not applicable")

0	10	96	98	99
Strongly disagree	Strongly agree	NA	DK	Ref

[Randomize List]

a. It's hard to figure out what energy efficient equipment to buy
b. < SUBJECT> does not have enough capital to install high-efficiency equipment
c. Existing financial agreements make it difficult to invest in energy efficiency at this property
d. The lease structure of this property makes it difficult to invest in energy efficiency
e. Tenants reap most of the benefits of energy efficiency
f. Tenants are willing to pay higher rent for an energy efficient building
g. Tenants are willing to pay higher rent for a sustainable building
i. [IF F0=1] It is difficult to get approval for energy efficiency improvements from financial backers
j. [IF F0<>1] It is difficult to get external approval for energy efficiency improvements

BA2. While planning for capital improvements at this property, have you ever calculated or seen estimates for how much energy the improvements could save?

1. (Yes)

2. (No)
8. (Don't know)
9. (Refused)

BA2a. [IF BA2=1] On a scale of 0 to 10 where 0 is "Highly Inaccurate" and 10 is "Highly Accurate," how accurate do you think these savings estimates are?

0		10	96	98	99
Highly inaccurate		Highly Accurate	NA	DK	Ref

H. Hiring Responsibilities

H1. Is there anyone at your company (yourself included) whose job responsibilities include identifying ways to reduce building energy use? (IF NEEDED: it does not have to be their primary job responsibility)

1. (Yes)
2. (No)
8. (Don't know)
9. (Refused)

[ASK IF H1=1]

H2. What is the job title of this individual?

00. [OPEN RESPONSE]
98. [Don't Know]
99. [Refused]

[ASK IF H1=1]

H3. Is this individual responsible for hiring designers or contractors to perform work at this facility? (IF NEEDED: for example, hiring decisions about design, engineering, mechanical, lighting or general contracting services at this facility)

1. (Yes)
2. (No)
8. (Don't know)
9. (Refused)

[ASK IF H1<>1]

H4. What is the title of the individual who is responsible for hiring designers or contractors to perform work at this facility? (IF NEEDED: for example, hiring decisions about design, engineering, mechanical, lighting or general contracting services at this facility)

00. [OPEN RESPONSE]
98. [Don't Know]
99. [Refused]

VC. Contact Information for Vendors and Service Providers

TVC. We are conducting a similar survey with commercial real estate contractors, service providers and vendors to understand their energy efficiency and sustainability practices.

I'd like to know which businesses <SUBJECT> has used most recently for architecture and design work, as well as contracting and maintenance services. Participation would be voluntary if we contact any of the firms you name, and all of their responses would remain confidential and in no way connected with your responses.

[FOR EACH QUESTION, please mark 96-N/A, 98-DK or 99-REFUSED as needed]
[FOR EACH QUESTION, 77=Hard refusal to provide any contact information for any vendors]
[SKIP TO X1 when any VC1-7=77]

VC1. Could you please tell me the name of the architect or designer of your company's most recent renovation project? (IF NEEDED: If the facility we've been discussing has been recently renovated, please tell me that firm; if not, please tell me the name of the firm your company uses to for renovation design at other commercial buildings)

a. Firm Name? [OPEN END]
b. City and State? [OPEN END]
c. Who is the best person to contact? [OPEN END; FIRST AND LAST NAME]

[IF NO RESPONSE TO VC1, ASK VC2]
VC2. Could you please name the general contractor of your company's most recent renovation project? (IF NEEDED: If the facility we've been discussing has been recently renovated, please tell me that firm; if not, please tell me the name of the firm your company uses to for renovation design at other commercial buildings)

a. Firm Name? [OPEN END]
b. City and State? [OPEN END]
c. Who is the best person to contact? [OPEN END; FIRST AND LAST NAME]

VC3. Could you please name the company responsible for mechanical work at this facility? (IF NONE FOR FACILITY, say, "How about mechanical service providers at other commercial facilities owned by your company?") (IF NEEDED: For example, HVAC?]

a. Firm Name? [OPEN END]
b. City and State? [OPEN END]
c. Who is the best person to contact? [OPEN END; FIRST AND LAST NAME]

VC4. Could you please name the company responsible for lighting work at this facility? (IF NONE FOR FACILITY, say, "How about mechanical service providers at other commercial facilities owned by your company?")

a. Firm Name? [OPEN END]
b. City and State? [OPEN END]
c. Who is the best person to contact? [OPEN END; FIRST AND LAST NAME]

VC5. Could you please name the company responsible for maintenance at this facility? (IF NONE FOR FACILITY, say, "How about mechanical service providers at other commercial facilities owned by your company?")

a. Firm Name [OPEN END]
b. City and State [OPEN END]
c. Who is the best person to contact? [OPEN END; FIRST AND LAST NAME]

VC6. Could you please name the company responsible for controls at this facility? (IF NONE FOR FACILITY, say, "How about mechanical service providers at other commercial facilities owned by your company?") (IF NEEDED: For example, building automation systems for HVAC or lighting)
a. Firm Name? [OPEN END]
b. City and State? [OPEN END]
c. Who is the best person to contact? [OPEN END; FIRST AND LAST NAME]

VC7. Are there any other firms that have helped with energy efficiency or sustainability improvements at the facility we've been discussing?
1. Yes
2. No
98. (Don't know)
99. (Refused)

[IF VC7=1]
VC7a. What is the firm's name and location?
a. Firm Name [OPEN END]
b. Type of firm [OPEN END]
c. City and State [OPEN END]
d. Contact name [OPEN END]

X. FIRMOGRAPHICS

We're almost finished. I just have a few questions about your business to make sure we're getting a representative sample of commercial buildings.

X1. What is your title?
1. (President/Owner)
2. (Owner's Agent)
3. (Property Manager)
4. (Other senior executive)
5. (Facility engineer/manager)
6. (Consultant)
00. (Other, specify)
98. (Don't Know)
99. (Refused)

X2. Who else is involved in making decisions about equipment additions or replacements? [MULTIPLE RESPONSE; UP TO 3]
1. (President/Owner)
2. (Owner's Agent)

3. (Property Manager)
4. (Other senior executive)
5. (Facility engineer/manager)
6. (Consultant recommends)
00. (Other, specify)
98. (Don't Know)
99. (Refused)

IC. CONTACT INFORMATION FOR INCENTIVE

IC1. Those are all of my questions. As a show of appreciation for completing this survey, we can send you a check for $50 or donate $50 to the American Red Cross on your behalf. Would you prefer to…
1. Receive check, or
2. Make a donation?
8. Don't Know)
9. (Refused)

[ASK IF IC1=1]
IC2. Whose name should I use to address the check?
00. [OPEN END – Record first and last name]
98. (Don't Know)
99. (Refused)

[ASK IF IC1=1]
IC3. And what address would you like the check mailed to?
a. [COMPANY NAME]
b. [STREET ADDRESS]
c. [City, State, ZIP]

[ASK IF IC1=2]
IC4. What name would you like to appear on the donor list? [Accept first/last, company name, or Anonymous]
00. [OPEN END – Record first and last name]
77. Anonymous
98. (Don't Know)
99. (Refused)

D. DUPLICATE CONTACT NAME OR PHONE NUMBER

DUPE=1: 1 person owns or manages two buildings

[IF DUPE=1]
D1. We're also looking for the person responsible for major capital planning and operational policies for the office building at <SADDR_2> in <CITYST_2>, to ask similar questions about energy efficiency improvements that may have been made in last few years. Our records show your name as the contact for that building. Are you the best person to speak with about major

capital planning and operational policies for this building?

1. (Yes)
2. (No)
98. (Don't know)
99. (Refused)

[IF D1=1]
D2. Are you interested in completing a second interview about <SADDR_2> in <CITYST_2>? We can send a check for $50 or donate $50 to the American Red Cross for completing this interview as well.

1. (Yes)
2. (No)
98. (Don't know)
99. (Refused)

[IF D2=1]
D2a. Thank you. Would you like me to conduct this second interview now, or schedule another time?

1. (Take Now) [SKIP TO SECOND SURVEY]
2. (Schedule Other time) [SCHEDULE CALL BACK]
98. (Don't know)
99. (Refused)

[IF D1=2,98,99 or D2=2,98,99]
D3. Who would you recommend I speak with about <SADDR_2> in <CITYST_2>?

00. [RECORD FULL NAME – ASK TO SPELL OUT]
98. (Don't know)
99. (Refused)

[GENERATE CNAME_2 as response to D3=00]

[IF D3<>98,99]
D3a. What is the best phone number for <CNAME_2>?

00. [RECORD PHONE]
98. (Don't know)
99. (Refused)

[IF D3a<>98,99]
D3b. Does <CNAME_2> work at your company?

1. Yes
2. No [RECORD COMPANY – ASK TO SPELL OUT]
98. (Don't know)
99. (Refused)

Thank you, that completes the survey. On behalf of the Northwest Energy Efficiency Alliance, thanks for your time.

Appendix B: Service Provider Survey Instrument

This appendix contains the survey instrument administered to service providers.

Northwest Energy Efficiency Alliance
Existing Building Renewal (EBR) & Commercial Real Estate (CRE)
Commercial Market Service Provider Baseline Survey

Final 11/03/2011

Note to Reviewer: Response categories without parentheses will be read aloud to responses; response categories in parentheses are pre-coded responses to open-ended responses – respondents will not be prompted with these potential responses. Response categories may be alpha or numeric, depending on how question will be programmed and read to respondents.

IN. INTRODUCTION AND CONTACT SCREENER

INTRO. Hello, my name is [INTERVIEWER NAME] and I'm calling from Opinion Dynamics on behalf of the Northwest Energy Efficiency Alliance.

May I please speak with [CONTACT NAME]?

(IF NOT AT COMPANY: May I please speak with the person at this office who is most familiar with your firm's work in the commercial buildings market, such as an owner or principal? As a show of appreciation, we can send a check for $50 or donate $50 to the American Red Cross for completing our fifteen-minute interview.

(IF NEEDED: We would like information about services your firm provides to owners and operators of commercial buildings in the Pacific Northwest.)

(IF NEEDED: This survey should take about 15 minutes and your responses are completely confidential. Your participation is important in helping energy utilities in the Northwest improve their energy efficiency programs for businesses.)

As a show of appreciation, we can send a check for $50 or donate $50 to the American Red Cross for completing our fifteen-minute interview. May I please speak with the person who is most familiar with your firm's work in the commercial buildings market, such as an owner or principal?)

S1. What is your title?

1. (President/Owner)
2. (Principal)
4. (Other senior executive)
5. (Consultant)

00. (Other, specify)
98. (Don't Know)
99. (Refused)

S2. How would you define your firm's primary business category? Is it…[ROTATE]
1. Architecture/Design
2. Lighting
3. Controls
4. Mechanical (SAY: this includes mechanical contracting and engineering services)
5. Maintenance
6. (General contracting) [ANCHOR] **[THANK AND TERMINATE]**
00. (Other – Specify) [ANCHOR] **[THANK AND TERMINATE]**
98. Don't Know **[THANK AND TERMINATE]**
99. Refused **[THANK AND TERMINATE]**

S3. How many offices does your firm have in the four states of the Pacific Northwest? [If necessary: Washington, Oregon, Idaho, and Montana]
[NUMERIC OPEN END]

[ASK IF S3>1]
S3a. It would probably work best if you answer the survey questions just for the office you work in. Is this OK with you?
1. (Yes)
2. (No, I would rather represent all of the offices of the company in the northwest)
3. (No, Other reason, Specify)

98. (Don't know)
99. (Refused)

FS. Size and Nature of Market Served

TFS. I'd like to understand the type of work your company has performed in the Pacific Northwest [If necessary: Washington, Oregon, Idaho, and Montana]. For the next set of questions, please think of your company's work in the Pacific Northwest in the last two years, including projects you may be working on now.

