Market Research Report

COMMERCIAL BUILDINGS INITIATIVE

TARGET MARKET PRIORITIES

prepared by

SCHICK CONSULTING

and

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I. Introduction

The Northwest Energy Efficiency Alliance (the Alliance) is a non-profit group of electric utilities, state governments, public interest groups, and industry representatives committed to bringing affordable, energy-efficient products and services to the marketplace. In this light, it is funding an initiative directed at transforming business practices for commercial buildings. This report explores target market priorities for this initiative.

From an energy perspective, the commercial sector of energy use has most often been segmented and examined:

- By building type (office, retail, grocery, restaurant, etc.) and energy consumption within different building end-uses (lighting, HVAC, etc.); or

- By different buying situations that influence energy use, such as new construction, building renovation, remodeling, and equipment replacement.

While these are important perspectives to consider in developing market transformation strategies, the purpose of this effort is to segment and examine the commercial market by asset ownership and financial decision-making structures. The focus is on transforming commercial business practices to better incorporate energy efficiency and energy related costs into financial decision-making.

With this purpose in mind, the approach taken to identify target market priorities associated with transforming commercial business practices is as follows:

1. Matrices have been developed that segment the commercial market by asset ownership and financial decision-making structures.

2. These matrices have been used to help identify target market opportunities that merit further research and analysis.

3. Research and analysis is directed towards characterizing each of the target market opportunities in greater detail, and collecting relevant data and information.

4. Market opportunities are then ranked or prioritized based on established criteria.

5. The intent is to develop transformation strategies for three to five high-priority commercial target market opportunities.

Commercial Market Matrices

The commercial market matrices include the real estate market, the chains and franchises market, and the institutional buildings market. *Tables 1* through *3* illustrate these matrices. Each matrix compares the predominant asset ownership/financial decision-making categories with business type/building use. An "X" identifies those assets that apply to a specific use.

Table 1: Commercial Real Estate Market Matrix

BUILDING TYPE	OWNER-OCCUPIED	PRIVATELY OWNED / LEASED	INSTITUTION OWNED / ADVISOR	INVESTOR OWNED REIT
LARGE OFFICE BUILDINGS	X	X	X	X
SUBURBAN OFFICES	X	X	X	X
MIXED USE DEVELOPMENT	X	X	X	X
HIGH RISE MULTI-FAMILY	X	X	X	X
LARGE RETAIL MALLS		X	X	X
STRIP MALLS		X	X	
SMALL OFFICES/RETAIL	X	X		
INDUSTRIAL OFFICE PARKS	X	X	X	X
WAREHOUSES	X	X	X	X

Table 2: Chains and Franchises Market Matrix

BUILDING USE	NATIONAL CHAINS	REGIONAL OR LOCAL CHAINS	FRANCHISES: SINGLE / MULTIPLE	INDEPENDENT OWNER
LARGE RETAIL STORES	X	X		
SMALL RETAIL STORES	X	X	X	X
CONVENIENCE STORES	X	X	X	X
GROCERY STORES	X	X	X	X
FAST FOOD RESTAURANTS	X	X	X	X
OTHER RESTAURANTS	X	X	X	X
LODGING	X	X	X	X
ASSISTED LIVING / NURSING HOMES		X		X

Table 3: Institutional Market Matrix

BUILDING TYPE / USE	UNIVER-SITIES & COLLEGES	K-12 SCHOOLS	FEDERAL GOVERN-MENT	STATE / LOCAL GOVERN-MENT	NON-PROFITS
LARGE OFFICE BUILDINGS	X		X	X	
SMALL OFFICE BUILDINGS	X	X	X	X	X
CLASS ROOMS	X	X			
LARGE MULTI-USE FACILITIES	X		X	X	X
SMALL MULTI-USE FACILITIES	X	X	X	X	X
HEALTH CARE / HOSPITALS				X	X

Target Market Opportunities

Using the market matrices and the selection criteria presented below, fifteen potential target market opportunities were identified for further research and analysis. While this initial qualitative screening eliminated a few market segments from further consideration, the intention is to maintain a broad market focus at this time. Based on the further research and analysis summarized in this document, the selection criteria have been applied more deliberately to rank and prioritize market opportunities.

Selection Criteria

The selection criteria are intended, in aggregate, to represent market transformation potential:

- **Market Interest/Readiness** – *can we do it quickly, motivated market actors, available support tools, etc.*
- **Market Leverage –** *decision-making concentration, degree of market competitiveness*
- **Marketing Package** – *likely effectiveness of marketing messages given business practices*
- **Market Size** – *savings potential now and over time*
- **Spillover Potential** to other market opportunities
- **Geographic Spread** within the Pacific Northwest
- **Current Efforts –** *alignment with Northwest utility, the Alliance, and nationally based work on the market*

Other Considerations

The following were also taken into consideration:

- **Buying Situations** – *new construction, renovation, equipment replacement, remodel, tenant improvements, retrofit, re-commissioning, O&M, etc.*
- **Technology Opportunities** – *HVAC design/equipment, building controls, lighting design and controls (including daylighting), etc.*

- **Available Service Providers** – *existing infrastructure or individuals/firms capable and interested in working with market actors to address market opportunity*

Initial Qualitative Screen – 15 Target Market Opportunities

Fifteen target market opportunities identified for further research and analysis are listed below.

Commercial Real Estate

- Owner-occupied commercial property
- Privately owned/leased commercial property
- Investor owned/professionally managed commercial property
- Investor owned/real estate investment trust (REIT)
- Privately owned small office and retail property

Chains and Franchises

- National retail chains (dry goods)
- Regional/local retail chains (dry goods)
- Regional/local franchises (dry goods)
- Grocery stores (national/regional/local chains and independents)
- Restaurants (chain restaurants and independents)
- Lodging

Institutional

- Universities and colleges (public and private)
- K-12 schools

- State government
- Health care/hospitals

II. Commercial Real Estate Market

Introduction

Commercial real estate is a four trillion dollar market nationwide. It is very dynamic, constantly changing as a variety of market players impact overall business trends in a never ending quest for competitive advantage. One large shift occurring in the last two decades centers on who owns real estate. Real estate investment trusts (REITs) are breaking a private capital monopoly by providing small investors with a public market vehicle for investing in large, income-producing real estate. A related change that continues to play out is the ongoing consolidation and vertical integration of the market players, whether they are real estate owners, advisors, property managers, or service contractors.

In examining the commercial real estate market, we have focused on who owns real estate, the market actors involved in serving the owner's interests, and their business practices. This focus is critical for identifying market barriers associated with promoting efficient energy use and crafting market transformation strategies that can result in sustainable change. In looking at the commercial real estate market, it is useful to first separate out new construction from existing property. While there is some overlap between these two segments, there are significant differences in business practices and market players. Our primary focus has been on the real estate market for existing commercial property, which represents the vast majority of the commercial segment.

Real Estate Market Players

Major commercial real estate market players, their traditional roles, and responsibilities are summarized below. However, as previously mentioned, there is a trend towards integrating these roles and responsibilities as companies look to provide full service while benefiting from economies of scale.

Existing Buildings & Facilities

Real Estate Owners: Commercial real estate owners range from individuals with a single property to large privately held or publicly owned companies with holdings in the millions of square feet.

Advisors/Asset Managers: Some property owners, primarily large institutions (pension funds, insurance companies, etc.), employ professional real estate advisors or asset managers tasked with maximizing the value of their real estate holdings.

Property Managers: The traditional property manager role is to handle the day-to-day business operations at specific properties, including leasing, tenant issues, and building operations and maintenance.

Contractors: Contractors provide a wide variety of services, usually through property management companies. Examples include building operations, tenant improvements, equipment repair and maintenance, janitorial services, elevator services, landscaping, and building security.

New Construction

Owners/Developers: Most developers, no matter how large or sophisticated, are in a perpetual search for capital. In some cases they use their own, but usually they rely on outside sources. These outside sources could be the same entities that invest in existing real estate, or they could be firms that focus exclusively on new development.

Contractors: A host of contractors support developers in the design and construction phases of a project. Architects and engineers are prominent in the design phase, then general construction contractors take over, working with structural, electrical, and mechanical subcontractors to complete the development.

Existing & New

Real Estate Brokers: In the existing buildings market, brokers negotiate leases (as a representative of the owner or the tenant) and are involved in property acquisition or disposition. In new construction, real estate brokers can line up the prospective tenants needed to secure capital for the development.

Tenants or Occupants: The tenants or occupants of a building interact mainly with property management companies, and with real estate brokers when it comes time to move or re-negotiate a lease.

Commercial Real Estate Ownership

Table 4 summarizes who owns commercial real estate in the Pacific Northwest. The percentages shown are "ball park" estimates, largely based on national data[1] with minor adjustments to match up with more limited regional information. While the lack of readily available regional data is somewhat frustrating, one of the more interesting observations from this work is the degree to which the Pacific Northwest is on the real estate map nationally (particularly Seattle and Portland), and is influenced by national real estate trends. Along these lines, the last column in the table indicates the degree to which each ownership segment is, or has moved towards a more integrated owner/operator approach to the business, in contrast to the more traditional non-integrated business model that outsource various responsibilities to other market actors.

Table 4: Ownership of Commercial Real Estate in the Pacific Northwest

OWNERSHIP CATEGORY	MARKET PERCENTAGE	OWNERSHIP DETAIL	REAL ESTATE HOLDINGS	BUSINESS MODEL
PRIVATELY OWNED AND LEASED	25%	National Firms Regional Co.s Individual Owners	Office Retail Industrial	Partially Integrated
INSTITUTIONALLY OWNED - ADVISORS	30%	Pension Funds Insurance Co.s Foreign Investors	Office Retail Industrial	Partially Integrated
REAL ESTATE INVESTMENT TRUSTS	25%	National Regional	Office Industrial Retail Apartments	Integrated
OWNER-OCCUPIED	20%	Government Corporations Large Retailers Small Business	Large Office Large Retail Small Buildings	Partially Integrated

[1] Nationally based data obtained from the Urban Land Institute and the National Association of Real Estate Investment Trusts.