FS1. In the last two years, approximately how many commercial buildings in the Pacific Northwest has your company provided services for?
00. [NUMERIC OPEN END – RANGE OF 1-1,000]
9998. Don't Know
9999. Refused **[THANK AND TERMINATE]**

[IF FS1=0, THANK AND TERMINATE]

FS2. In the past two years, has your company performed work or services in privately-owned office buildings in the Pacific Northwest? Privately-owned includes buildings leased by government agencies from private building owners.)
1. (Yes)
2. (No)
98. (Don't know)
99. (Refused)

[IF FS2<>1 THANK AND TERMINATE]

FS3. Approximately how many office buildings has your company served in the past two years? Please count only buildings in the Pacific Northwest.
00. [NUMERIC OPEN END – RANGE OF 1-1,000]
9998. Don't Know
9999. Refused

FS5. Approximately how many retail buildings has your company served in the past two years? Again, please count only buildings in the Pacific Northwest.
00. [NUMERIC OPEN END – RANGE OF 1-1,000]
9998. Don't Know
9999. Refused

FS6. Are there any other types of commercial buildings that your company served in the past two years?
1. (Yes)
2. (No)
98. (Don't know)
99. (Refused)

[IF FS6=1]
FS7. Please tell me what other types of commercial buildings your company has served.
00. [OPEN END]
98. (Don't know)
99. (Refused)

FS4. Approximately what proportion of your overall work during the past two years was done for existing buildings, as opposed to new construction projects? Again, please count only buildings in the Pacific Northwest. (IF NEEDED: What percent?)
00. [NUMERIC OPEN END – RANGE OF 0-100]
9998. Don't Know
9999. Refused

NE. SERVICE TYPES

The following questions are about services or work your company may perform in privately-owned office buildings in the Pacific Northwest.

NE1. You said that your company's primary business category was <S2 ANSWER>. What proportion of your company's office building work in the last two years falls into **in this category?** (IF NEEDED: What percent?)

00. [NUMERIC OPEN END; range of 0-100]
998. (Don't know)
999. (Refused)

L. LANGUAGE

TL. My next set of questions includes some questions that use the term "energy efficiency" and some that use the term "sustainability." For the purposes of this survey I am going to use the term "energy efficiency" to refer to the concept of using less energy for a given service, like cooling or lighting.

I am going to use the term "sustainability" to refer to the concept of "meeting the needs of the present without compromising the ability of future generations to meet their needs." The concept of "sustainability" may include energy efficiency, but could also include things like using green building materials.

EP. ENERGY EFFICIENCY DISCUSSION AND PRACTICES

[ASK EP1-EP7 if S2=1]
First, I have some questions about your firm's office building *clients* in the Pacific Northwest.

EP1. I'd like to know if and how energy efficiency is discussed between your firm and office building clients. How often do your clients come to your firm specifically looking for designs or products that are more energy efficient than current building codes require? Would you say this happens frequently, occasionally, or never?

1. Frequently
2. Occasionally
3. Never
8. (Don't Know)
9. (Refused)

EP2. Now I'd like to know how often representatives of *your* company recommend energy efficiency designs or products that exceed current building codes in your discussions with clients. Would you say this happens frequently, occasionally, or never?

1. Frequently
2. Occasionally
3. Never
8. (Don't Know)
9. (Refused)

EP3. About what percentage of your office building *projects* have specific energy efficiency goals or targets other than meeting the requirement of current building codes?
00. [NUMERIC OPEN END; range of 0-100]
998. (Don't Know)
999. (Refused)

EP7. Does your company provide integrated design services?
1. (Yes)
2. (No)
98. (Don't know)
99. (Refused)

[ASK IF EP7=2,98,99]
EP7a. Are you familiar with the term "integrated design"?
1. (Yes)
2. (No)
98. (Don't know)
99. (Refused)

[ASK IF EP7A=1]
EP7b. Why do you choose not to provide these services?
[OPEN RESPONSE]

EP8. How often, if ever does your company ever recommend that clients conduct an energy assessment or benchmarking study for their buildings? (IF NEEDED: like an energy audit, or energy monitoring)
1. Frequently
2. Occasionally
3. Never
8. (Don't Know)
9. (Refused)

V. ATTITUDES AND VALUE OF ENERGY EFFICIENCY

V1. [SAY IF **S2=1:** I'm going to shift gears a bit.] I'm going to read a few statements. Please use a scale of 0 to 10 where 0 is "strongly disagree" and 10 is "strongly agree" to indicate how much you agree or disagree with each statement. **[ROTATE]**
a. Our office building clients seek expertise in energy efficiency
b. Our office building clients seek expertise in sustainability
c. Our office building clients are willing to pay more for energy efficient designs or equipment.
d. Our office building clients care more about being *perceived* as energy efficient, e.g., the public relations benefits, than actual efficiency levels.
e. Expertise in energy efficiency is part of my firm's market identity
f. Expertise in sustainability is part of my firm's market identity

Strongly Disagree	Strongly Agree	DK	Ref.
0	10	98	99

V2. On a scale of 0 to 10, where 0 is "Not at all Important," and 10 is "Extremely Important," how important do you think energy efficiency is to your office building clients?

Not At All Important	Extremely Important	DK	Ref.
0	10	98	99

V3. How important do you think sustainability is to your office building clients? [REPEAT SCALE IF NEEDED]

Not At All Important	Extremely Important	DK	Ref.
0	10	98	99

BA. Barriers to Taking Action

BA1. There are many factors that might influence your firm's ability to recommend or provide energy efficient solutions for your clients. I'm interested in the barriers your firm faces in pursuing energy efficiency. What are some of the barriers your firm faces in this area? [Prompt for up to three barriers; record separately]

00. [OPEN RESPONSE]
98. (Don't know)
99. (Refused)

I. Information Seeking

TI. My next set of questions is about the information your company may seek to learn about new technologies and practices in your industry, like equipment, design, building or operational practices.

I1. Does anyone at your company actively search for information about energy efficient products or equipment?

1. (Yes)
2. (No)
98. (Don't know)
99. (Refused)

I2. Does anyone at your company actively search for information on energy efficient *design practices*?

1. (Yes)
2. (No)
98. (Don't know)
99. (Refused)

I3. Does anyone at your company actively search for information on energy efficient *operational* practices?
1. (Yes)
2. (No)
98. (Don't know)
99. (Refused)

K. Energy Efficiency Training and Certifications

My next set of questions is about staff training and certifications. For the purpose of these questions, please think of your company's staff in the Pacific Northwest.

K1. Does your company pursue professional development or training opportunities for employees on any of the following topics? [ROTATE; multiple response]
1. Efficient equipment and products
2. Efficient design practices
3. Efficient building operations practices
00. Something else? (Specify)
98. (Don't Know)
99. (Refused)

[ASK IF K1=1,2,3,00]

K2. What is your company's preferred format for professional development or training in energy efficiency or sustainability? [ROTATE; MULTIPLE RESPONSE Maximum of 2 choices]
1. Instructor-led webinar
2. Self-directed online training
3. Classroom-based training
4. Intensive workshops
00. (Other – specify)
98. (Don't know)
99. (Refused)

[ASK ALL]

K3. Have you or your colleagues ever participated in an Education, Training or Professional Development program offered by the following organizations? [ROTATE; MULTIPLE RESPONSE]
1. American Institute of Architects (AIA)
2. Building Owners and Managers Association (BOMA)
3. Cascadia Green Building Council
4. International Facility Management Association (IFMA)
5. An electric or gas utility
6. Northwest Energy Education Institute
00. (Other, specify)
98. (Don't know)
99. (Refused)

K4. Do any of the employees of your company hold any certifications in energy efficiency or sustainability?
1. Yes
2. No
98. (Don't know)
99. (Refused)

[ASK IF K4=1]
K4a. Please tell me which certifications are held by any of your employees, beginning with…[MULTIPLE RESPONSE]
1. LEED
2. Building Operator Certification
3. Certified Energy Manager
4. Any Others? (Specify)
98. (Don't know)
99. (Refused)

N. BETTERBRICKS AWARENESS

N1. Before today, had you heard of the Northwest Energy Efficiency Alliance?
1. (Yes)
2. (No)
98. (Don't know)
99. (Refused)

N2. Have you heard of BetterBricks?
1. (Yes)
2. (No)
98. (Don't know)
99. (Refused)

[ASK IF N2=1]
N3. How did you FIRST hear about BetterBricks? (IF RESPONDENT SAYS "INTERNET" probe for whether it was through search or another website, and record website name)
1. (NEEA website) (If respondent says "their website", please ask for the specific website name)
2. (Search or online advertising)
3. (Word of mouth)
4. (Vendor)
5. (BetterBricks website) (If respondent says "their website", please ask for the specific website name)
00. (Other, specify)
98. (Don't know)
99. (Refused)

N4. Have you heard of any of the following offerings? [ROTATE; 1=Yes 2=No 98=Don't Know 99=Refused] Have you heard of…

a. Kilowatt Crackdown?
b. Carbon4Square?
c. BetterBricks High-Performance Portfolio Framework?
d. BetterBricks Education, Training or Professional Development Programs?
e. BetterBricks Awards?
f. Integrated Design Lab Network?
g. [ANCHOR] Any other BetterBricks offerings? (SPECIFY)

[ASK IF N2=1]

N5. I'm going to read a list of BetterBricks tools and resources. After I read each one, please tell me if you have used the tool or resource before. Have you… [ROTATE; 1=Yes 2=No 98=Don't Know 99=Refused]

a. Accessed resources about Benchmarking?
b. Accessed resources about conducting a scoping study?
c. Accessed resources about Building Tune-Ups?
d. Read the Green Opportunity Index?
e. Read Case Studies?
f. Read Operations & Management Best Practices?
g. Used the Symptom Diagnosis Tool?
h. Accessed the Performance Modeling & Energy Engineering document?

[ASK IF ANY N4a-e=1 OR ASK IF N3<>2]

N6. Have you or your colleagues ever… [1=Yes 2=No 98=Don't Know 99=Refused; ROTATE]

a. [ASK IF N4c=1] Used the BetterBricks High-Performance Portfolio Framework?
b. [ASK IF N4d=1] Participated in a BetterBricks Education, Training or Professional Development program?
c. Visited the BetterBricks website?
d. [ASK IF N4f=1] Participated in an Integrated Design Lab Network?

X. Additional Firmographics

We're almost finished. I just have one more question about your business to make sure we're getting a representative sample of building service providers.

X1. How many employees work for your company in the Pacific Northwest? Please include those working in all of your offices in the Pacific Northwest. Would you say…

1. Less than 10,
2. 10-24,
3. 25 – 50, or
4. More than 50
98. (Don't Know)
99. (Refused)

IC. Contact information for incentive

IC1. Those are all of my questions. As a show of appreciation for completing this survey, we can send you a check for $50 or donate $50 to the American Red Cross on your behalf. Would you prefer to…
1. Receive check, or
2. Make a donation?
8. Don't Know)
9. (Refused)

[ASK IF IC1=1]
IC2. Whose name should I use to address the check?
00. [OPEN END – Record first and last name]
98. (Don't Know)
99. (Refused)

[ASK IF IC1=1]
IC3. And what address would you like the check mailed to?
a. [COMPANY NAME]
b. [STREET ADDRESS]
c. [City, State, ZIP]

[ASK IF IC1=2]
IC4. What name would you like to appear on the donor list? [Accept first/last, company name, or Anonymous]
00. [OPEN END – Record first and last name]
77. Anonymous
98. (Don't Know)
99. (Refused)

Thank you, that completes the survey. On behalf of the Northwest Energy Efficiency Alliance, thank you for your time.

Appendix C: Distribution of Building Types and Disposition of Surveys

Table 67: CBSA Listing - Building Count and Floor Area by Building Type and Owner Type

Building Type	Owner Type	Sample Group	Size	Building Count	Percent Building Count	Gross Floor Area (SF)	Percent Gross Floor Area
Dry Goods Retail	not defined	N/A	all	366	18%	23,608,197	16%
University	not defined	N/A	all	77	4%	3,520,229	2%
Other	not defined	N/A	all	265	13%	13,020,993	9%
Vacant	not defined	N/A	all	56	3%	1,906,462	1%
Grocery	not defined	N/A	all	151	7%	4,924,824	3%
Office	not defined	N/A	<20K SF	170	8%	1,382,322	1%
Office	**outside territory**	**CBSA**	**>20k SF**	**1**	**0%**	**43,776**	**0%**
Office	**private**	**CBSA**	**>20k SF**	**167**	**8%**	**36,273,289**	**24%**
Office	**public**	**CBSA**	**>20k SF**	**60**	**3%**	**10,796,780**	**7%**
Office	**tribal land**	**CBSA**	**>20k SF**	**2**	**0%**	**44,786**	**0%**
Restaurant	not defined	N/A	all	130	6%	653,638	0%
Warehouse	not defined	N/A	all	182	9%	14,189,944	9%
Hospital	not defined	N/A	all	59	3%	9,642,486	6%
Other Health	not defined	N/A	all	94	5%	5,794,127	4%
Hotel/Motel	not defined	N/A	all	70	3%	10,295,274	7%
School	not defined	N/A	all	211	10%	15,393,457	10%
Total				**2061**		**151,490,584**	

Table 68: CoStar Building Count and Floor Area by Building Type and Owner Type

Property Type	Owner Type/ Disposition	Sample Group	Size	Building Count	Percent Building Count	Rentable Floor Area (SF)	Percent Rentable Floor Area (SF)
Flex	CBSA sample	N/A	All	6	0.0%	365,621	0.0%
Flex	not defined	N/A	All	1,263	4.5%	56,170,972	3.5%
Health Care	not defined	N/A	All	725	2.6%	68,830,466	4.3%
Hospitality	not defined	N/A	All	1,087	3.9%	76,527,431	4.8%
Industrial	CBSA sample	N/A	All	8	0.0%	576,916	0.0%
Industrial	not defined	N/A	All	10,774	38.8%	645,712,410	40.4%

Property Type	Owner Type/ Disposition	Sample Group	Size	Building Count	Percent Building Count	Rentable Floor Area (SF)	Percent Rentable Floor Area (SF)
Office	**private**	**CoStar New Construction**	**>50k SF**	**97**	**0.3%**	**15,570,230**	**1.0%**
Office	**public**	**CoStar New Construction**	**>50k SF**	**9**	**0.0%**	**1,076,815**	**0.1%**
Office	**unknown**	**CoStar New Construction**	**>50k SF**	**2**	**0.0%**	**124,972**	**0.0%**
Office	**CBSA sample same site**	**CoStar Other**	**>20k SF**	**6**	**0.0%**	**1,039,467**	**0.1%**
Office	**charitable**	**CoStar Other**	**>20k SF**	**1**	**0.0%**	**55,003**	**0.0%**
Office	**church**	**CoStar Other**	**>20k SF**	**14**	**0.1%**	**565,133**	**0.0%**
Office	**college**	**CoStar Other**	**>20k SF**	**1**	**0.0%**	**34,240**	**0.0%**
Office	**declined**	**CoStar Other**	**>20k SF**	**3**	**0.0%**	**560,625**	**0.0%**
Office	**non-profit**	**CoStar Other**	**>20k SF**	**2**	**0.0%**	**54,326**	**0.0%**
Office	**not defined**	**CoStar Other**	**>20k SF**	**2,497**	**9.0 %**	**143,360,720**	**9.0 %**
Office	**private**	**CoStar Other**	**>20k SF**	**1,104**	**4.0 %**	**75,551,713**	**4.7 %**
Office	**public**	**CoStar Other**	**>20k SF**	**157**	**0.6%**	**11,738,866**	**0.7 %**
Office	**residential**	**CoStar Other**	**>20k SF**	**3**	**0.0%**	**167,938**	**0.0%**
Office	**tribal**	**CoStar Other**	**>20k SF**	**1**	**0.0%**	**20,555**	**0.0%**
Office	**unknown**	**CoStar Other**	**>20k SF**	**66**	**0.2 %**	**2,789,475**	**0.2%**
Office	CBSA sample	N/A	>20k SF	148	0.5%	29,997,808	1.9%
Office	not defined	N/A	Outside sample	1,291	4.6 %	23,553,186	1.5%
Retail	CBSA sample	N/A	All	5	0.0%	220,650	0.0%
Retail	not defined	N/A	All	7,716	27.8%	398,397,862	24.9%
Specialty	CBSA sample	N/A	All	2	0.0%	578,256	0.0%
Specialty	not defined	N/A	All	672	2.4%	35,861,930	2.2%
Sports	not defined	N/A	All	4	0.0%	139,150	0.0%
Sports & Entertainment	not defined	N/A	All	134	0.5%	9,291,585	0.6%
Total				**27,79 8**		**1,598,934,321**	

Note: Highlighting indicates the segments relevant to EBR/CRE.

Table 69: Owner Survey Sample Disposition Summary

Project Phase	Sample Site Disposition	Sample Count
Pre-Screening	Building Condemned	1
	Building Demolished	1

Project Phase	Sample Site Disposition	Sample Count
	Building Not Found	4
	Church	1
	Customer Declined	51
	Prescreen Call Limit Reached	58
	Public Ownership	211
	Repeat Building	5
	Residential Building	2
Survey	Answering machine	147
	Business/Residential phone (Adjust)	1
	Business/Residential phone (adjust)	1
	Customer indicated called already	7
	Customer said wrong number	51
	Disconnected phone	26
	Hard Refusal - do not call back	2
	Initial refusal	226
	Mid-interview terminate - do not call back	2
	No answer	9
	Non-specific callback/secretary/NTG	159
	Repeat Contact	73
	Respondent Scheduled Appointment	47
	Busy	3
	Computer Tone	3
	Not called yet	86
	Language Problem	1
	Privacy Line/Number Blocked	2
	Survey Complete	100
	Survey Dropped	15
Grand Total		**1299**

Table 70: Service Provider Sample Disposition Summary

Sample Site Disposition	Sample Source		Total
	Owner Survey	Hoovers	
Dropped during Pre-Screening (repeat, declined, no contact info)	191	0	191
No Answer	1	32	33
Answering Machine	7	50	57
Busy	0	2	2
Disconnected Phone	4	38	42

Sample Site Disposition	Sample Source		Total
	Owner Survey	Hoovers	
Business/Residential Phone (ADJUST)	2	1	3
Computer Tone	0	5	5
Complete	25	50	75
Business/Residential Phone (ADJUST)	1	0	1
Initial Refusal	43	141	184
RESPONDENT SCHEDULED APPOINTMENT	3	56	59
Non-Specific Callback/Secretary/NTG	37	264	301
HARD REFUSAL - DO NOT CALL	2	4	6
Customer Indicated Called Already	2	6	8
Customer Said Wrong Number	4	20	24
Do NOT do work in Commercial Office Buildings	0	34	34
Callback to Complete	1	3	4
Mid-Interview Terminate - DO NOT CALLBACK	1	5	6
Non-Specific Business Category or DK/REF	3	2	5
Didn't Service Any Buildings in The Last 2 Years/REF	1	0	1
Not Called Yet	0	28	28
Survey Dropped	**6**	**1**	**7**
Total	**334**	**742**	**1076**

Appendix D: Owner Survey Responses

This section provides tabulations of response frequencies for each of the items in the owner survey. The subsections correspond to the major topics of the survey. The title of each table contains the survey item number. Appendix A contains the full text of the survey.

Facility Occupancy

Table 71: Owner Survey - F0: Respondent's Company is Property Owner or Partial Owner

Owner/Partial Owner	Count	Percentage
Yes	62	62%
No	37	37%
(Don't Know)	1	1%
Grand Total	**100**	**100%**

Table 72: Owner Survey - F0A: Role Respondent's Company Plays in Managing or Operating Facility

Company Role	Count	Percentage of Responses	Percentage of Respondents
Non-Property Owner	**38**		
Property Management	33	80.5%	86.8%
Owner's Agent	4	9.8%	10.5%
Other	3	7.3%	7.9%
Grand Total	**40**	**100.0%**	**105.3%**

Table 73: Owner Survey - F1: Proportion of the Space Respondent Occupies

Proportion Range	Count	Percentage
Property Owner	**62**	**62%**
0	29	47%
1-19	15	24%
20-39	5	8%
60-79	1	2%
80-99	1	2%
100	10	16%
(Don't know)	1	2%
Non-Property Owner	**37**	**37%**

Proportion Range	Count	Percentage
0	29	78%
1-19	2	5%
20-39	1	3%
40-59	1	3%
60-79	2	5%
80-99	1	3%
(Refused)	1	3%
(Don't Know)	**1**	**1%**
(Don't know)	1	100%
Grand Total	**100**	**100%**

Table 74: Owner Survey - F2: Number of Tenants Currently Occupying the Building

Tenant Range	Count	Percentage
0	1	1%
1-19	72	72%
20-39	8	8%
40-59	4	4%
80-99	3	3%
100	1	1%
120	1	1%
Owner Occupied	10	10%
Grand Total	**100**	**100%**

Table 75: Owner Survey - F3: Current Occupancy Status

Occupancy	Count	Percentage
Fully leased	25	25%
Partially leased	62	62%
Vacant	3	3%
Owner Occupied	10	10%
Grand Total	**100**	**100%**

Attitudes and Value of Energy Efficiency

Table 76: Owner Survey - V1: Energy Efficiency of the Property

Property Efficiency	Count	Percentage
0 - Not at all Efficient	1	1%
1	0	0%
2	2	2%
3	1	1%
4	5	5%
5	19	19%
6	17	17%
7	24	24%
8	19	19%
9	7	7%
10 - Extremely Efficient	2	2%
(Don't know)	3	3%
Grand Total	**100**	**100%**
Mean Rating	**6.5**	

Table 77: Owner Survey - V2A: Importance of Reducing Energy Costs

Importance	Count	Percentage
0 - Not at all Efficient	0	0%
1	0	0%
2	0	0%
3	1	1%
4	3	3%
5	4	4%
6	2	2%
7	9	9%
8	27	27%
9	16	16%
10 - Extremely Important	37	37%
(Don't know)	1	1%
Grand Total	**100**	**100%**
Mean Rating	**8.5**	

Table 78: Owner Survey - V2B: Importance of Improving Energy Efficiency

Importance	Count	Percentage
0 - Not at all Efficient	0	0%
1	0	0%
2	0	0%
3	2	2%
4	4	4%
5	3	3%
6	5	5%
7	12	12%
8	28	28%
9	13	13%
10 - Extremely Important	32	32%
(Don't know)	1	1%
Grand Total	**100**	**100%**
Mean Rating	**8.2**	

Table 79: Owner Survey - V2C: Importance of Improving Sustainability

Importance	Count	Percentage
0 - Not at all Important	2	2%
1	0	0%
2	1	1%
3	2	2%
4	4	4%
5	15	15%
6	14	14%
7	11	11%
8	20	20%
9	10	10%
10 - Extremely Important	21	21%
Grand Total	**100**	**100%**
Mean Rating	**7.2**	

Table 80: Owner Survey - V3A: Influence of Energy Efficiency on Attractiveness to Prospective Tenants

Influence	Count	Percentage
0 - Not at all	7	7%
1	0	0%
2	4	4%
3	4	4%
4	5	5%
5	13	13%
6	14	14%
7	16	16%
8	18	18%
9	6	6%
10 - Very much	11	11%
(Don't know)	2	2%
Grand Total	**100**	**100%**
Mean Rating	**6.2**	