Market Summaries

The attached commercial real estate market summaries (*see Appen*dices) describe each of these real estate ownership market segments in more depth, focusing on the Pacific Northwest in particular. Some key findings include the following.

Privately Owned and Leased Real Estate

These real estate owners include individuals or families with a single or several buildings, local or regional companies that own a number of properties, as well as large nationally based corporations. Many of the local or regional organizations have built up sizeable real estate portfolios within specific markets, such as Seattle or Portland, while the large nationally based companies often focus on a specific property type (urban high-rise, suburban office parks, industrial warehouses, etc.). Some companies are vertically integrated, handling everything in-house, while others are non-integrated, contracting out all or the majority of these responsibilities, including portfolio asset management, day-to-day property management, and a wide range of operational services.

Institutionally Owned/Advisor Managed Real Estate

Institutional investors in real estate include pension funds, insurance companies, and foreign investors. Pension fund managers and other institutional investors employ companies that specialize in providing experienced real estate investment services to guide and manage these funds. Real estate advisor/asset management companies focus primarily on managing an overall real estate portfolio, determining what properties to acquire, arranging financing and property dispositions, with an eye towards maximizing the value of the real estate holdings over time. They typically employ property management companies to handle the day-to-day business operations at specific properties, including leasing, tenant issues, and building operations and maintenance. Property management companies in turn employ contractors to provide a wide variety of services.

Real Estate Investment Trusts (REITs)

REITs own and, in most cases, manage nationwide income producing real estate, such as office buildings, retail properties, warehouses and apartment complexes. The *Tax Reform Act of 1986* accelerated movement towards a more consolidated, vertically integrated real estate market, with REITs leading the charge. REITs enable small investors to invest in large scale, income producing real estate, and are legally required to pay 90% of taxable income to shareholders every year. REITs have been aggressively moving into the Pacific Northwest real estate market. For example, Equity Office Properties alone owns 15 million square feet regionally, and is now the largest commercial office property owner in both the Seattle and Portland metropolitan areas.

Privately Owned and Occupied Commercial Real Estate

While there is a wide variety of owner-occupied commercial real estate, in total it represents a small percentage of the overall commercial real estate market. Government buildings and facilities represent more than half of the owner-occupied segment of the market. On the private side of the equation, owner-occupied commercial real estate may be best characterized by small business owners, both rural and urban, large corporations with campuses, or large retailers that own some or all of their buildings and facilities. Unlike other segments of the commercial real estate market, the financial incentive for energy cost savings is straightforward, with any savings resulting in a direct reduction in annual operating costs and increased profits. However, it is important to note that when small business is separated out, there is very little owner-occupied real estate remaining.

Small Office and Retail Commercial Real Estate

A market summary focusing on small office and retail commercial real estate is attached as well (*see Appendices*). While this segment cuts across the ownership categories outlined above, small buildings and facilities are different because of their size, and merit separate consideration. Small office and retail real estate is split between owner-occupied and leased property, with the majority of businesses leasing space. Owners of small office and retail leased space are a varied group, including individuals or families with historic ties to the property, local developers, private investors and nationally-based REITs. Due to their size, most small businesses handle day-to-day building operations and maintenance themselves, relying on local contractors for assistance when needed.

Ratings and Rankings

Although there is much more to be learned about the real estate market on a regional level, the information obtained to date can and has been used to rate and rank each of the commercial market segments from an energy efficiency market transformation perspective. Overall ratings and rankings are summarized below in *Table 5*. Detailed individual ratings follow each of the attached real estate ownership market segment write-ups.

Table 5: Ratings and Rankings of Real Estate Market Segments

OWNERSHIP CATEGORY / RATING[2]	PRIVATELY OWNED AND LEASED	INSTITU-TIONALLY OWNED – ADVISORS	REAL ESTATE INVESTMENT TRUSTS	OWNER-OCCUPIED	SMALL OFFICE AND RETAIL
MARKET INTEREST	3	3	4	4	3
MARKET LEVERAGE	3	4	5	2	1
MARKET PACKAGING	4	3	4	4	3
MARKET SIZE	4	4	4	2	3
SPILLOVER POTENTIAL	3	3	4	2	1
GEOGRAPHIC SPREAD	4	3	3	5	5
CURRENT EFFORTS	3	3	3	3	3
TOTAL RATING	24	23	27	22	19

As the rankings summarized above indicate, real estate investment trusts represent the most attractive real estate ownership market segment. REITs are a prime example of a major leverage point to influence real estate business practices market-wide. REITs are fueling the continuing

[2] Scale of 1–5 points for each criteria

consolidation and vertical integration of the real estate market. They not only own real estate, they actively manage their holdings, employ property managers, provide or contract for O&M services, and are looking for innovative ways to capitalize on their economies of scale. With the recent downturn in the economy, REITs are looking more closely at internal opportunities, in contrast to external growth, as a means to raise or maintain FFO (funds from operations). Energy costs typically account for 20-25% of a building’s operating costs, and are therefore an attractive target for reducing operating expense.

Other real estate ownership market segments are closely bunched together, and represent reasonably attractive targets as well. The industry-wide trend towards consolidation and vertical integration of real estate companies creates leverage points and business opportunities that were not there in the past. Instead of dealing with a fragmented market, vertically integrated companies own real estate, manage their assets, employ property managers, and provide or contract for O&M services. A value proposition centered on improving net operating income (NOI) will spark interest on the part of real estate owners and/or their agents. Owners that occupy their buildings and facilities directly benefit from the actions they take to reduce energy related costs. However, these are mostly small commercial businesses, with limited time or resources.

Small office and retail commercial real estate ranked lowest from a market transformation perspective. These businesses are often lumped together because of their size and the market barriers associated with attempting to meet their needs. Otherwise, they have little in common. The diversity in business types, locations, limited contractor involvement and a lack of economies of scale add up to a difficult situation. Still, the fact that a number of the owners are also occupants of their buildings and facilities means that they can directly benefit from the actions they take to manage and reduce energy related costs. Private investors and REITs that own and lease small retail space have large real estate holdings in aggregate, so some economies of scale are possible.

Potential Market Transformation Strategies

Setting aside small office and retail, there is merit in combining real estate market segments from a market transformation perspective. Although business practices differ somewhat between ownership segments, the same market players are often involved, and the message in similar. Privately owned commercial buildings are real estate assets. Owners and their agents (asset and property managers) look to maximize value by improving net operating income (NOI) and increasing the book value of the assets. NOI can be improved through reducing operating costs (including energy related costs) or through increasing building revenue (higher occupancy, higher rents).

It appears the more important distinctions from a market transformation perspective include: 1) whether property owners use an integrated or a non-integrated business model (who to approach); 2) whether the property is leased or owner-occupied (message); and 3) whether the properties are large or small (concentration/involvement of other market actors). This suggests working through two separate market channels to encourage change in business practices. For more integrated real estate owners (REITs, some privately held regional real estate companies, large owner-occupied properties), approach them directly. For non-integrated real estate owners, approach property management companies because they are the owner's agent (all segments).

Regardless of the market channel used, the key messages are similar. Improvements in energy use can have a positive impact on NOI or FFO, and can help maintain or enhance the value of the assets. Aggressive energy management practices can also create a more comfortable work environment, leading to increased tenant satisfaction, higher occupancy and tenant retention rates. This in turn can boost occupant productivity, with positive impacts on the tenant's business. From the property management company perspective, bringing this value proposition to the owner's attention as an additional service offering strengthens their business relationship with the property owner and can serve as a source for additional income or fees, as well as provide a competitive advantage in obtaining new business.

Assuming the message is effective, sustainable change in business practice requires concrete steps real estate owners and their agents can take to operate differently. Given that most commercial real estate is leased, an important market barrier to address is the triple net (NNN) rent provision in most leases. NNN rent means the tenants agree to pay the owner's operating expenses, including energy costs, proportionate to the amount of space each occupies. To address this issue, lease agreements can be restructured, with a service charge added or a rent increase negotiated to compensate the owner for energy efficiency related investments. There is a timing element to adjusting lease agreements that must be taken into account. Both owners and tenants will be reluctant to alter or change lease agreements before they naturally come up for renewal.

If strategies to address NNN issues are successful, building owners and their agents can benefit directly from reductions in energy related costs (similar to owner-occupied properties). With NNN leases in place, sustainable change in energy related commercial real estate business practice is still possible. Reducing energy related operating costs results in lower tenant costs and increased comfort, thereby helping to maintain occupancy levels and asset value. Regardless of lease provisions, practical steps real estate owners and their agents must take to capture these benefits requires a framework, or business process. Developing and promoting the steps in this process, as well as the business tools needed to support it, represent a significant market transformation opportunity.

Some initial thoughts include the following:

- The business process could begin with an opportunity assessment that considers technical, financial, and market oriented factors. Based on results, additional steps could focus on further development of specific opportunities.

- The business process must integrate with the property owner or agent's existing business practices, impacting NOI, FFO, property management fee structures, or other financial performance indicators.

- Support tools, such as energy use benchmarking, financial analysis modeling, proto-type lease provisions or contract terms, and case study materials are critical (ENERGY STAR® tools could be useful).

- The result is an energy plan impacting business operating and financial decision-making related to O&M practices, tenant improvements, capital improvements, and other energy related business activities.

- An effective MT strategy must work in partnership with existing real estate market actors to instigate change, and compliment existing utility conservation resource acquisition efforts.