Table 81: Owner Survey - V3B: Influence of Energy Efficiency on Profitability

Influence	Count	Percentage
0 - Not at all	3	3%
1	1	1%
2	5	5%
3	8	8%
4	4	4%
5	15	15%
6	7	7%
7	17	17%
8	22	22%
9	8	8%
10 - Very much	9	9%
(Don't know)	1	1%
Grand Total	**100**	**100%**
Mean Rating	**6.3**	

Table 82: Owner Survey - V3C: Influence of Energy Efficiency on Asset

Influence	Count	Percentage
0 - Not at all	7	7%
1	2	2%
2	2	2%
3	10	10%
4	3	3%
5	15	15%
6	14	14%
7	10	10%
8	16	16%
9	7	7%
10 - Very much	8	8%
(Don't know)	6	6%
Grand Total	**100**	**100%**
Mean Rating	**5.8**	

Table 83: Owner Survey - V3D: Influence of Energy Efficiency on Attractiveness to Buyer/Investors

Influence	Count	Percentage
0 - Not at all	6	6%
1	2	2%
2	3	3%
3	7	7%
4	5	5%
5	7	7%
6	13	13%
7	17	17%
8	13	13%
9	10	10%
10 - Very much	9	9%
(Refused)	1	1%
(Don't know)	7	7%
Grand Total	**100**	**100%**
Mean Rating	**6.13**	

Table 84: Owner Survey - V3E: Influence of Energy Efficiency on Financing Terms

Influence	Count	Percentage
0 - Not at all	27	27%
1	6	6%
2	7	7%
3	7	7%
4	6	6%
5	11	11%
6	4	4%
7	12	12%
8	5	5%
9	2	2%
10 - Very much	3	3%
(Don't know)	10	10%
Grand Total	**100**	**100%**
Mean Rating	**3.5**	

Table 85: Owner Survey - V3F: Influence of Energy Efficiency on Decision Making of Financial Backers

Influence	Count	Percentage
0 - Not at all	11	11%
1	2	2%
2	4	4%
3	5	5%
5	16	16%
4	7	7%
6	8	8%
7	11	11%
8	12	12%
9	7	7%
10 - Very much	7	7%
(Don't know)	10	10%
Grand Total	**100**	**100%**
Mean Rating	**5.4**	

Energy Efficiency Awareness and Knowledge

Table 86: Owner Survey - AK1: Respondent Personal Knowledge of Actions to Save Energy at Property

Knowledge	Count	Percentage
3	4	4%
4	6	6%
5	8	8%
6	13	13%
7	15	15%
8	32	32%
9	14	14%
10 - Extremely Knowledgeable	8	8%
Grand Total	**100**	**100%**
Mean Rating	**7.2**	

Table 87: Owner Survey - AK1S: Respondent Personal Knowledge of Actions to Improve Sustainability at Property

Knowledge	Count	Percentage
0 - Not at all Knowledgeable	2	2%
2	3	3%
3	6	6%
4	3	3%
5	11	11%
6	15	15%
7	13	13%
8	24	24%
9	15	15%
10 - Extremely Knowledgeable	8	8%
Grand Total	**100**	**100%**
Mean Rating	**6.8**	

Energy Efficiency During Purchase Process

Table 88: Owner Survey - P1: Property Purchase Date

Purchase Period	Count	Percentage
Within the last two years	3	3%
More than two years ago	95	95%
(Don't Know)	2	2%
Grand Total	**100**	**100%**

Table 89: Owner Survey - P2: Energy Efficiency Factored into Decision to Purchase Property (purchased within last 2 years)

Response	Count	Percentage
Yes	1	33%
No	2	67%
Grand Total	**100**	**100%**

Table 90: Owner Survey - P2S: Sustainability Factored into Decision to Purchase Property (purchased within last 2 years)

Response	Count	Percentage
No	3	100%
Grand Total	**30**	**100%**

Table 91: Owner Survey – P3: Energy efficiency Affected Decision of Financial Backer to Invest in Property (purchased within last 2 years)

Response	Count	Percentage
Yes	1	33%
No	1	33%
(Don't Know)	1	33%
Grand Total	**3**	**100%**

Table 92: Owner Survey - P3S: Sustainability Affected Decision of Financial Backer to Invest in Property (purchased within last 2 years)

Response	Count	Percentage
No	2	67%

Response	Count	Percentage
(Don't Know)	1	33%
Grand Total	**3**	**100%**

Energy Efficiency for Financing or Refinancing

Table 93: Owner Survey - FR1: Property Refinanced in Last Two Years

Response	Count	Percentage
Yes	12	12%
No	76	76%
(Don't Know)	12	12%
Grand Total	**100**	**100%**

Table 94: Owner Survey - FR2: Energy Efficiency Affected Decision of Financial Backer to Refinance Property (property refinanced in last 2 years)

Response	Count	Percentage
No	9	75%
(Don't Know)	3	25%
Grand Total	**12**	**100%**

Table 95: Owner Survey - FR2S: Sustainability Affected Decision of Financial Backer to Refinance Property (property refinanced in last 2 years)

Response	Count	Percentage
No	9	75%
(Don't Know)	3	25%
Grand Total	**12**	**100%**

Capital Improvements and Equipment Changes

Table 96: Owner Survey - C1: Any Major Capital Improvements Made as Part of Building Purchase (purchased within last 2 years)

Response	Count	Percentage
No	3	3%
Grand Total	**3**	**100%**

Table 97: Owner Survey – C2: Any Major Capital Improvements Made Within the Last Two Years

Response	Count	Percentage
Yes	47	47%
No	51	51%
(Don't Know)	2	2%
Grand Total	**100**	**100%**

Table 98: Owner Survey - C3: Building Systems Focus of Capital Improvements

Building System	N of Respondents for this Analysis	Percentage of Responses	Percentage of Respondents
Capital Improvements Made	**47**		
HVAC	32	42.7%	68.1%
Building Envelope	5	6.7%	10.6%
Lighting	23	30.7%	48.9%
Water/Hot Water	1	1.3%	2.1%
Interior Structure/Walls	3	4.0%	6.4%
Elevators	2	2.7%	4.3%
Solar Energy System	2	2.7%	4.3%
Remodel	2	2.7%	4.3%
Other	4	5.3%	8.5%
(Refused)	1	1.3%	2.1%
Grand Total	**75**	**100.0%**	**159.6%**

Energy Efficiency's Role in Capital Improvements

Table 99: Owner Survey - U1A: A Motivating Factor for Capital Improvements was Market Positioning

Response	Count	Percentage
Yes	23	49%
No	22	47%
(Don't Know)	1	2%
(Not Applicable)	1	2%
Grand Total	**47**	**100%**

Table 100: Owner Survey - U1B: A Motivating Factor for Capital Improvements was Tenant Improvements

Response	Count	Percentage
Yes	27	57%
No	19	40%
(Don't Know)	1	2%
Grand Total	**47**	**100%**

Table 101: Owner Survey - U1C: A Motivating Factor for Capital Improvements was Equipment Breakdown or Maintenance Schedule

Response	Count	Percentage
Yes	31	66%
No	16	34%
Grand Total	**47**	**100%**

Table 102: Owner Survey - U1D: A Motivating Factor for Capital Improvements was to Increase Energy Efficiency

Response	Count	Percentage
Yes	40	85%
No	7	15%
Grand Total	**47**	**100%**

Table 103: Owner Survey - U1E: A Motivating Factor for Capital Improvements was to Increase Sustainability

Response	Count	Percentage
Yes	25	53%
No	22	47%
Grand Total	**47**	**100%**

Table 104: Owner Survey - U1F: A Motivating Factor for Capital Improvements was Advantageous Financing Terms

Response	Count	Percentage
Yes	3	6%
No	40	85%

Response	Count	Percentage
(Don't Know)	4	9%
Grand Total	**47**	**100%**

Table 105: Owner Survey - U1G: Other Motivating Factors for Capital Improvements

Response	Count	Percentage
Other Motivating Factors	**15**	**32%**
BUILDING SAFETY	1	7%
COST SAVINGS	3	20%
EQUIPMENT AGE OR FAILURE	3	20%
IMPROVE SUSTAINABILITY	1	7%
MARKETING VALUE	1	7%
UTILITY REBATE	6	40%
No Other Motivating Factor	**32**	**68%**
Grand Total	**47**	**100%**

Table 106: Owner Survey - U2: Primary Motivation for Making Capital Improvements

Response	Count	Percentage
Market positioning (e.g., to attract or retain tenants)	7	15%
Tenant improvements - contracted or requested	9	19%
Equipment breakdown or maintenance schedule	11	23%
Increase energy efficiency	10	21%
Increase sustainability (e.g., construction or interior materials)	2	4%
Don't Know	1	2%
Refused	1	2%
No Response	6	13%
Grand Total	**47**	**100%**

Table 107: Owner Survey - U3A: Objective for Capital Improvement Was Decreased Owner Expenses

Response	Count	Percentage
Yes	36	90%
No	3	8%
(Don't Know)	1	3%
Grand Total	**40**	**100%**

Table 108: Owner Survey - U3B: Objective for Capital Improvement Was Decreased Tenant Expenses

Response	Count	Percentage
Yes	26	65%
No	14	35%
Grand Total	**40**	**100%**

Table 109: Owner Survey - U3C: Objective for Capital Improvement Was Energy Efficiency or Sustainability Certification

Response	Count	Percentage
Yes	17	43%
No	23	58%
Grand Total	**40**	**100%**

Table 110: Owner Survey - U3D: Objective for Capital Improvement Was Energy Consumption Reduction for Environmental Reasons

Response	Count	Percentage
Yes	29	73%
No	11	28%
Grand Total	**40**	**100%**

Table 111: Owner Survey - U3E: Objective for Capital Improvement Was Increasing Comfort

Response	Count	Percentage
Yes	30	75%
No	9	23%
(Not Applicable)	1	3%
Grand Total	**40**	**100%**

Table 112: Owner Survey - U3F: Objective for Capital Improvement Was Satisfying Tenant Requests or Concerns

Response	Count	Percentage
Yes	23	58%

Response	Count	Percentage
No	12	30%
(No Response)	4	10%
(Not Applicable)	1	3%
Grand Total	**40**	**100%**

Table 113: Owner Survey - U3G: Objective for Capital Improvement Was Increasing the Value of Property

Response	Count	Percentage
Yes	24	60%
No	15	38%
(Don't Know)	1	3%
Grand Total	**40**	**100%**

Table 114: Owner Survey - U3H: Objective for Capital Improvement Was Satisfying Financial Backers' Requests or Concerns

Response	Count	Percentage
Yes	7	18%
No	31	78%
(Don't Know)	1	3%
(Not Applicable)	1	3%
Grand Total	**40**	**100%**

Table 115: Owner Survey - U3I: Other Objective for Capital Improvement

Response	Count	Percentage
Other Objective	**7**	**18%**
AESTHETICS	1	14%
FIRE PANEL SAFETY	1	14%
HVAC CONTROLS	1	14%
IMPROVE BUILDING TRAFFIC FLOW	1	14%
IMPROVE CLIENT SERVICE	1	14%
LEED CERTIFICATION	1	14%
UPDATE TO MODERN T-8 FIXTURES	1	14%
No Other Objective	**33**	**83%**
Grand Total	**40**	**100%**

Table 116: Owner Survey - U4: Applying for Which Energy Efficiency or Sustainability Certification

Certification	Count	Percentage of Responses	Percentage of Respondents
Applying for Energy Efficiency or Sustainability Certification	**17**		
LEED	6	30.0%	35.3%
Energy Star	8	40.0%	47.1%
Green Building	1	5.0%	5.9%
Utility	1	5.0%	5.9%
Equipment Grants	1	5.0%	5.9%
Don't Know	3	15.0%	17.6%
Grand Total	**20**	**100.0%**	**117.6%**

Recent Energy Efficiency Behaviors

Table 117: Owner Survey - B1: Property Undergone Study to Identify Building Energy Consumption in Last Two Years