III. Chain and Franchise Market

Introduction

Retail sales heavily drive the U.S. economy. In 2000, retail sales (including automobiles) exceeded $3.2 trillion, accounting for about 32% of the national gross domestic product. In the Pacific Northwest, overall retail trade accounts for over $105 billion, including automobile, general retail, and food sales. Core GAFO[3] retail activities (including department, discount and specialty stores) accounted for 31% of all regional retail sales ($33 billion), whereas retail food sales (supermarkets and groceries) accounted for 17% ($18 billion).

In addition, restaurant services are also a significant part of the regional economy, accounting for over $13 billion of sales, as well as over 361,000 employees. Lodging, on the other hand, accounts for a smaller amount of sales (over $3 billion) and employment (over 60,000), albeit it is an important contributor to local economies.

In our examination of the retail, restaurant service, and lodging chain and franchise markets, we have focused on potential market transformation opportunities that are approachable from a business structure perspective, rather than a building type, end-use, or technology perspective. Whereas the end use/technology approach has and continues to offer important regional opportunities, a business structure approach offers the possibility of influencing an industry's business model to permanently incorporate energy efficiency concerns and practices.

Trends Common to All Retail and Restaurant Service

Despite the diversity of the retail, restaurant, and lodging sectors, these businesses are subject to similar market pressures and exhibit a number of common trends.

- ***Paper Thin Margins:*** These businesses (especially retailers and restaurants) are basically high-volume, low-margin operations,

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3 GAFO = general merchandise; apparel, furniture electronics & appliance; sporting & hobby; and miscellaneous retail.

dominated by intense competition within a largely saturated market.

- ***Increasing Mergers:*** All of these sectors have been subject to rapid acquisitions and mergers in an effort to gain market share and reduce operating costs by achieving economies of scale. As a result, the top national chains now tend to dominate their respective sectors (e.g., the top five players account for 40% of grocery market share, 60% of department store sales, and 67% of discount store sales). For specialty retail, the message is mixed: some specialty retail sectors have "category killer" chains that dominate the sector, whereas other sectors are highly fragmented. Restaurant and lodging sectors are also highly fragmented markets.

- ***Increased Pressures on Independents:*** National and larger regional chains/franchises, especially the former, are squeezing out local/regional chains and independents in most sectors.

- ***Cost Reduction Imperative:*** All of the above factors are causing these businesses to place intense efforts on controlling operating costs, including energy.

- ***Increasing Use of Technology:*** Nearly all sectors, even the smaller operators, are increasingly using technology to control costs, increase operating efficiency and enhance customer service.

- ***They're Finally Listening:*** The past summer's episodes of supply constraints and recent rate increases have definitely caught everyone's attention. The market is as ripe as it has ever been for business structure-based market transformation initiatives.

Chain and Franchise Market Players

Major retail, restaurant, and lodging chain and franchise market players and their traditional roles and responsibilities are summarized below. The relative importance of these roles can vary depending on the business structure of a specific company.

- ***National Chains:*** National chains tend to be centrally managed in terms of new construction/expansions, remodeling, and equipment procurement (e.g., national grocery chains, major general/specialty retailers, and chain-owned restaurants). Decision-making in chains is often directed by a central design or facility management team. However, in some markets and individual businesses, such decision-making is decentralized at the regional or district office level, and, sometimes, at even the store level for major outlets. Local utility conservation programs have been able to make in-roads with these local and regional decision-makers.

- ***Regional Chains and Major Independents:*** Regional chains and major independents are characterized by central management decision-making, with some influence from technology-specific contractors/vendors (e.g., refrigeration for grocers and HVAC for grocers and major retailers).

- ***Regional Grocery Wholesalers/Co-op's:*** Regional grocery wholesalers provide important services to regional and independent grocers by allowing their owners/customers to be competitive with national chains. In addition, these wholesalers provide a unique business entry point to their grocers by offering centrally-based building design services, training, and technical assistance.

- ***Contractors/Vendors/Energy Service Companies:*** Contractors and vendors in certain specialized equipment markets often play important roles in influencing customer construction and equipment acquisition decisions. These include refrigeration contractors for grocers, daylighting designers/architects for big box retailers and grocers, and HVAC contractors for many retailer segments. Smaller retailers, especially franchisees, are especially reliant on their contractors.

- ***Trade Associations:*** Trade associations are mostly focused on representing their members' interests through lobbying and general marketing (especially for lodging). However, some national (e.g., lodging) and state trade associations (e.g., restaurant) have taken more assertive roles in educating their members about energy cost-reduction opportunities and in providing education/technical services.

- ***National/Regional/Local Franchises:*** Franchises vary greatly in the level of control and influence exercised by the central franchiser over the franchisees, depending on the business type or individual chain operation. New construction, expansions, and renovations are usually controlled or heavily influenced by the central franchiser through the franchise agreement, the central management and design team, and, often, the regional/district franchise and facility managers.

- ***Franchisee:*** Franchisers are heavily reliant and influenced (even controlled) by the central franchiser for new construction and expansion decisions. However, the franchisee assumes responsibility for day-to-day management and remodeling decisions, relying on advice from the central franchiser, the example of sister franchisees, and, in some cases, an equipment contractor (e.g., lighting or HVAC). The increasing trend of franchise ownership by multi-property investors and REITs offers additional leverage points to access an otherwise fragmented market.

Chain and Franchise Market Summaries

Table 6 provides a general overview of the typology of the retail, lodging, and restaurant chain and franchise sectors. The table is based on a variety of sources:

- Energy use distributions are derived from regional sources;
- Retail sales distributions are based on national data and regional census data;
- Intra-market data is based on regional sources; and
- Business structure is derived from national studies.

Table 6: Topology of the Chain and Franchise Market

BUSINESS SECTOR	PERCENT OF COMMERCIAL ENERGY USE	PERCENT OF RETAIL SALES	INTRA-MARKET PERCENTS BY SALES	BUSINESS STRUCTURE
GROCERIES NATIONAL CHAINS REGIONAL CHAINS SMALL CHAINS, INDEPENDENTS, AND C-STORES	8%	22%	 36% 36% 28%	Largely chain-owned facilities
GENERAL RETAIL DEPARTMENT STORES DISCOUNT STORES WAREHOUSE CLUBS SUPER-CENTERS	19%	38%	Dominated by discount stores	Largely chain-owned
SPECIALTY RETAIL BIG BOX SMALL SPECIALTY	Included in General Retail	32%	Dominated by chains, but fragmented	Mix of chain and franchise; varies by sub-sector
RESTAURANT TABLE SERVICE FAST FOOD OTHER	5.4%	N/A	Top 200 chains/ franchises = only half of market	Chains = 60% (70% of chains = franchises) Independents = 40%
LODGING FULL SERVICE LIMITED SERVICE OTHER	3%	N/A	Top 100 chains and franchises <= only half of market	Highly complex and fractured amalgam of chains, franchises, REITs, etc.

National Grocery Chains: National grocery chains have been undergoing rapid consolidation during the past decade, accounting for increasing proportions of the grocery market; for example, the top five grocery chains have increased their proportion of national sales from 20% in 1990 to 40% in 2000. The Pacific Northwest (PNW) is no exception to this trend, as evidenced by the growing dominance of three major chains: Albertson's (based in Boise), Krogers (Fred Meyer), and Safeway. These national chains, together with national chain wholesale clubs and super centers, account for over 36% of sales in the PNW. Investment decision-making is highly centralized by corporate management and is heavily supported by an extensive network of in-house engineering, design, and financial resources. Investment decisions are usually driven by the need to increase market share, address "marketing and presentation concerns," and to control operating costs. National chains typically work through regional energy managers who have supervision over stores and work closely with the national office.

Regional Grocery Chains: Most retail food stores in the four-state Pacific Northwest are owned and operated by regional chains and independents. Although national chains have rapidly grown in the area during the past decade, the regional chains and large independents are still major players in the retail food market. A critical factor in the resilience of these players is the regional wholesalers who are, in turn, owned by most of these regional grocers. These wholesalers act as "surrogate" chains by providing regional/local grocers with purchasing power that is commensurate with the national's and such support services as store design/construction, operations services, financing, education and training, and technology support. As a result, they offer a key opportunity to reach regional chains and independents.

National Retail Chains: Most large retail outlets (20,000 square feet or greater) are owned and operated by national retail chains (i.e., the business itself, the building is often leased). These chains encompass diverse and growing retailing categories, but are typified by centralized ownership of outlets. They include department stores, discounters, membership-based warehouse clubs, and "big box" specialty stores. The retail business is basically a high-volume, low-margin business dominated by intense competition within a largely saturated market. This has placed increasing pressure on all retail operators to control costs, while favoring the major discount retailers and "category killer" specialty retailers. Although these chain retailers typically exhibit strong central control over construction decisions, regional offices and even large local outlets may have considerable autonomy over remodeling, operation and maintenance, and equipment acquisition decisions.

Regional Retail Chains: Regional and locally-based dry goods chains are a rapidly diminishing group due to intense competitive pressures from national chains and franchisers. Larger department store/general merchandisers are being squeezed from the large discounters at one end while smaller local/regional specialty stores/chains are squeezed by major specialty chains/franchisers at the other. Regional department stores and chains have either fallen to the wayside, been acquired by larger national chains, or, more infrequently, expanded to nation prominence (e.g., Nordstrom's, Costco). Decision-making is centralized among these players, with possible leverage points through owners, A/E firms and contractors.