Response	Count	Percentage
Yes	41	41%
No	59	59%
Grand Total	**100**	**100%**

Table 118: Owner Survey - B1A: Type of Study Conducted at Property

Type of Study	Count	Percentage of Responses	Percentage of Respondents
Undergone Study in Last Two Years	**41**		
Benchmarking study	11	21%	27%
Energy Audit or Assessment	30	57%	73%
Energy monitoring	10	19%	24%
(Don't know)	2	4%	5%
Grand Total	**53**	**100%**	**129%**

Table 119: Owner Survey - B2: Aware of Assessment, Monitoring, or Benchmark Opportunities to Identify Ways to Reduce Building Energy Use (not undergone study in last 2 years)

Response	Count	Percentage
Yes	36	61%
No	23	39%
Grand Total	**59**	**100%**

Table 120: Owner Survey - B3: Aware of Energy Monitoring, Demand Management Systems, or Software Property Could Use to Track or Improve Energy Consumption

Response	Count	Percentage
Yes	50	50%
No	39	39%
(Don't Know)	1	1%
Undergone Energy Monitoring	10	10%
Grand Total	**100**	**100%**

Energy Efficiency Plans and Policies

Table 121: Owner Survey - PP1: Energy Efficiency Policies in Place at Facility

Response	Count	Percentage
Yes	31	31%
No	66	66%
(Don't Know)	3	3%
Grand Total	**100**	**100%**

Table 122: Owner Survey - PP2: Energy Reduction Goals or Efficiency Requirements in Place at Facility

Response	Count	Percentage
Yes	24	24%
No	75	75%
(Don't Know)	1	1%
Grand Total	**100**	**100%**

Table 123: Owner Survey - PP2A: Energy Reduction Goals or Requirements are part of Capital Improvement Projects

Response	Count	Percentage
Yes	6	6%
No	4	4%
(Don't Know)	1	1%
(Not Applicable)	89	89%
Grand Total	**100**	**100%**

Table 124: Owner Survey - PP3A: Goals Include Specific Numeric Targets for Energy Savings

Response	Count	Percentage
Yes	16	67%
No	8	33%
Grand Total	**24**	**100%**

Table 125: Owner Survey - PP3B: Goals Include Specific Completion Date

Response	Count	Percentage
Yes	15	63%
No	7	29%
(Don't Know)	2	8%
Grand Total	**24**	**100%**

Table 126: Owner Survey - PP3C: Goals Include Specific Budget

Response	Count	Percentage
Yes	17	71%
No	7	29%
Grand Total	**24**	**100%**

Table 127: Owner Survey - PP3D: Goals Authorized by Senior Management

Response	Count	Percentage
Yes	22	92%
No	1	4%
(Don't Know)	1	4%

Response	Count	Percentage
Grand Total	**24**	**100%**

Table 128: Owner Survey - PP4: Provide Example of Energy Reduction or Efficiency Goals for Facility

Energy Reduction Goal	Count	Percentage of Responses	Percentage of Respondents
Energy Reduction Goals or Efficiency Requirements in Place at Facility	**24**		
HVAC Upgrade	3	11.5%	12.5%
Lighting Upgrade	3	11.5%	12.5%
Specific Energy Reduction Goal	5	19.2%	20.8%
Reduce Equip Op Hours	4	15.4%	16.7%
Update Equipment	3	11.5%	12.5%
Reduce Energy Costs	2	7.7%	8.3%
Energy Star Rating	2	7.7%	8.3%
(Don't know)	3	11.5%	12.5%
(Refused)	1	3.8%	4.2%
Grand Total	**26**	**100.0%**	**108.3%**

Table 129: Owner Survey - PP5: Adopted Operational Practices to Increase Energy Efficiency at Facility

Response	Count	Percentage
Yes	56	56%
No	42	42%
(Don't Know)	2	2%
Grand Total	**100**	**100%**

Table 130: Owner Survey - PP6: Provide Example of Operational Practices

Responses	Count	Percentage of Responses	Percentage of Respondents
Operational Practices in Place to Increase Energy Efficiency at Facility	**56**		
Benchmarking	3	3.6%	5.4%
Automated Controls & Schedules	41	49.4%	73.2%
Monitoring Equipment and Software	3	3.6%	5.4%
Maintenance Schedules	3	3.6%	5.4%

Responses	Count	Percentage of Responses	Percentage of Respondents
Installed Efficient Equipment	12	14.5%	21.4%
Reviewing Equipment & Practices	8	9.6%	14.3%
Other	10	12.0%	17.9%
Don't know	3	3.6%	5.4%
Grand Total	**83**	**100.0%**	**148.2%**

Table 131: Owner Survey - PP7: Annual Budget in Place for Implementing Energy Efficiency Improvements at Facility

Response	Count	Percentage
Yes	12	14%
No	69	83%
(Don't Know)	2	2%
Grand Total	**83**	**100%**

Table 132: Owner Survey - PP8: Proportion of Facility Annual Operating Budget Used for Implementing Energy Efficiency Investments

Proportion of Budget	Count	Percentage
2	2	7%
5	4	14%
10	6	21%
15	3	10%
20	2	7%
25	1	3%
40	1	3%
50	2	7%
(Don't know)	7	24%
(Refused)	1	3%
Grand Total	**100**	**100%**
Mean Rating	**11.5**	

BetterBricks Awareness

Table 133: Owner Survey - N1: Respondent Heard of Northwest Energy Efficiency Alliance Before Today

Response	Count	Percentage
Yes	53	53%
No	46	46%
(Don't Know)	1	1%
Grand Total	**100**	**100%**

Table 134: Owner Survey - N2: Respondent Heard of BetterBricks Before Today

Response	Count	Percentage
Yes	49	49%
No	51	51%
Grand Total	**100**	**100%**

Table 135: Owner Survey - N3: How First Heard about BetterBricks

Response	Count	Percentage
(NEEA website)	**1**	**2%**
(BetterBricks website)	**1**	**2%**
(Word of mouth)	**3**	**6%**
(Other - please specify in the box below)	**38**	**78%**
In a class	2	4%
Media-Other	2	4%
NEEA or Better Bricks-Other	3	6%
Online-Other (incl. email)	6	12%
Rating Agency	3	6%
Trade or Professional Organization	13	27%
Utility	2	4%
Other	7	14%
(Don't know)	6	12%
Grand Total	**49**	**100%**

Table 136: Owner Survey - N4A: Respondent Heard of the BetterBricks Offering Kilowatt Crackdown

Response	Count	Percentage
Yes	17	35%
No	32	65%
Grand Total	**49**	**100%**

Table 137: Owner Survey - N4B: Respondent Heard of the BetterBricks Offering Carbon4Square

Response	Count	Percentage
Yes	18	37%
No	31	63%
Grand Total	**49**	**100%**

Table 138: Owner Survey - N4C: Respondent Heard of the BetterBricks Offering High-Performance Portfolio Framework

Response	Count	Percentage
Yes	14	29%
No	35	71%
Grand Total	**49**	**100%**

Table 139: Owner Survey - N4D: Respondent Heard of the BetterBricks Education and Training Programs

Response	Count	Percentage
Yes	32	65%
No	17	35%
Grand Total	**49**	**100%**

Table 140: Owner Survey - N4E: Respondent Heard of Any Other BetterBricks Offerings

Other BetterBricks Offerings	Count	Percentage of Responses	Percentage of Respondents
BOC Program	2	3.9%	4.1%
Continuing Education	1	2.0%	2.0%
The Rewards	1	2.0%	2.0%
Energy Star Rating	1	2.0%	2.0%

Other BetterBricks Offerings	Count	Percentage of Responses	Percentage of Respondents
Daylight Modeling	1	2.0%	2.0%
Other	2	3.9%	4.1%
No Other Program	40	78.4%	81.6%
(Don't Know)	3	5.9%	6.1%
Grand Total	**51**	**100.0%**	**104.1%**

Table 141: Owner Survey - N5A: Respondent Participated in Kilowatt Crackdown

Response	Count	Percentage
Yes	8	47%
No	8	47%
(Don't Know)	1	6%
Grand Total	**17**	**100%**

Table 142: Owner Survey - N5B: Respondent Participated in Carbon4Square

Response	Count	Percentage
Yes	8	44%
No	10	56%
Grand Total	**18**	**100%**

Table 143: Owner Survey - N5C: Respondent Utilized the BetterBricks High-Performance Portfolio Framework

Response	Count	Percentage
Yes	5	36%
No	8	57%
(Don't Know)	1	7%
Grand Total	**14**	**100%**

Table 144: Owner Survey - N5D: Respondent Participated in a BetterBricks Education or Training Program

Response	Count	Percentage
Yes	13	41%
No	18	56%
(Don't Know)	1	3%

Response	Count	Percentage
Grand Total	**32**	**100%**

Table 145: Owner Survey - N5E: Respondent Viewed the BetterBricks Website

Response	Count	Percentage
Yes	27	55%
No	21	43%
(Not Applicable)	1	2%
Grand Total	**49**	**100%**

Table 146: Owner Survey N6A: Respondent Accessed Resources about Benchmarking

Response	Count	Percentage
Yes	21	43%
No	27	55%
(Don't Know)	1	2%
Grand Total	**49**	**100%**

Table 147: Owner Survey N6B: Respondent Accessed Resources about Conducting a Scoping Study

Response	Count	Percentage
Yes	14	29%
No	33	67%
(Don't Know)	2	4%
Grand Total	**49**	**100%**

Table 148: Owner Survey N6C: Respondent Accessed Resources about Building Tune-Ups

Response	Count	Percentage
Yes	15	31%
No	33	67%
(Don't Know)	1	2%
Grand Total	**49**	**100%**

Table 149: Owner Survey N6D: Respondent Read the Green Opportunity Index

Response	Count	Percentage
Yes	3	6%
No	44	90%
(Don't Know)	2	4%
Grand Total	**49**	**100%**

Table 150: Owner Survey N6E: Respondent Read Case Studies

Response	Count	Percentage
Yes	17	35%
No	31	63%
(Don't Know)	1	2%
Grand Total	**49**	**100%**

Table 151: Owner Survey N6F: Respondent Read Operations and Management Best Practices

Response	Count	Percentage
Yes	15	31%
No	33	67%
(Don't Know)	1	2%
Grand Total	**49**	**100%**

Table 152: Owner Survey N6G: Respondent Utilized the Symptoms Diagnosis Tool

Response	Count	Percentage
Yes	2	4%
No	46	94%
(Don't Know)	1	2%
Grand Total	**49**	**100%**

Barriers to Taking Action

Table 153: Owner Survey - BA1A: Level of Agreement with the Statement "It's hard to figure out what energy efficient equipment to buy"

Agreement	Count	Percentage
0 - Strongly disagree	9	9%
1	6	6%
2	13	13%
3	17	17%
4	8	8%
5	20	20%
6	4	4%
7	6	6%
8	5	5%
9	3	3%
10 - Strongly agree	7	7%
(Don't know)	1	1%
(Not Applicable)	1	1%
Grand Total	**100**	**100%**
Mean Rating	**4.3**	

Table 154: Owner Survey - BA1B: Level of Agreement with the Statement "[facility] does not have enough capital to install high-efficiency equipment"

Agreement	Count	Percentage
0 - Strongly disagree	19	19%
1	9	9%
2	12	12%
3	9	9%
4	6	6%
5	13	13%
6	1	1%
7	7	7%
8	6	6%
9	2	2%
10 - Strongly agree	10	10%
(Not Applicable)	1	1%
(Don't know)	3	3%

Agreement	Count	Percentage
(Refused)	2	2%
Grand Total	**100**	**100%**
Mean Rating	**3.9**	

Table 155: Owner Survey - BA1C: Level of Agreement with the Statement "Existing financial agreements make it difficult to invest in energy efficiency at this property"