Regional and Local Franchises: Franchises are estimated to be responsible for about 35-40% of total national retail sales and encompass such varied businesses as professional services, personal care, household services, home furnishings, auto care, dining, and retailing. Although, franchising is most dominant in the restaurant sectors (over 70% of chain sales) and in lodging (over 70% of brand-name chains), it also includes major and growing players in dry goods retail as well, especially specialty retail. Given that the retail business is basically high-volume, low-margin, and subject to intense competition, franchising provides a more stable business model for both the parent franchiser and the entrepreneur. Franchising allows parent franchisers to achieve higher returns, while their franchisees benefit from an established business model, franchiser provided training and management assistance, easier business entry, access to design and financing assistance, and the purchasing power of a large system.

Franchises are a major retailing and service force in the PNW economy and are steadily growing. Although typically small in size, their growing numbers make them an important consideration for energy efficiency initiatives. Despite the sheer number and diversity of franchises, their standardized and structured system of business arrangements makes them potentially amenable to broad-based influence. Innovations in franchising practices are quickly noted, publicized, and incorporated into franchise agreements and practices.

Restaurant Chains and Franchises: Despite the trend toward consolidation, the restaurant industry remains a highly fragmented industry without a top tier of dominant players. Whereas franchised businesses account over 41% of all retail sales, they account for about 70% of restaurant chain sales. The parent chain companies offer, at a minimum, an influential source of information and technical assistance and training with respect to operational improvements. Nevertheless, local chains and independents are important players for whom there will be continued market demand.

The restaurant industry is subject to very intense competition amidst slowing sales growth, placing increased emphasis on operating cost control. Business costs are rising (especially labor), therefore operators are seeking offsets to maintain/enhance their profit margin. Nevertheless, restaurants continuously feel the pressure to "remodel" on a frequent basis, especially with respect to facility appearance. Although some major chains are self-financing, most chains, their subsidiary franchises, and independents require some form of external capital for improvements and expansions.

Lodging Chains and Franchises: Name-brand chain companies (both company-owned and franchised properties) dominate the industry, with about 70% of all rooms affiliated with regional or national chains. This trend toward chain ownership, franchising, and property management increased significantly during the 1990's and is expected to continue. Nevertheless, independents and local/regional chains continue to play an important role in the Pacific Northwest, although they are under increasingly competitive pressures. The hotel/lodging industry is typified by a complex amalgam of ownership, management, and franchising relationships, with no consistent pattern across the industry or from company to company. As a result, investment decision-making for most lodging facilities is either controlled by a virtually independent owner/ operator or by property ownership/management firms who are regularly merging, splitting and rotating properties.

Ratings and Rankings

The information obtained to-date has been used to rate and rank each of the commercial market segments from an energy-efficiency market transformation perspective. Overall ratings and rankings are summarized below in *Table 7.* Detailed individual ratings follow each of the attached chain and franchise market segment write-ups (*see Appendix B)*.

Table 7: Ratings and Rankings of Chain and Franchise Market Segments

BUSINESS CATEGORY/ RATING[4]	GROCERY		RETAIL			RESTAUR-ANT CHAINS & FRAN-CHISES	LODGING CHAINS & FRAN-CHISES
	National Chains	Regional Chains & Indepen-dents	National Chains	Regional Chains	Regional & Local Fran-chises		
Market Interest	2	4	3	3	3	3	3
Market Leverage	5	4	2	1	3	3	2
Market Packaging	3	4	2	2	2	4	2
Market Size	4	4	3	1	2	3	2
Spillover Potential	3	3	2	2	2	2	3
Geographic Spread	3	4	4	3	3	4	3
Current Efforts	3	3	2	2	1	2	2
Total Rating	23	26	18	14	16	21	17

As the table indicates, the higher ranked business segments are typified by relatively high energy intensiveness, strong central leverage points (whether through local ownership or regional/district offices with decision-making authority), and good geographic spread and spill-over potential. These markets include national grocery chains, regional grocery chains and chain/franchised restaurants.

National grocery chains offer "local" leverage points through their regional or, in the case of Albertson's, national offices. Although national grocery chain outlets have often taken advantage of local utility conservation programs, considerable efficiency opportunities remain. However, any market transformation effort based on business structure

[4] Scale of 1–5 points for each criteria.

will need to account for the past and current efficiency activities of these players, the technical sophistication of their engineering staff, and the progress local utilities have had with many of their outlets.

Regional grocery chains also offer attractive leverage points through their regional wholesalers. Since many, if not most, of these regional chains/ independents co-operatively own or belong to the major regional wholesalers, they are heavily served and influenced by a centralized service provider. Thus, despite their broad geographic distribution throughout the Pacific Northwest, regional and independent grocers offer a potentially attractive target for market transformation initiatives.

Restaurant chains and franchises are an attractive market due to their high energy intensity and potential leverage points through regional franchiser offices and, increasingly, state trade associations. Restaurateurs are increasingly sensitive to energy costs and the opportunities for cost savings. As a result, many have, or are taking at least initial advantage of utility conservation programs. With increased interest and initiative being displayed by trade associations, the time may be ripe for properly targeted marketing transformation initiatives.

The retail sector, whether chain-based, specialty, franchised, etc., offers fewer coherent leverage points for market transformation initiatives. Whereas large retail outlets with local decision-making authority offer good prospects for local utility conservation programs, across-the-region leverage points are less apparent. However, two options remain which merit further consideration. First, technology and service-based initiatives offer opportunities for specific markets (e.g., daylighting in big box retail; unitary HVAC services for large retail and mall/strip-based retail). Second, REITs are increasingly major players in the ownership of retail malls and strip malls, providing additional avenues for addressing retail and small commercial operations from a coherent leverage point. The research findings and market transformation opportunities discussed in the section on REITs have direct bearing on this market.

Except for the restaurant sector, the franchised business sector ranked in the lower tier for market transformation potential, at least from a business structure perspective. Nevertheless, franchising is a powerful and increasingly popular business model that lends itself, on the one hand, to a certain cross-industry standardization and, on the other hand, quickly accommodates innovations that improve business practices. Although market transformation through the franchise business structure offers challenges, this area merits further exploration and would most likely be amenable to more of a national approach.

Lodging is a relatively small portion of the commercial energy using pie, yet offers several energy savings opportunities from a technology-based perspective (e.g., compact fluorescents, unitary HVAC, vending machines, hot water). However, the lodging industry is highly fragmented and offers limited traction for a market transformation strategy that is based on a business structure approach. That is, region-wide leverage points that would allow ready access to a sizable number of hotels are difficult to come by. An exception to this observation is the increasing activity of REITs in this market. The research findings and market transformation opportunities discussed in the paper on REITs have direct bearing on this market.

Potential Market Transformation Strategies

The chain and franchising market covers an immense expanse of business types, market segments, building types, end-uses, and ownership patterns. Nevertheless, several consistent patterns and leverage points have emerged from this study to suggest possible opportunities for market transformation initiatives.

- ***Increasing Cost Control Pressures:*** All of the businesses examined in this study are subject to intense and increasing competitive pressures, which is placing increasing emphasis on operating cost control. In addition, their experience with the threat of supply disruptions last year and the reality of recent rate hikes have made chain and franchise operators, both local and centralized, interested and active in energy efficiency improvements. Retailers and service providers struggle to support and improve their thin profit margins through a combination of increased market share (via expansions, mergers, franchising) and the rigorous control of costs. Since wholesale costs have a near-deflationary status and labor costs (until the recent recession) have been difficult to control, operation costs are one of the few remaining areas where these business can hope to improve on profit margins. For example, major national and regional grocers have accelerated efforts to control energy costs. This provides an opportunity to work with these players to translate these near-term actions into business practices that result in sustainable efficiency improvements.

- ***Prior Energy Conservation Success:*** Many, if not most, of these businesses have some experience in energy management and have participated in utility energy efficiency programs. In many cases, local utilities have developed strong relationships with local operators and have secured significant participation in their conservation programs. These examples serve as valuable case studies of successful efficiency initiatives and also important entrée's into the larger corporate family. However, these local initiatives do not necessarily translate, alone, into sustainable changes in business and energy investment practices across a given chain or franchise.

- ***Tailored Marketing and Programs:*** Most of the chains and franchises rely on similar types of market players when efficiency investments are under consideration and are, thus, amenable to similar market messages. However, there are also distinct differences in business types and end-use/ technology considerations that require separate treatment (e.g., groceries vs. big box retail vs. franchised restaurants). Many techniques and strategies will be transferable from one market to the other, but tailored marketing messages and program offerings/ service options will still be required.

- ***Toolkit of Options:*** There are opportunities to address specific markets from complementary but different axes. For example, a region-wide market transformation effort that targets restaurants through their trade associations and/or parent franchisers could be complemented by a vendor-oriented unitary HVAC optimization service. In other words, many of the technology and service initiatives currently in place or under consideration could be regarded as a toolkit of options that can be brought to play under an MT initiative that targets a specific business structure.

The confluence of these factors provide a ripe opportunity to leverage off of existing business structures to effect sustainable changes in business practices that result in much higher levels of energy efficiency. The following provides some initial thoughts on possible market transformation approaches for the highest ranked markets and are intended to stimulate discussion.