Agreement	Count	Percentage
0 - Strongly disagree	24	24%
1	5	5%
2	9	9%
3	18	18%
4	5	5%
5	11	11%
7	5	5%
8	5	5%
9	3	3%
10 - Strongly agree	4	4%
(Not Applicable)	5	5%
(Don't know)	5	5%
(Refused)	1	1%
Grand Total	**100**	**100%**
Mean Rating	**3.3**	

Table 156: Owner Survey - BA1D: Level of Agreement with the Statement "The lease structure of this property makes it difficult to invest in energy efficiency"

Agreement	Count	Percentage
0 - Strongly disagree	21	21%
1	8	8%
2	7	7%
3	17	17%
4	4	4%
5	16	16%
6	1	1%
7	5	5%
8	4	4%

Agreement	Count	Percentage
9	4	4%
10 - Strongly agree	6	6%
(Not Applicable)	3	3%
(Don't know)	3	3%
(Refused)	1	1%
Grand Total	**100**	**100%**
Mean Rating	**3.6**	

Table 157: Owner Survey - BA1E: Level of Agreement with the Statement "Tenants reap most of the benefits of Energy Efficiency"

Agreement	Count	Percentage
0 - Strongly disagree	6	6%
1	3	3%
2	9	9%
3	9	9%
4	5	5%
5	23	23%
6	3	3%
7	11	11%
8	13	13%
9	6	6%
10 - Strongly agree	11	11%
(Not Applicable)	1	1%
Grand Total	**100**	**100%**
Mean Rating	**5.5**	

Table 158: Owner Survey - BA1F: Level of Agreement with the Statement "Tenants are willing to pay higher rent for an energy efficient building"

Agreement	Count	Percentage
0 - Strongly disagree	15	15%
1	8	8%
2	8	8%
3	12	12%
4	8	8%
5	24	24%

Agreement	Count	Percentage
6	3	3%
7	10	10%
8	4	4%
9	1	1%
10 - Strongly agree	2	2%
(Not Applicable)	3	3%
(Don't know)	2	2%
Grand Total	**100**	**100%**
Mean Rating	**3.8**	

Table 159: Owner Survey - BA1G: Level of Agreement with the Statement "Tenants are willing to pay higher rent for a sustainable building"

Agreement	Count	Percentage
0 - Strongly disagree	16	16%
1	9	9%
2	8	8%
3	12	12%
4	9	9%
5	20	20%
6	5	5%
7	7	7%
8	4	4%
9	0	0%
10 - Strongly agree	3	3%
(Not Applicable)	3	3%
(Don't know)	4	4%
Grand Total	**100**	**100%**
Mean Rating	**3.6**	

Table 160: Owner Survey - BA1I: Level of Agreement with the Statement "It is difficult to get approval for energy efficiency improvements from financial backers"

Agreement	Count	Percentage
0 - Strongly disagree	4	4%
1	4	4%
2	5	5%

Agreement	Count	Percentage
3	7	7%
4	4	4%
5	17	17%
6	2	2%
7	4	4%
8	3	3%
9	2	2%
10 - Strongly agree	3	3%
(Not Applicable)	41	41%
(Don't know)	4	4%
Grand Total	**100**	**100%**
Mean Rating	**4.5**	

Table 161: Owner Survey - BA1J: Level of Agreement with the Statement "It is difficult to get external approval for energy efficiency improvements"

Agreement	Count	Percentage
0 - Strongly disagree	6	6%
1	2	2%
2	4	4%
3	5	5%
4	2	2%
5	9	9%
6	1	1%
7	3	3%
8	1	1%
9	3	3%
10 - Strongly agree	1	1%
(Not Applicable)	63	63%
Grand Total	**100**	**100%**
Mean Rating	**4.11**	

Table 162: Owner Survey - BA2: While Planning Capital Improvements at Property, Made Calculations or Seen Estimates of Energy Savings from Improvements

Response	Count	Percentage
Yes	66	66%

Response	Count	Percentage
No	33	33%
(Don't Know)	1	1%
Grand Total	**100**	**100%**

Table 163: Owner Survey - BA2A: How Accurate Savings Estimates Considered to be

Accuracy	Count	Percentage
0 - Highly inaccurate	1	1%
2	1	1%
3	4	4%
4	3	3%
5	11	11%
6	13	13%
7	16	16%
8	12	12%
9	4	4%
10 - Highly Accurate	1	1%
(Not Applicable)	34	34%
Grand Total	**100**	**100%**
Mean Rating	**6.3**	

Hiring Responsibilities

Table 164: Owner Survey - H1: Individual Present at Company with Responsibility of Identifying Methods to Reduce Building Energy Use

Response	Count	Percentage
Yes	55	55%
No	45	45%
Grand Total	**100**	**100%**

Table 165: Owner Survey - H2: Title of Individual Responsible for Identifying Methods for Reducing Building Energy Use

Title	Count	Percentage
Building/Facility/Operations Management	13	24%
Chief Engineer	4	7%

Title	Count	Percentage
Director of Sustainability	6	11%
Engineer	5	9%
Property Manager	18	33%
Other	9	16%
Grand Total	**55**	**100%**

Table 166: Owner Survey - H3: This Individual is Responsible for Hiring Designers or Contractors to Perform Work at Facility

Response	Count	Percentage
Yes	40	73%
No	14	25%
(Don't Know)	1	2%
Grand Total	**55**	**100%**

Table 167: Owner Survey - H4M1: Title of Individual Responsible for Hiring Designers or Contractors to Perform Work at Facility

Title	Count	Percentage
Company Officer	10	22%
Building/Facility/Operations Management	7	16%
Property Management	13	29%
Other Senior Management	2	4%
Owner	6	13%
Other	2	4%
(No Response)	5	11%
Grand Total	**45**	**100%**

Firmographics

Table 168: Owner Survey - X1: Respondent Title

Respondent Title	Count	Percentage
President/Owner	13	13.0%
Property Manager	34	34.0%
Other Senior Executive	10	10.0%
Facility engineer/Manager	20	20.0%

Respondent Title	Count	Percentage
Consultant	1	1.0%
Other Senior Management	14	14.0%
Asset Management	4	4.0%
Other	3	3.0%
(Don't know)	1	1.0%
Grand Total	**100**	**100.0%**

Table 169: Owner Survey - X2: Other Person Involved in Making Decisions Regarding Equipment Additions or Replacement

Other Decision Maker	Count	Percentage of Responses	Percentage of Respondents
President/Owner	24	21.6%	24.0%
Owner's Agent	4	3.6%	4.0%
Property Manager	15	13.5%	15.0%
Other Senior Executive	9	8.1%	9.0%
Facility Engineer/Manager	16	14.4%	16.0%
Other Senior Management	10	9.0%	10.0%
Other Asset Management	3	2.7%	3.0%
Board of Directors	4	3.6%	4.0%
Other	8	7.2%	8.0%
Don't know	15	13.5%	15.0%
Refused	3	2.7%	3.0%
Grand Total	**111**	**100.0%**	**111.0%**

Appendix E: Service Provider Survey Responses

This section provides tabulations of response frequencies for each of the items in the service provider survey. The subsections correspond to the major topics of the survey. The title of each table contains the survey item number. Appendix B contains the full text of the survey.

Introduction and Contact Screener

Table 170: Service Provider Survey - S1: Respondent Title

Title	Count	Percentage
(President/Owner)	**23**	**31%**
(Principal)	**2**	**3%**
(Other senior executive)	**6**	**8%**
(Consultant)	**4**	**5%**
(Other - please specify in the box below)	**40**	**53%**
DIVISION MANAGER	6	8%
GENERAL MANAGER	5	7%
OFFICE MANAGER	3	4%
OPERATIONS MANAGER	2	3%
PROJECT MANAGER	6	8%
VICE PRESIDENT	4	5%
OTHER	14	19%
Grand Total	**75**	**100%**

Table 171: Service Provider Survey - S2: Firm Primary Business Category

Business Category	Count	Percentage
Architecture/Design	12	16%
Lighting	15	20%
Controls	5	7%
Maintenance	10	13%
Mechanical	33	44%
Grand Total	**75**	**100%**

Table 172: Service Provider Survey - S3: Number of Firm Offices in the Four States of the Pacific Northwest

Number Offices	Count	Percentage
1	55	73%
2	9	12%
3	4	5%
4	1	1%
5	1	1%
6	2	3%
7	1	1%
8	1	1%
(Don't know)	1	1%
Grand Total	**75**	**100%**

Table 173: Service Provider Survey - S3A: Okay to Just Answer Survey Questions for the Office of Respondent

Response	Count	Percentage
(Yes)	19	95%
(No Response)	1	5%
Grand Total	**20**	**100%**

Size and Nature of Market Served

Table 174: Service Provider Survey - FS1: Number of Commercial Buildings Serviced in the Pacific Northwest in the Last Two Years

Number Buildings	Count	Percentage
1-19	7	9%
20-39	11	15%
40-59	13	17%
60-79	3	4%
80-99	2	3%
100-199	11	15%
200-299	9	12%
300-399	3	4%
400-499	2	3%
500-599	4	5%

Number Buildings	Count	Percentage
600-699	1	1%
700-799	1	1%
1000	6	8%
(Don't know)	2	3%
Grand Total	**75**	**100%**
Mean Value	214.1	

Table 175: Service Provider Survey - FS2: Performed Work or Services in Privately Owned Office Buildings in the Pacific Northwest in the Last Two Years

Response	Count	Percent
Yes	75	100%
Grand Total	**75**	**100%**

Table 176: Service Provider Survey - FS3: Number of Office Buildings Serviced in the Pacific Northwest in the Last Two Years

Number Buildings	Count	Percent
1-19	15	20%
20-39	13	17%
40-59	12	16%
60-79	1	1%
100-199	13	17%
200-299	6	8%
300-399	6	8%
500-599	2	3%
600-699	1	1%
700-799	1	1%
(Don't know)	5	7%
Grand Total	**75**	**100%**
Mean Value	114.7	

Table 177: Service Provider Survey - FS5: Number of Retail Buildings Serviced in the Pacific Northwest in the Last Two Years

Number Buildings	Count	Percentage
1-19	25	33%

Number Buildings	Count	Percentage
20-39	11	15%
40-59	13	17%
60-79	5	7%
100-199	11	15%
200-299	5	7%
300-399	1	1%
800-899	1	1%
1000	1	1%
(Don't know)	2	3%
Grand Total	**75**	**100%**
Mean Value	79.3	

Table 178: Service Provider Survey - FS6: Other Types of Commercial Buildings Serviced in the Pacific Northwest in the Last Two Years

Response	Count	Percentage
Yes	58	77%
No	17	23%
Grand Total	**75**	**100%**

Table 179: Service Provider Survey - FS7: Other Types of Commercial Buildings Serviced in the Pacific Northwest in the Last Two Years

Other Commercial Building Types	Count	Percentage of Responses	Percentage of Respondents
Service Other Commercial Building Types	**58**		
Transportation	2	1.4%	3.4%
Finance	1	0.7%	1.7%
Religious Org	2	1.4%	3.4%
Health Care/Medical	19	13.3%	32.8%
Education	23	16.1%	39.7%
Government & Military	16	11.2%	27.6%
Retail	5	3.5%	8.6%
Industrial	36	25.2%	62.1%
Hospitality & Restaurants	3	2.1%	5.2%
Office	2	1.4%	3.4%
Utilities/Public Works	9	6.3%	15.5%
Recreation	3	2.1%	5.2%

Other Commercial Building Types	Count	Percentage of Responses	Percentage of Respondents
Residential	7	4.9%	12.1%
Warehousing	5	3.5%	8.6%
Other	10	7.0%	17.2%
Grand Total	**143**	**100.0%**	**246.6%**

Table 180: Service Provider Survey - FS4: Proportion of Overall Work Performed for Existing Buildings, as Opposed to New Construction, in the Pacific Northwest in the Last Two Years