Groceries – Regional Chains

Business Structure Approach

- *Target:* Regional Wholesalers/Co-ops
- Develop a package of energy efficiency services/specifications they can offer to their owners/members:

  Bill tracking/auditing/analysis; possible remote tracking

  Energy management services

  Design/equipment consultation re: new construction/ renovations/remodels

  Assistance with contractors/bidding/specifying/ESCo's

  Financing assistance (explore options)

  Information/technical assistance

Technology/End Use "Tool Kit":

- *Targets:* Contractors, Other Service Providers
- Work through wholesalers to provide:

  Advanced refrigeration measures

  Cooler case rehab/rebuilds (especially for smaller operators)

  Daylighting/designers

  Unitary HVAC services

Groceries – National Chains

Business Structure Approach

- *Target:* Regional/District Offices

- Develop a package of energy efficiency services/technologies that goes beyond what they're planning/likely to do:

  Advanced/enhanced energy management services

  Advanced metering/diagnostics

  Advanced technologies (see next)

Technology/End Use "Tool Kit"

- *Targets:* Contractors, Other Service Providers, Central Office/ Engineering

- Offer:

  Advanced refrigeration measures

  Cooler case rehab/rebuilds (especially for smaller operators)

  Daylighting/designers

  HVAC services

Restaurants – National and Regional Chains

Business Structure Approach

- *Targets:* Regional/District Chain/Franchise Offices, State Trade Associations, Local Ad Hoc Franchise Groups

- Develop a package of energy efficiency services/specifications they can offer to their franchisers/members:

  Bill tracking/auditing/analysis; possible remote tracking

  Energy management services

  Design/equipment consultation re: new construction/ renovations/remodels

Assistance with contractors/bidding/specifying/ESCo's

Financing assistance (explore options)

Information/technical assistance

Technology/End Use "Tool Kit"

- *Targets:* Contractors, Other Service Providers
- Work through above players to provide:

Lighting technologies

Kitchen equipment/refrigeration contractors

Unitary HVAC services

Coordinated venture with gas utilities/equipment suppliers?

III. Chain and Franchise Market

IV. Institutional Markets

Introduction

The institutional market is a wide-ranging sector consisting of public and private non-profit entities devoted to governance, education, healthcare and other social services. The institutional sector is a major owner and lessee of commercial-type property in the Pacific Northwest, including office buildings, state capitol complexes, K-12 schools, higher educational campuses, and healthcare facilities. This assessment examined the following institutional markets for their market transformation potential:

- ***State Governments:*** The four Northwest state governments own approximately 8 million square feet of public facilities and lease over 13 million square feet of space (author's estimates based on standard space/employee allocations), in both cases mainly office space. The largest facility owner is Washington State, followed by Oregon, Idaho and Montana.

- ***K-12 Schools:*** There are over 4,000 K-12 public schools and supporting facilities in the four Pacific Northwest states, serving nearly 2 million students. These facilities contain over 300 million square feet of conditioned space (authors' estimates), accounting for over 9% of regional commercial electricity use.

- ***Universities and Colleges:*** Higher education is a major owner and operator of commercial-type buildings in the region, accounting for over 4% of commercial electricity use. For example: the University of Washington campus contains over 16 million square feet of facilities; Oregon State University, 6.5 million square feet; and University of Idaho, 3.8 million square feet. Therefore, some educational campuses rival major private sector property owners and managers in the region.

- ***Hospitals and Health Care:*** There are over 250 hospitals located throughout Oregon, Washington, Idaho, and Montana, not counting other healthcare facilities. Together, hospitals and other healthcare facilities account for over 5% of commercial sector energy use region-wide.

Given the highly political nature of institutional operations, administrative structure, and decision-making, it is more appropriate to speak in terms of "institutional transformation" when discussing sustainable changes in institutional facility operations and new construction, rather than market transformation. In our examination of institutional markets, we have focused on potential "market" transformation opportunities that are approachable from a "institutional structure" perspective, rather than a building type, end-use or technology perspective. Whereas the end-use/ technology approach has, and continues to offer important regional opportunities, an institutional structure approach offers the possibility of influencing an institution's "business" model to permanently incorporate energy efficiency concerns and practices.

Trends Common to All Institutional Players

Despite the diversity of the state governments, K-12 schools, universities and colleges, and hospitals and healthcare sectors, these institutions are subject to similar institutional, political and market pressures, and exhibit a number of common trends.

- ***Institutions Are Not Natural Markets:*** Institutions are not subject to same market forces that govern the activities of commercial real estate or chain/franchise operators. Whereas market forces do effect their operations, institutional decisions are largely driven by political and other public/social decision-making systems and considerations. Centralized decisions and influence in the form of policies, regulations, administrative directives, etc. largely shape the context in which even the most local public and private institutions operate.

- *Budget Constraints:* Most institutional players are highly dependent on state funds for their operations and, in many cases, capital improvements. Thus, they are impacted by the recent economic downturn in the PNW and the resulting budget cuts directed by the state legislatures. Compounding these budget shortfalls are constraints placed, usually by the voters, on local revenue generation in the form of property tax relief/limits and super majority requirements.

- ***Decision-Making/Policy Trends:*** All public institutions, and most private non-profit institutions, are increasingly subject to state and federal governmental regulations, policies and directives. These regulations and policies are a major determiner of institutional service activities, facility operations and management, and facility improvements and expansions. Nevertheless, considerable autonomy remains in the hands of state institutions, such as state agencies and universities, and local institutions, such as schools and private non-profit institutions.

- ***Long-Running Experience with Energy Efficiency:*** Many institutions have considerable experience with energy efficiency and have been subject to a diversity of initiatives from state and federal governments, utilities, and third-party players. Although considerable progress has been made, the results have been variable and usually have fallen short of genuine market transformation.

- ***Current Efforts:*** Recent energy price increases and supply uncertainties have stimulated strong responses from institutions. A variety of state-based initiatives/policies/offerings are already in place including: energy cost reduction goals and action plans (all PNW states), efficiency related financing programs, new construction requirements, audit requirements, life-cycle costing analysis, performance contracting, resource conservation manager, daylighting initiatives, etc. These initiatives/capabilities offer a useful context for potential market transformation initiatives.

- ***Decision-Making Fragmentation:*** Despite the array of efficiency offerings and requirements noted above, the full potential of these initiatives are often saddled by the decision-making fragmentation typical of the institutional sector. This situation encompasses the budgetary/finance (state vs. local), program/service delivery (multiple, loosely coordinated efficiency service providers), administrative (central vs. agency vs. local), and informational (uneven knowledge within and among institutions) systems.

Institutional Market Players

Institutional markets are composed of the following major players:

- ***State Legislatures and Governors:*** The legislative and administrative branches set institutional policies, assign budgets for institutional operations and, to a lesser extent, construction, and often set requirements concerning facility construction, improvements, facility, etc.

- ***Central State Administrative Divisions/Departments:*** Under the respective governors, these state administrative agents typically have primary responsibility for administering state policies, reviewing state/local agency performance, and, in many cases, reviewing facility construction and improvement projects. Centralized administrative agencies also offer design, architectural, and engineering services for major facility improvements, expansions, and new construction to state and local agencies/ schools.

- ***State Agencies:*** State agencies have primary responsibility for administering their affairs, determining their facility needs, and arranging for facility management. In the last case, agencies often contract out to the central administrative authority, although private service providers are used as well. Some of these agencies, such as corrections and higher education, have a considerable degree of autonomy, although they are still subject to state facility management/ construction policies, requirements and procedures.

- ***University/College Administration and Boards:*** As largely autonomous state entities, universities are governed by an appointed board and administrators. Campus facilities are maintained by a central facilities management team (usually with sophisticated technical/engineering expertise) who is usually charged with facility operation and maintenance, new construction planning, and construction/renovation project oversight.

- ***Local Schools and School Districts:*** Local school boards and administrators have the primary responsibility for managing school operations, capital improvements, and local levy and bond initiatives. Nevertheless, they are often subject to state mandates.

- ***Hospitals/Healthcare Providers:*** Hospitals are a very self-contained market due to the specialized nature of the services they provide, and the equipment and critical environments they must house and maintain. There are typically a hospital administrator, or president/CEO, and others responsible for important business functions and who are responsible to a Board of Directors or Trustees. Hospitals generally have some in-house staff responsible for building operations, and have vendor and contractor relationships for activities like building remodels, equipment maintenance, repair and replacement, janitorial services, and elevator services, etc.

- ***Utility/Agency/Third-Party Service Providers:*** Institutions, whether public or private, often utilize the programs and services of local and regional third-parties including: utility conservation programs; state programs (e.g., loans and grants; regional initiatives [the Alliance]; energy service companies; and national initiatives (*EnergySmart*, *E-Star*, *Green Buildings*, etc.). Some institutions, such as schools and hospitals, usually rely on a well-defined group of A/E firms and contractors who specialize in construction and maintenance services for those facilities.

Institutional Market Summaries

Table 8 provides a general overview of the typology of the institutional sectors. The table is based on a variety of sources.

Table 8: Topology of the Institutional Market

INSTITUTIONAL SECTOR	PERCENT OF PNW COMMERCIAL ENERGY USE	PERCENT OF OPERATIONAL FUNDING FROM STATE	ADMINISTRATIVE STRUCTURE
STATE GOVERNMENT	Melded into office/etc. sectors	Up to 100% depending on agency	Owned/leased facilities largely owned/influenced by central administrative agency “Autonomous” agencies = corrections, higher education
K-12 SCHOOLS : PUBLIC AND PRIVATE	9%	WA, OR, ID >75% MT > 50%	Heavy state control of policies and operations $ Local control of facility O&M, construction
UNIVERSITIES/ COLLEGES: PUBLIC AND PRIVATE	4%	30–40%	Largely autonomous but subject to state policies and budgets
			Continued

INSTITUTIONAL SECTOR	PERCENT OF PNW COMMERCIAL ENERGY USE	PERCENT OF OPERATIONAL FUNDING FROM STATE	ADMINISTRATIVE STRUCTURE
HOSPITALS AND HEALTHCARE: PUBLIC AND PRIVATE	5.5%	Small percent, but very dependent on federal $	Largely non-profit

Ratings and Rankings

The information obtained to-date has been used to rate and rank each of the institutional market segments from an energy efficiency market transformation perspective. Overall, ratings and rankings are summarized in *Table 9*, below. Detailed individual ratings follow each of the attached institutional market segment write-ups (*see Appendix C*).