Proportion	Count	Percentage
0	1	1%
1-19	4	5%
20-39	6	8%
40-59	13	17%
60-79	20	27%
80-99	25	33%
100	6	8%
Grand Total	**75**	**100%**
Mean Value	65.9	

Service Types

Table 181: Service Provider Survey - NE1: Proportion of Firm's Office Building Work Performed in Primary Business Category in the Pacific Northwest in the Last Two Years

Proportion	Count	Percentage
0	2	3%
1-19	8	11%
20-39	9	12%
40-59	5	7%
60-79	8	11%
80-99	15	20%
100	27	36%
(Don't know)	1	1%
Grand Total	**75**	**100%**
Mean Value	68.1	

Energy Efficiency Discussion and Practices

Table 182: Service Provider Survey - EP1: Frequency that Clients Seek Designs or Products with Greater Energy Efficiency than Current Building Codes Require (Architecture/Design)

Frequency	Count	Percentage
Frequently	5	42%
Occasionally	6	50%
Never	1	8%
Grand Total	**12**	**100%**

Table 183: Service Provider Survey - EP2: Frequency that Firm Recommends Designs or Products to Clients with Greater Energy Efficiency than Current Building Codes Require (Architecture/Design)

Frequency	Count	Percentage
Frequently	9	75%
Occasionally	3	25%
Grand Total	**12**	**100%**

Table 184: Service Provider Survey - EP3: Percentage of Office Building Projects with Specific Energy Goals or Targets Other than Current Building Code Requirements (Architecture/Design)

Proportion	Count	Percentage
0	1	8%
1-19	2	17%
20-39	3	25%
40-59	2	17%
60-79	1	8%
80-99	2	17%
100	1	8%
Grand Total	**12**	**100%**
Mean Value	47.3	

Table 185: Service Provider Survey - EP7: Firm Provides Integrated Design Services (Architecture/Design)

Response	Count	Percentage
Yes	10	83%
No	1	8%
(Don't Know)	1	8%
Grand Total	**12**	**100%**

Table 186:Service Provider Survey - EP7A: Respondent Familiar with the Term "Integrated Design" (Architecture/Design)

Response	Count	Percentage
Yes	1	8%
(Don't Know)	1	8%
(Not Applicable)	10	83%
Grand Total	**12**	**100%**

Table 187: Service Provider Survey - EP7B: Reason These Services Not Provided

Response	Count	Percentage
WE ARE A PROPERTY MANAGEMENT COMPANY DEALING IN HISTORIC BUILDINGS	1	100%
Grand Total	**1**	**100%**

Table 188: Service Provider Survey - EP8: Frequency that Firm Recommends Clients Conduct an Energy Assessment or Benchmark Study for Building

Frequency	Count	Percentage
Frequently	39	52%
Occasionally	30	40%
Never	6	8%
Grand Total	**75**	**100%**

Attitudes and Value of Energy Efficiency

Table 189: Service Provider Survey - V1A: Level of Agreement with the Statement: "Potential clients seek expertise in Energy Efficiency"

Agreement	Count	Percentage
0 - Strongly disagree	0	0%
1	3	4%
2	0	0%
3	5	7%
4	2	3%
5	12	16%
6	14	19%
7	13	17%
8	15	20%
9	2	3%
10 - Strongly agree	9	12%
Grand Total	**75**	**100%**
Mean Rating	**6.5**	

Table 190: Service Provider Survey - V1B: Level of Agreement with the Statement: "Potential clients seek expertise in Sustainability"

Agreement	Count	Percentage
0 - Strongly disagree	2	3%
1	4	5%
2	2	3%
3	6	8%
4	6	8%
5	14	19%
6	5	7%
7	12	16%
8	13	17%
9	4	5%
10 - Strongly agree	7	9%
Grand Total	**75**	**100%**
Mean Rating	**5.9**	

Table 191: Service Provider Survey - V1C: Level of Agreement with the Statement: "Commercial building clients are willing to pay more for energy efficient designs or equipment"

Agreement	Count	Percentage
0 - Strongly disagree	1	1%
1	1	1%
2	4	5%
3	5	7%
4	6	8%
5	26	35%
6	11	15%
7	12	16%
8	5	7%
9	1	1%
10 - Strongly agree	3	4%
Grand Total	**75**	**100%**
Mean Rating	**5.4**	

Table 192: Service Provider Survey - V1D: Level of Agreement with the Statement: "Commercial building clients care more about being perceived as energy efficient, e.g., the public relations benefits, than actual efficiency levels"

Agreement	Count	Percentage
0 - Strongly disagree	2	3%
1	3	4%
2	4	5%
3	8	11%
4	4	5%
5	7	9%
6	11	15%
7	15	20%
8	11	15%
9	3	4%
10 - Strongly agree	5	7%
(Refused)	1	1%
(Don't know)	1	1%
Grand Total	**75**	**100%**
Mean Rating	**5.7**	

Table 193: Service Provider Survey - V1E: Level of Agreement with the Statement: "Expertise in energy efficiency is part of my firm's market identity"

Agreement	Count	Percentage
0 - Strongly disagree	1	1%
1	0	0%
2	4	5%
3	3	4%
4	3	4%
5	7	9%
6	4	5%
7	7	9%
8	22	29%
9	6	8%
10 - Strongly agree	18	24%
Grand Total	**75**	**100%**
Mean Rating	**7.3**	

Table 194: Service Provider Survey - V1F: Level of Agreement with the Statement: "Expertise in sustainability is part of my firm's market identity"

Agreement	Count	Percentage
0 - Strongly disagree	2	3%
1	2	3%
2	2	3%
3	4	5%
4	3	4%
5	12	16%
6	3	4%
7	10	13%
8	16	21%
9	3	4%
10 - Strongly agree	18	24%
Grand Total	**75**	**100%**
Mean Rating	**6.8**	

Table 195: Service Provider Survey - V2: Importance of Energy Efficiency to Office Building Clients

Importance	Count	Percentage
0 - Not at all Important	0	0%
1	0	0%
2	0	0%
3	5	7%
4	1	1%
5	8	11%
6	12	16%
7	13	17%
8	24	32%
9	6	8%
10 - Extremely important	6	8%
Grand Total	**75**	**100%**
Mean Rating	**7.0**	

Table 196: Service Provider Survey - V3: Importance of Sustainability to Office Building Clients

Importance	Count	Percentage
0 - Not at all Important	0	0%
1	0	0%
2	4	5%
3	7	9%
4	7	9%
5	12	16%
6	15	20%
7	13	17%
8	9	12%
9	4	5%
10 - Extremely important	4	5%
Grand Total	**75**	**100%**
Mean Rating	**5.8**	

Barriers to Taking Action

Table 197: Service Provider Survey - BA1: Barriers Faced in Pursuing Energy Efficiency

Barriers to Energy Efficiency	Count	Percentage of Responses	Percentage of Respondents
Respondents	**75**		
Bldg & Code Constraints	8	6.1%	10.7%
First cost or cost generally	57	43.5%	76.0%
Lack of Knowledge/Awareness	18	13.7%	24.0%
Not Cost Effective	20	15.3%	26.7%
Performance Uncertainty	4	3.1%	5.3%
Coordinating Decision Makers	3	2.3%	4.0%
Split Incentives	1	.8%	1.3%
Competing Priorities	4	3.1%	5.3%
Lack of Availability	4	3.1%	5.3%
Lack of Financing	1	.8%	1.3%
No Barriers	2	1.5%	2.7%
Other	8	6.1%	10.7%
Don't Know	1	.8%	1.3%
Grand Total	**131**	**100.0%**	**174.7%**

Information Seeking

Table 198: Service Provider Survey - I1: Employee Currently Present at Firm Responsible for Actively Searching Information about Energy Efficiency Products or Equipment

Response	Count	Percentage
Yes	66	88%
No	9	12%
Grand Total	**75**	**100%**

Table 199: Service Provider Survey - I2: Employee Currently Present at Firm Responsible for Actively Searching Information about Energy Efficient Design Practices

Response	Count	Percentage
Yes	61	81%
No	13	17%
(Don't Know)	1	1%

Response	Count	Percentage
Grand Total	**75**	**100%**

Table 200: Service Provider Survey - I3: Employee Currently Present at Firm Responsible for Actively Searching Information about Energy Efficient Operational Practices

Response	Count	Percentage
Yes	55	73%
No	19	25%
(Don't Know)	1	1%
Grand Total	**75**	**100%**

Energy Efficiency Training and Certifications

Table 201: Service Provider Survey - K1: Firm Pursues Professional Development or Training Opportunities for Employees in the Following Topics

Professional Development & Training Topics	Count	Percentage of Responses	Percentage of Respondents
Respondents	**75**		
Efficient Equipment & Installation	62	30.7%	82.7%
Efficient Design Practices	63	31.2%	84.0%
Efficient Bldg Ops Practices	52	25.7%	69.3%
LEED	4	2.0%	5.3%
ASHRAE	3	1.5%	4.0%
Renewable Energy & Sustainability	2	1.0%	2.7%
Continuing Education	2	1.0%	2.7%
Building Automation	2	1.0%	2.7%
Certification	2	1.0%	2.7%
Other	4	2.0%	5.3%
No Professional Development	2	1.0%	2.7%
Don't Know	2	1.0%	2.7%
Refused	2	1.0%	2.7%
Grand Total	**202**	**100.0%**	**269.3%**

Table 202: Service Provider Survey - K2: Firm's Preferred Format for Professional Development or Training in Energy Efficiency or Sustainability

Preferred Professional Development Format	Count	Percentage of Responses	Percentage of Respondents
Seek Professional Development Activities	**71**		
Instructor-led Webinar	29	24.4%	40.8%
Self-directed Online Training	25	21.0%	35.2%
Classroom-based Training	31	26.1%	43.7%
Intensive Workshops	26	21.8%	36.6%
Presentation/Supplier Meeting	3	2.5%	4.2%
Mentorship/On-Job Training	2	1.7%	2.8%
Other	3	2.5%	4.2%
Grand Total	**119**	**100.0%**	**167.6%**

Table 203: Service Provider Survey - K3: Respondent or Colleagues Participated in an Education, Training, or Professional Development Program Offered by the Following Organizations

Organization Participation	Count	Percentage of Responses	Percentage of Respondents
Respondents	**75**		
AIA	21	11.2%	28.0%
BOMA	26	13.8%	34.7%
Cascadia Green Bldg Council	15	8.0%	20.0%
IFMA	7	3.7%	9.3%
A Utility Company	45	23.9%	60.0%
Northwest Energy Educ Inst	18	9.6%	24.0%
NEEA	2	1.1%	2.7%
IBEW	3	1.6%	4.0%
IEC	3	1.6%	4.0%
NECA	4	2.1%	5.3%
Energy Trust of Oregon	3	1.6%	4.0%
ASHRAE	3	1.6%	4.0%
AEE	3	1.6%	4.0%
Private Company Training	9	4.8%	12.0%
Oregon Energy Council	1	.5%	1.3%
Other Trade Assn	5	2.7%	6.7%
Other	9	4.8%	12.0%
Don't Know	8	4.3%	10.7%

Organization Participation	Count	Percentage of Responses	Percentage of Respondents
Refused	3	1.6%	4.0%
Grand Total	**188**	**100.0%**	**250.7%**

Table 204: Service Provider Survey - K4: Firm Employee Holds Any Certification in Energy Efficiency or Sustainability

Response	Count	Percentage
Yes	42	56%
No	31	41%
(Don't Know)	2	3%
Grand Total	**75**	**100%**

Table 205: Service Provider Survey - K4A: Energy Efficiency or Sustainability Certification Held by Any Firm Employees