Table 9: Ratings and Rankings of Institutional Market Segments

INSTITUTIONAL CATEGORY/ RATING[5]	STATE GOVERNMENTS	K-12 EDUCATION	UNIVERSITIES AND COLLEGES	HOSPITALS AND HEALTHCARE
MARKET INTEREST	3	3	3	4
MARKET LEVERAGE	3	3	3	4
MARKET PACKAGING	3	3	3	3
MARKET SIZE	2	3	2	3
SPILLOVER POTENTIAL	2	2	1	2
GEOGRAPHIC SPREAD	2	5	1	4
CURRENT EFFORTS	3	4	3	3
TOTAL RATING	18	23	18	23

5 Scale of 1–5 points for each criteria.

As *Table 9* indicates, the K-12 schools, and hospitals and healthcare represent the most attractive institutional market transformation segments.

Schools represent a significant proportion of commercial electric loads, offer significant energy savings opportunities in existing and new construction, are subject/amenable to centrally-delivered policies/services/ incentives, and are located in virtually every community in the Pacific Northwest. Although most states presently have in place relatively aggressive energy conservation policies and programs/offerings that address schools, considerable opportunities remain for increasing the energy efficiency of existing facilities, new construction, and O&M practices. Nevertheless, challenges remain in transforming this institutional market due to: disaggregation of local control; the split between state financial control and local responsibilities; variability of offerings and capabilities from schools, district to district and state to state; and the fragmentation of efficiency services/offerings to schools

Hospitals and healthcare facilities are usually owner-occupied, highly energy intensive, well distributed throughout the region, and subject to strong centralized control. The growth in multi-hospital systems and integrated healthcare networks provide natural leverage opportunities, and use of group purchasing demonstrates the ability of hospitals to control costs. In addition, larger hospitals, systems, or networks usually have strong in-house capabilities for managing facilities and energy costs. Since hospitals have highly exacting and technically specialized requirements, devising market transformation initiatives will be challenging.

Potential Market Transformation Strategies

The institutional market covers a wide variety of organizational types, building types, end-uses, decision-making processes, and regulatory/ policy directives. Nevertheless, several consistent patterns and leverage points have emerged from this study to suggest possible opportunities for market or institutional, transformation initiatives.

- ***Increasing Cost Control Pressures:*** All of the businesses examined in this study are subject to intense and increasing budgetary pressures that are placing increasing emphasis on operating cost control. In addition, the experience of institutions with recent rate hikes have made them increasingly interested and active in energy efficiency improvements.

- ***Prior Energy Conservation Success:*** Nearly all of these institutions have some experience in energy management and have participated in utility and/or state energy efficiency programs. Therefore, these institutions are fairly or, often, very familiar and experienced with energy efficiency and are, thus, amenable to further actions if cost barriers are addressed.

- ***Government Policies and Initiatives:*** Most of these institutions are now subject to state-mandated energy efficiency policies and initiatives. In addition, there are a number of state, federal, utility, and third-party initiatives that directly address the financial, technical, informational, and administrative needs/concerns of institutions. Nevertheless, these policies/ initiatives do not necessarily translate, alone, into sustainable changes in administrative and energy-efficient investment and management practices.

- ***Institutional Barriers:*** Any successful market transformation strategy has to take into account the unique budgetary, publicly open, and fragmentary decision-making processes that institutions must work under. As noted, not only market but also institutional barriers must be addressed to successfully transform these markets.

The confluence of these factors provide a challenging opportunity to effect sustainable changes in institutional practices that result in much higher levels of energy efficiency.

Appendices

Appendix A: Commercial Real Estate Market

Appendix B: Chain and Franchise Market

Appendix C: Institutional Market

Appendix A: Commercial Real Estate Market

Privately Owned and Leased Real Estate

Market Description

Much commercial real estate is privately owned and leased. These real estate owners include individuals or families with a single or several buildings, local or regional companies that own a number of properties, as well as large nationally based companies. Many of the local or regional companies have built up sizeable real estate portfolios within specific markets, such as Seattle or Portland, while the large nationally based companies often focus on a specific property type (urban high rise, suburban office parks, industrial warehouses, etc.). Privately owned and leased real estate used to dominate the market; however, most real estate is now institutionally or REIT owned.

Market Size

Approximately 25% of commercial real estate region-wide is privately owned and leased. Most of this real estate is located in urban and suburban locations along Interstate 5 and the larger communities east of the Cascades (Spokane, Boise, etc.). It consists largely of office (high rise, office parks), retail (strip malls, stand alone, mixed use), and industrial (warehouse) space. Within smaller, more rural communities in the Pacific Northwest, downtown office and retail property is often privately owned by individuals, families, or small companies, and leased to tenants.

Market Actors

Many local or regional real estate owners are or were also developers. They built their real estate holdings from the ground up, and in contrast with most developers, held some or all of their properties and manage them long term. Examples include Martin Smith, TMT Development (Tom Moyer), Martin Selig Real Estate, Melvin Mark Properties, UNICO Properties, Schnitzer Northwest and H Naito Properties. These are some of the most familiar names in commercial real estate in Seattle and Portland, and a number of these entities are active in both markets. Nationally based companies that own real estate in the region include entities such as Hines GS Properties, USLP, Ashforth Pacific, Louis Dreyfus Property Group, Insignia Development Group, Randall Realty and Terrace Tower USA. And as the names imply, these companies also often develop, as well as own, commercial property.

Privately owned real estate companies can range from an individual with one property to large companies with sizable real estate portfolios. Depending on the amount of property owned and the business interests of the owners, a number of other market actors can play important roles. Some companies are vertically integrated, handling everything in-house, while other companies are non-integrated, contracting out all or the majority of these responsibilities. These responsibilities include portfolio asset management, day-to-day property management, and a wide range of operational services.

Business Practices

Asset managers focus on maximizing the financial value of a portfolio of real estate holdings. The traditional property manager role is to handle the day-to-day business at specific properties, including leasing, tenant issues, and building operations and maintenance. Leasing can be handled by a separate real estate broker, but is usually part of the property management company responsibilities (from the owners perspective). Tenants hire their own broker to represent their interests. Operational services are usually provided through property management companies with in-house staff, contractors, or a combination of the two. Examples include building operations, tenant improvements, equipment repair and maintenance, janitorial services, elevator services, landscaping, and building security.

Privately owned commercial buildings are real estate assets. Owners and their agents (asset and property managers) look to maximize value by improving net operating income (NOI) and increasing the book value of the assets. NOI can be improved through reducing operating costs (including energy related costs) or through increasing building revenue (higher occupancy, higher rents). The overall value of real estate assets depends largely on broader market forces influencing demand both nationally and locally. Following trends in other industries, real estate companies are consolidating and becoming more vertically integrated. Many national and regional players now develop, own, manage, and operate the real estate within their portfolio. A number of the large nationally based companies have become Real Estate Investment Trusts (REITS), buying privately owned regional companies in their quest for growth.

Market Barriers

Current business practices result in significant market barriers to incorporating energy costs within financial decision-making, including:

- Lack of knowledge about opportunities to reduce energy related costs
- Lack of expertise to identify and implement specific actions
- Non-integrated roles and responsibilities within the real estate market
- Absence of models for how to make energy efficiency a profit center
- Triple net lease terms that can prevent owners from benefiting financially
- Service providers with a vested interest in the status quo.

Potential Opportunities

The consolidation and vertical integration of real estate companies creates leverage points and business opportunities that were not there in the past. Instead of dealing with a fragmented market, vertically integrated companies own real estate, manage their assets, employ property managers, and provide or contract for O&M services. A value proposition centered on improving NOI will spark interest on the part of real estate owners and/or their agents. However, to improve NOI the triple net lease issue must be addressed. Lease agreements can be restructured, a service charge could be added, or a rent increase could be negotiated. Energy Star has some practical tools that can be used to assess opportunities and examine property specific and portfolio wide financial benefits.

Outstanding Questions

- Confirm the amount of regional real estate that is privately owned and leased.
- Identify/confirm the most active vertically integrated real estate companies regionally.
- Identify/promote most effective strategies to address the triple net lease issue.

RATING (scale of 1–5 pts each)	**24**
Market Interest/Readiness (motivated actors) • Energy costs significant • Real estate cycle down • Regional/local companies	**3**
Market Leverage (concentration) • High degree of competition • Trend towards vertical integration • Manageable number of players • Centralized decision-making	**3**
Market Packaging (effective message) • Improve net operating income (NOI) • Increase asset value • Enhance service offerings • Create competitive advantage	**4**
Market Size (savings potential) • 25% of commercial market • 20 - 30% energy savings possible	**4**
Spillover Potential (impact on other markets) • REIT real estate • Institutionally owned/asset managed real estate • Owner occupied real estate	**3**
Geographic Spread (within PNW) • I-5 metropolitan areas • Large east-side areas (Boise, Spokane)	**4**
Current Efforts (utilities, alliance, others) • Utility commercial programs • EPA Energy Star	**3**

Institutionally Owned/Advisor Managed Real Estate

Market Description

Since the early 1980s there has been an ongoing tug-of-war between private market (institutional) investors and public market (REIT) investors for dominance in the commercial real estate arena. In the 1980s, pension funds and other private investors (ie, insurance companies, foreign investors) were dominant, then real estate investment trusts (REITs) reversed the trend. Today, institutional investors still own more real estate than REITs, but not by much, and it is clear that both types of ownership will be important in the future. More important than which type of ownership is more dominant is the impact that REITs have had on institutional investor expectations. Institutional investors now expect real estate advisor and asset management companies to actively manage real estate holdings in a manner similar to REITs, which encourages vertical integration or greater control over the property management companies with whom they work.

Market Size

Approximately 30% of commercial real estate nationally and region-wide is owned by institutional investors and controlled by large asset management companies. Most of this real estate is located in the large urban and suburban locations of the Pacific Northwest (Puget Sound, Portland metropolitan areas) and consists largely of office (high rise, office parks), retail (malls, strip malls), and industrial (warehouse) space.

Market Actors

Institutional investors in real estate include pension funds, insurance companies, and foreign investors. For example, government, teacher, union and private corporation employee pension funds often hold a significant amount of real estate as part of their overall investment diversification strategy. Pension fund managers and other institutional investors employ companies that specialize in providing institutional investors with experienced real estate investment services to guide and manage these funds. The largest of these companies is Lend Lease Real Estate Investments, which currently manages approximately $14 billion in institutional investor funds. Other large institutional real estate advisor and asset management companies include J.P. Morgan, Heitman, TIAA-CREF, RREEF Funds and Prudential Real Estate.

While information on institutional investor and real estate advisor/asset management company holdings in the Pacific Northwest is spotty, it is clear they have a significant presence. For example, Lend Lease's Seattle office recently indicated they are selling a number of properties in the area totaling over 1 million sf as part of the California State Teachers Retirement System's long-term investment strategy. Before Spieker Properties became part of Equity Office Properties last year, the California Public Employees Retirement System bought its entire Seattle area industrial portfolio for $193 million. And an AFL-CIO pension fund recently bought three buildings in the CenterPoint Corporate Park in Kent, WA.

Business Practices

Real estate advisor/asset management companies focus primarily on managing an overall real estate portfolio, determining what properties to acquire, arranging financing and property dispositions, with an eye towards maximizing the value of the real estate holdings over time. They typically employ property management companies to handle the day-to-day business operations at specific properties, including leasing, tenant issues, and building operations and maintenance. Property management companies in turn employ contractors to provide a wide variety of services. Examples include building operations, tenant improvements, equipment repair and maintenance, janitorial services, elevator services, and building security.

However, business practices are changing. REITs have had an impact on institutional investor expectations, and large institutional real estate advisor/asset management companies are adjusting to better compete with REITs. Large companies like Lend Lease or RREEF have moved from handling commingled real estate holdings for pension funds to offering a variety of institutional investment opportunities, including separate accounts, opportunity funds and public REITs. Coupled with these changes in investment opportunities have been operational changes. Some real estate advisor/asset management companies are becoming vertically integrated, while others are aligning themselves with particular property management companies in order to exert greater influence over day-to-day property management activities.

Market Barriers

Changing business practices offer some relief, however, market barriers are essentially the same as previously stated, including:

- Lack of knowledge about opportunities to reduce energy related costs
- Lack of expertise to identify and implement specific actions
- Non-integrated roles and responsibilities within the real estate market
- Absence of models for how to make energy efficiency a profit center
- Triple net lease terms that can prevent owners from benefiting financially
- Service providers with a vested interest in the status quo.

Potential Opportunities

Real estate advisor/asset management companies represent a natural point of aggregation with financial decision-making responsibility for a large amount of real estate. These companies are subject to the same competitive pressures and vertical integration trends impacting the real estate marketplace as a whole. This means a value proposition centered on improving NOI will spark interest. However, as previously mentioned, to improve NOI the triple net lease issue must be addressed, so that building owners and their agents benefit financially from the actions they take. Lease agreements can be restructured, a service charge could be added, or a rent increase could be negotiated. Energy Star has some practical tools that can be used to assess opportunities and examine property specific and portfolio wide financial benefits.

Outstanding Questions

- Confirm the amount of real estate in the region that is institutionally owned and advisor/asset managed.

- Identify the most prominent advisor/asset management companies regionally and the property management companies with whom they work.

RATING (scale of 1-5 pts each)	**22**
Market Interest/Readiness (motivated actors) • Energy awareness up • Changing business practices • Competition with REITs	**3**
Market Leverage (concentration) • Natural point of aggregation • Financial decision-makers • Some vertical integration	**4**
Market Packaging (effective message) • Improve net operating income (NOI) • Increase asset value • Enhance service offerings • Compete with REITs	**3**
Market Size (savings potential) • 30% of commercial market • 20 - 30% energy savings possible	**4**
Spillover Potential (impact on other markets) • REIT owned real estate • Privately owned/leased real estate • Owner occupied real estate	**3**
Geographic Spread (within PNW) • I-5 metropolitan areas	**3**
Current Efforts (utilities, alliance, others) • Utility commercial programs • EPA Energy Star	**3**

Real Estate Investment Trusts (REITs)

Market Description

Real Estate Investment Trusts (REITs) own, and in most cases, manage income producing real estate, such as office buildings, retail properties, warehouses and apartment complexes, nationwide. REITs enable small investors to invest in large scale, income producing real estate, and are legally required to pay 90% of taxable income to shareholders every year. Since passage of the Tax Reform Act in 1986, REITs have not only been able to own, but also operate and manage, most types of income-producing commercial properties. Over the past ten years REITs have acquired a significant amount of commercial real estate, and continue to grow rapidly, fueling the consolidation and vertical integration of the real estate market.

Market Size

REITs have been growing rapidly in the last ten years, using capital obtained from initial public offerings. Many REITs were once privately held companies that went public in order to raise capital for real estate acquisition and growth. Close to 200 REITs now hold over $150 billion in real estate equity nationwide. Approximately 25% of commercial real estate region-wide is currently owned by REITs. Most of this real estate is located in the large urban and suburban locations of the Pacific Northwest (Puget Sound, Portland metropolitan areas) and consists largely of office (high rise, office parks) retail (malls, shopping centers), industrial (warehouse), and residential (apartments) properties. Equity Office Properties alone owns 15 million square feet regionally, and is now the largest commercial office property owner in both the Seattle and Portland metropolitan areas.

Market Actors

REITs have been aggressively moving into the Pacific Northwest real estate market. For example, Equity Office Properties, the nation's largest REIT, recently bought a majority interest in eight Seattle office towers developed by Wright Runstad & Co. REITs will often focus on specific types of real estate and particular geographic locations. For example, California-based PS Business Parks just purchased Cornell Oaks

Corporate Center in Beaverton. Cornell Oaks includes 12 buildings with a total of 685,000 square feet of leasable space. PS Business Parks owns three other suburban office parks in the Portland metropolitan area, as well as property in eight other states.

REITs have professional real estate asset managers in-house. These individuals focus on real estate acquisition and disposition, and maximize the value of existing real estate holdings. Many REITs also have in-house property managers, as well as relationships with more traditional property management companies, to handle the day-to-day business operations at specific properties, including leasing, tenant issues, and building operations and maintenance. The trend is toward taking this function in-house. Contractors provide a wide variety of support services. Examples include building operations, tenant improvements, equipment repair and maintenance, telecommunications support, janitorial services, elevator services, landscaping services and building security.

Business Practices

As publicly traded companies, REITs are evaluated using various financial indices, including net income, net assets, dividend payout ratios, and qualitative assessments of management ability and business strategy. The most common measuring stick for REITs is called funds from operations (FFO). FFO represents the company's net income, not including the effects of depreciation or the cash gains and losses associated with the sale of properties. REITs report FFO and other financial indices to investors and market analysts through quarterly and annual reports and indirectly through trade publications, rating services, and other sources of information. Investors pay close attention to FFO as an index of REIT investment value.

The Tax Reform Act of 1986 accelerated movement towards a more consolidated, vertically integrated real estate market, with REITs leading the charge. REITs aggressively pursue opportunities to raise their FFO through external growth (acquisition/development of new properties) and internal growth (increasing returns from existing properties). Internal growth is based on property management strategies, which can include energy management plans. Some REITs, such as Equity Office Properties, are attempting to "brand" their real estate holdings, with the intention of attracting corporate tenants looking for a uniform, high quality work environment.

Market Barriers

Significant market barriers to incorporating energy costs within financial decision-making are similar to those stated before, with one notable exception, REITs are more vertically integrated and actively involved in property management activities.

- Lack of knowledge about opportunities to reduce energy related costs
- Lack of expertise to identify and implement specific actions
- Absence of models for how to make energy efficiency a profit center
- Triple net lease terms that can prevent owners from benefiting financially
- Contractor services tailored to the status quo.

Potential Opportunities

REITs are a prime example of a major leverage point to influence real estate business practices market wide. REITs are fueling the continuing consolidation and vertical integration of the real estate market. They not only own real estate, they actively manage their holdings, employ property managers, provide or contract for O&M services, and are looking for innovative ways to capitalize on their economies of scale. With the recent downturn in the economy, REITs are looking more closely at internal opportunities, in contrast to external growth, as a means to raise or maintain FFO. Energy costs typically account for 20-25% of a building's operating costs, and are therefore an attractive target for reducing operating costs.

Outstanding Questions

- Confirm the amount of real estate in the region that is REIT owned and managed.
- Better understanding of internal growth strategies REITs employ to raise FFO.

- How to best integrate aggressive energy management activities.

RATING (scale of 1-5 pts each)	**27**
Market Interest/Readiness (motivated actors) • Energy costs significant • Focus on internal growth strategies to raise FFO • Branding efforts underway	**4**
Market Leverage (concentration) • REITs leading industry consolidation trend • Vertical integration key to REIT business strategy • REITs are buying significant holdings in PNW	**5**
Market Packaging (effective message) • Improve FFO • Increase asset value • Increase stock price • Branding advantages	**4**
Market Size (savings potential) • 25% of commercial market • Variety of real estate holdings (office, retail, warehouse, etc.) • 20-30% energy savings available	**4**
Spillover Potential (impact on other markets) • Privately owned/leased real estate • Retail property owners (chains/franchises) • Owner occupied real estate	**4**
Geographic Spread (within PNW) • I-5 metropolitan areas • Large east-side areas (Boise, Spokane)	**3**
Current Efforts (utilities, alliance, others) • EPA Energy Star	**3**

Privately Owned and Occupied Commercial Real Estate

Market Description

While there is a wide variety of owner occupied commercial real estate, in total it represents a small percentage of the overall commercial real estate market. Government buildings and facilities represent more than half of the owner occupied segment of the market. On the private side of the equation, owner occupied commercial real estate may be best characterized by small business owners, both rural and urban, large corporations with campuses, or large retailers that own some or all of their buildings and facilities.