Energy Efficiency or Sustainability Certification	Count	Percentage of Responses	Percentage of Respondents
Employee Holds Certification	**42**		
LEED	30	41.1%	71.4%
BOC	6	8.2%	14.3%
Certified Energy Manager	15	20.5%	35.7%
Professional Engineer	4	5.5%	9.5%
Other	8	11.0%	19.0%
Don't know	8	11.0%	19.0%
Refused	2	2.7%	4.8%
Grand Total	**73**	**100.0%**	**173.8%**

BetterBricks Awareness

Table 206: Service Provider Survey - N1: Respondent Heard of Northwest Energy Efficiency Alliance Before Today

Response	Count	Percentage
Yes	45	60%
No	30	40%
Grand Total	**75**	**100%**

Table 207: Service Provider Survey - N2: Respondent Heard of BetterBricks Before Today

Response	Count	Percentage
Yes	31	41%
No	44	59%
Grand Total	**75**	**100%**

Table 208: Service Provider Survey - N3: How First Heard about BetterBricks

Response	Count	Percentage
(BetterBricks website)	**1**	**3%**
(Search or online advertising)	**1**	**3%**
(Word of mouth)	**4**	**13%**
(Other - please specify in the box below)	**25**	**81%**
In a class	7	23%
Media-Other	2	6%
NEEA or Better Bricks-Other	4	13%
Online-Other (incl. email)	3	10%
Trade or Professional Organization	5	16%
Utility	3	10%
Other	1	3%
Grand Total	**31**	**100%**

Table 209: Service Provider Survey - N4A: Respondent Heard of BetterBricks Offering Kilowatt Crackdown

Response	Count	Percentage
Yes	9	12%
No	66	88%
Grand Total	**75**	**100%**

Table 210: Service Provider Survey - N4B: Respondent Heard of BetterBricks Offering Carbon4Square

Response	Count	Percentage
Yes	9	12%
No	66	88%
Grand Total	**75**	**100%**

Table 211: Service Provider Survey - N4C: Respondent Heard of BetterBricks Offering High-Performance Portfolio Framework

Response	Count	Percentage
Yes	9	12%
No	65	87%
(Don't Know)	1	1%
Grand Total	**75**	**100%**

Table 212: Service Provider Survey - N4D: Respondent Heard of BetterBricks Education, Training or Professional Development Programs

Response	Count	Percentage
Yes	19	25%
No	56	75%
Grand Total	**75**	**100%**

Table 213: Service Provider Survey - N4E: Respondent Heard of BetterBricks Awards

Response	Count	Percentage
Yes	26	35%
No	49	65%
Grand Total	**75**	**100%**

Table 214: Service Provider Survey - N4F: Respondent Heard of BetterBricks Integrated Design Lab Network

Response	Count	Percentage
Yes	17	23%
No	58	77%
Grand Total	**75**	**100%**

Table 215: Service Provider Survey - N4G: Respondent Heard of Any Other BetterBricks Offerings

Response	Count	Percentage
(No)	74	99%
(Don't know)	1	1%
Grand Total	**75**	**100%**

Table 216: Service Provider Survey - N5A: Respondent Accessed Resources about Benchmarking

Response	Count	Percentage
Yes	20	65%
No	11	35%
Grand Total	**31**	**100%**

Table 217: Service Provider Survey - N5B: Respondent Accessed Resources about Conducing a Scoping Study

Response	Count	Percentage
Yes	8	26%
No	23	74%
Grand Total	**31**	**100%**

Table 218: Service Provider Survey - N5C: Respondent Accessed Resources about Building Tune-Ups

Response	Count	Percentage
Yes	15	48%
No	16	52%
Grand Total	**31**	**100%**

Table 219: Service Provider Survey - N5D: Respondent Read the Green Opportunity Index

Response	Count	Percentage
Yes	6	19%
No	25	81%
Grand Total	**31**	**100%**

Table 220: Service Provider Survey - N5E: Respondent Read Case Studies

Response	Count	Percentage
Yes	24	77%
No	7	23%
Grand Total	**31**	**100%**

Table 221: Service Provider Survey - N5F: Respondent Read Operations and Management Best Practices

Response	Count	Percentage
Yes	14	45%
No	17	55%
Grand Total	**31**	**100%**

Table 222: Service Provider Survey - N5G: Respondent Used Symptom Diagnosis Tool

Response	Count	Percentage
Yes	5	16%
No	25	81%
(Don't Know)	1	3%
Grand Total	**31**	**100%**

Table 223: Service Provider Survey - N5H: Respondent Accessed the Performance Modeling and Energy Engineering Document

Response	Count	Percentage
Yes	9	29%
No	22	71%
Grand Total	**31**	**100%**

Table 224: Service Provider Survey - N6A: Respondent or Colleagues Have Used the BetterBricks High-Perfomance Portfolio Framework

Response	Count	Percentage
Yes	3	33%
No	5	56%
(Don't Know)	1	11%
Grand Total	**9**	**100%**

Table 225: Service Provider Survey - N6B: Respondent or Colleagues Have Participated in a BetterBricks Education, Training or Professional Development Program

Response	Count	Percentage
Yes	12	63%
No	6	32%

Response	Count	Percentage
(Don't Know)	1	5%
Grand Total	**19**	**100%**

Table 226: Service Provider Survey - N6C: Respondent or Colleagues Have Visited the BetterBricks Website

Response	Count	Percentage
Yes	29	39%
No	45	60%
(Don't Know)	1	1%
Grand Total	**75**	**100%**

Table 227: Service Provider Survey - N6D: Respondent or Colleagues Have Participated in an Integrated Design Lab Network

Response	Count	Percent
Yes	11	65%
No	6	35%
Grand Total	**17**	**100%**

Additional Firmographics

Table 228: Service Provider Survey - X1: Number of Employees at Firm Through all Offices in the Pacific Northwest

Number Employees	Count	Percent
Less than 10,	7	9%
10-24,	22	29%
25 - 50, or	14	19%
More than 50	32	43%
Grand Total	**75**	**100%**

Appendix F: Cross-Survey Tabulations

Attitudes and Value of Energy Efficiency

Table 229: Importance of Improving Energy Efficiency

Response	Owners		Service Providers		
	Frequency	Percentage	Frequency	Percentage	P-Value
3	2	2%	5	7%	
4	4	4%	1	1%	
5	3	3%	8	11%	
6	5	5%	12	16%	
7	12	12%	13	17%	
8	28	28%	24	32%	0.001
9	13	13%	6	8%	
10 - Extremely Important	32	32%	6	8%	
(Don't know)	1	1%			
Total	**100**		**75**		
Percent above 6		85%		65%	

Table 230: Importance of Improving Sustainability

Response	Owners		Service Providers		
	Frequency	Percentage	Frequency	Percentage	P-Value
0 - Not at all Important	2	2%	0	0%	
2	1	1%	4	5%	
3	2	2%	7	9%	
4	4	4%	7	9%	
5	15	15%	12	16%	
6	14	14%	15	20%	
7	11	11%	13	17%	0.002
8	20	20%	9	12%	
9	10	10%	4	5%	
10 - Extremely Important	21	21%	4	5%	
Total	**100**		**75**		
Percent above 6		62%		36%	

BetterBricks Awareness

Table 231: Respondent Heard of Northwest Energy Efficiency Allicance Before Today

Response	Owners		Service Providers		
	Frequency	Percentage	Frequency	Percentage	P-Value
Yes	53	53%	45	60%	ns
No	46	46%	30	40%	
(Don't Know)	1	1%	0	0%	
Total	**100**		**75**		

Table 232: Respondent Heard of BetterBricks Before Today

Response	Owners		Service Providers		
	Frequency	Percentage	Frequency	Percentage	P-Value
Yes	49	49%	31	41%	ns
No	51	51%	44	59%	
Total	**100**		**75**		

Table 233: How First Heard about BetterBricks

Response	Owners		Service Providers		
	Frequency	Percentage	Frequency	Percentage	P-Value
NEEA website	**1**	**2%**	**1**	**3%**	ns
BetterBricks website	**1**	**2%**	**4**	**13%**	0.024
Word of mouth	**3**	**6%**	**1**	**3%**	ns
Other					
NEEA or Better Bricks-Other	3	6%	4	13%	ns
Trade or Professional Organization	13	27%	5	16%	ns
Online-Other (incl. email)	6	12%	0	0%	0.023
Rating Agency	3	6%	0	0%	ns
In a class	2	4%	7	23%	0.005
Media-Other	2	4%	5	16%	0.031
Utility	2	4%	3	10%	ns
Other	7	14%	1	3%	ns
(Don't know)	**6**	**12%**	**0**	0%	0.023
Total	**49**		**31**		

Table 234: Respondent Heard of the BetterBricks Offering Kilowatt Crackdown

Response	Owners		Service Providers		
	Frequency	Percentage	Frequency	Percentage	P-Value
Yes	17	35%	9	12%	
No	32	65%	66	88%	0.001
Total	**49**		**75**		

Table 235: Respondent Heard of the BetterBricks Offering Carbon4Square

Response	Owners		Service Providers		
	Frequency	Percentage	Frequency	Percentage	P-Value
Yes	18	37%	9	12%	
No	31	63%	66	88%	0.000
Total	**49**		**75**		

Table 236: Respondent Heard of the BetterBricks Offering High-Performance Portfolio Framework

Response	Owners		Service Providers		
	Frequency	Percentage	Frequency	Percentage	P-Value
Yes	14	29%	9	12%	
No	35	71%	65	87%	0.009
(Don't Know)			1	1%	
Total	**49**		**75**		

Table 237: Respondent Heard of the BetterBricks Education & Training Programs

Response	Owners		Service Providers		
	Frequency	Percentage	Frequency	Percentage	P-Value
Yes	32	65%	19	25%	
No	17	35%	56	75%	0.000
Total	**49**		**75**		

Table 238: Respondent Accessed Resources about Benchmarking

Response	Owners		Service Providers		
	Frequency	Percentage	Frequency	Percentage	P-Value
Yes	21	43%	20	65%	0.027

Response	Owners		Service Providers		
	Frequency	Percentage	Frequency	Percentage	P-Value
No	27	55%	11	35%	
(Don't Know)	1	2%			
Total	**49**		**31**		

Table 239: Respondent Accessed Resources about Conducting a Scoping Study

Response	Owners		Service Providers		
	Frequency	Percentage	Frequency	Percentage	P-Value
Yes	14	29%	8	26%	
No	33	67%	23	74%	ns
(Don't Know)	2	4%			
Total	**49**		**31**		

Table 240: Respondent Accessed Resources about Building Tune-Ups

Response	Owners		Service Providers		
	Frequency	Percentage	Frequency	Percentage	P-Value
Yes	15	31%	15	48%	
No	33	67%	16	52%	ns
(Don't Know)	1	2%			
Total	**49**		**31**		

Table 241: Respondent Read the Green Opportunity Index

Response	Owners		Service Providers		
	Frequency	Percentage	Frequency	Percentage	P-Value
Yes	3	6%	6	19%	
No	44	90%	25	81%	0.035
(Don't Know)	2	4%			
Total	**49**		**31**		

Table 242: Respondent Read Case Studies

Response	Owners		Service Providers		
	Frequency	Percentage	Frequency	Percentage	P-Value
Yes	17	35%	24	77%	0.000

Response	Owners		Service Providers		
	Frequency	Percentage	Frequency	Percentage	P-Value
No	31	63%	7	23%	
(Don't Know)	1	2%			
Total	**49**		**31**		

Table 243: Respondent Read Operations & Management Best Practices

Response	Owners		Service Providers		
	Frequency	Percentage	Frequency	Percentage	P-Value
Yes	15	31%	14	45%	ns
No	33	67%	17	55%	
(Don't Know)	1	2%			
Total	**49**		**31**		

Table 244: Respondent Utilized the Symptoms Diagnosis Tool

Response	Owners		Service Providers		
	Frequency	Percentage	Frequency	Percentage	P-Value
Yes	2	4%	5	16%	0.031
No	46	94%	25	81%	
(Don't Know)	1	2%	1	3%	
Total	**49**		**31**		