Market Size

Approximately 20% of commercial real estate region-wide is owner occupied, with less than half that amount privately owned and occupied. Privately owned and occupied real estate is spread throughout the Pacific Northwest. In rural, suburban and urban settings throughout the region, smaller, more well established businesses often own their own buildings or facilities. Examples include doctor's offices or clinics, local banks, restaurants, retail and grocery stores. Large corporations with a significant regional presence also own some of the suburban and urban real estate they occupy. Examples include Microsoft, Nike, Boeing, Weyerhaeuser, and Intel.

Market Actors

Privately owned and occupied commercial real estate comes in many shapes and sizes. Many small businesses that also own their buildings or facilities handle day-to-day building operation and maintenance themselves, relying on local contractors for assistance when needed. Large corporations often have a mix of owned and leased space, and use in-house staff or property management firms to handle their needs. For example, Microsoft relies on two property management companies, Trammel Crow (in the Seattle area) and Jones Lang LaSalle (everywhere else). Retailers with multiple locations often have some in-house staff capabilities coupled with contractor relationships. As with other segments of the commercial real estate market, property management firms and contractors can provide a wide variety of services depending on the owner's needs, including property acquisitions/dispositions, building operations, building remodels, equipment repair and maintenance, janitorial services, elevator services, landscaping and building security.

Business Practices

Privately owned and occupied commercial buildings are real estate assets. Owners look to maintain the value of these assets as part of their overall business operations. Unlike other segments of the commercial real estate market, the financial incentive for energy cost savings is straightforward, with any savings resulting in a direct reduction in annual operating costs and increased profits. However, it is important to note that when small business is separated out, there is very little owner occupied real estate remaining, and it is getting smaller all the time. This is because many corporations have been selling their real estate holdings through sale-leaseback arrangements as a means of raising capital for business expansion and improving their balance sheet. This is part of a corporate trend towards outsourcing or shedding non-core business functions and concentrating on main business activities in an increasingly competitive global marketplace.

Market Barriers

As previously mentioned, unlike other segments of the commercial real estate market, energy savings represents a direct reduction in the owner's annual operating costs and results in increased profits. However, given the fact that privately owned and occupied commercial real estate is dominated by small commercial businesses, there are still significant market barriers, including:

- Lack of knowledge about opportunities to reduce energy related costs
- Lack of expertise to identify and implement specific actions
- Lack of time to become educated or seek qualified outside expertise
- No economies of scale, resulting in limited interest by market actors

- Capital constraints that prevent owners from making financially attractive investments

Potential Opportunities

To the extent these owners have large real estate holdings, whether it be a corporate campus or multiple retail stores, there are staff within the company, and usually external real estate market actors, that can serve as channels or conduits for instigating and promoting more aggressive energy management practices. For independent small businesses, trade or business associations may represent a potential market channel.

Outstanding Questions

- Identify/confirm major corporations with a significant Pacific Northwest presence that own and occupy commercial real estate.

- Look at sale-leaseback trends by corporations with a strong Pacific Northwest presence.

- Examine the extent to which large regional retailers own or lease the real estate they occupy.

- Determine the split between small businesses that lease verses those that own real estate.

- Identify any trends associated with real estate owned by small business, such as distinctions between rural vs. urban ownership patterns, or business types that more typically own their property (ie, doctors offices, clinics, etc.)

RATING (scale of 1-5 pts each)	**22**
Market Interest/Readiness (motivated actors) • Energy costs significant • Direct financial benefit • Regional/local companies	**4**
Market Leverage (concentration) • Wide variety of businesses • Some owners with significant holdings • Corporate sale-leaseback trends	**2**
Market Packaging (effective message) • Improve net operating income (NOI) • Reduce operating costs • Employee and customer comfort/productivity • Maintain asset value	**4**
Market Size (savings potential) • Small percentage of commercial market • Lower energy savings possible in small businesses	**2**
Spillover Potential (impact on other markets) • REIT real estate • Institutionally owned/asset managed real estate • Privately owned/leased real estate	**2**
Geographic Spread (within PNW) • I-5 metropolitan areas • East-side areas (large and small)	**5**
Current Efforts (utilities, alliance, others) • Utility commercial programs • EPA Energy Star	**3**

Small Office and Retail Commercial Real Estate

Market Description

Small office and retail commercial real estate is split between owner occupied and leased property, with the majority of businesses leasing space. These businesses are often lumped together because of their size and the market barriers associated with attempting to meet their needs. Otherwise, these businesses have little in common. They range from doctors offices and health clinics, to law offices and banks, to specialty retail shops and convenience stores, to sit-down and fast food restaurants. They are located throughout the Pacific Northwest in urban, suburban and rural locations. Some businesses may operate from a single location while others may have several or many locations throughout the region.

Market Size

Up to 40% of commercial real estate region-wide can be characterized as small office and retail property. The definition of small commercial varies, ranging from 20,000 to 50,000 square feet. The more inclusive the definition, the greater the share of commercial real estate region-wide it encompasses. However, regardless of the definition, small office and retail property does not necessarily mean small business. Many of these businesses are now chain and franchise operations, even in rural locations, with independently owned small businesses becoming less prominent.

Market Actors

While some small office and retail property is owner occupied, most businesses lease space. Independently owned businesses that are well established may own their own buildings or facilities, while a surprising number of retail chains and franchises do not. Due to their size, most small building owners or tenants handle day-to-day building operations and maintenance themselves, relying on local contractors for assistance when needed. Companies with multiple locations may have some in-house staff capabilities coupled with contractor relationships. Contractor services can include building remodels, equipment repair and maintenance, janitorial services, landscaping and building security.

Business Practices

Privately owned and occupied small commercial buildings are real estate assets. Owners look to maintain the value of these assets as part of their overall business operations. The financial incentive for energy cost savings is straightforward in owner occupied buildings, with any savings resulting in a direct reduction in annual operating costs and increased profits. Owners of small office and retail leased space are a varied group, including individuals or families with historic ties to the property, local developers, private investors and nationally based REITs. For example, some private investors and REITs focus specifically on shopping centers and strip malls. Many retail chains locate in these developments, and it isn't always clear who calls the shots on energy related financial decision-making, the real estate owners or the retail chains themselves.

Market Barriers

To the extent small offices and retail properties are owner occupied, energy savings represents a direct reduction in the owner's annual operating costs and results in increased profits. However, when dealing with leased property, this is not the case. Market barriers to achieving energy efficiency gains in small offices and retail properties include:

- Lack of knowledge about opportunities to reduce energy related costs
- Lack of expertise to identify and implement specific actions
- Lack of time to become educated or seek qualified outside expertise
- Little economies of scale, resulting in limited interest by market actors
- Capital constraints that prevent owners from making financially attractive investments
- Divided and unclear responsibilities between tenants and owners
- Triple net lease terms that can prevent owners from benefiting financially

- Service providers efforts tailored to the status quo

Potential Opportunities

This is the toughest commercial market segment to crack, whether from a market transformation perspective, or simply from a conservation resource acquisition perspective. The diversity in business types, locations, limited contractor involvement and a lack of economies of scale add up to a difficult situation. Still, the fact that a number of the owners are also occupants of the buildings and facilities means that they can directly benefit from the actions they take to manage and reduce energy related costs. Private investors and REITs that own and lease retail space have large real estate holdings in aggregate, so some economies of scale are possible. Directly approaching retail chain and franchise owners may represent the best opportunity to impact this market segment. Other market channels for reaching small office and retail businesses include trade associations or business organizations (ie, such as Associated Oregon Industries or the Restaurants Association) and community based marketing efforts.

Outstanding Questions

- Confirm the amount of commercial real estate that is small office and retail regionally and the split between owner occupied and leased space.

- Confirm trend towards less independently owned small business and more chains and franchises, particularly in smaller, more rural communities.

- Identify the private investors and REITs that own retail space regionally, and the extent to which it is occupied by small office and retail businesses.

- Determine who is most likely to make energy related decisions in strip mall space owned by investors but occupied by chain stores and franchises.

- Examine the role that various contractors play in meeting the operation and maintenance needs in the small office and retail market.

- Explore viability of other market channels as a means to reach small business owners.

RATING (scale of 1-5 pts each)	**19**
Market Interest/Readiness (motivated actors) • Energy costs significant • Some have a direct financial benefit • Numerous market barriers	**3**
Market Leverage (concentration) • Small in size/little economies of scale • Wide variety of businesses and locations • Few owners with significant holdings	**1**
Market Packaging (effective message) • Reduce operating costs/improve profitability • Employee and customer comfort/productivity • Maintain asset value	**3**
Market Size (savings potential) • Large percentage of commercial market • Cuts across ownership categories previously discussed • Lower energy savings possible in small businesses	**3**
Spillover Potential (impact on other markets) • Private real estate investors/REITs • Business trade associations • Community based focus	**1**
Geographic Spread (within PNW) • I-5 metropolitan areas • East-side areas (large and small)	**5**
Current Efforts (utilities, alliance, others) • Utility commercial programs	**3**

Appendix B: Chain and Franchise Market

Grocery Stores: National Chains

Market Description

National grocery chains have been undergoing rapid consolidation during the past decade; for example, the top five grocery chains have increase their proportion of national sales from 20% in 1990 to 40% in 2000. The Pacific Northwest (PNW) is no exception to this trend as evidenced by the acquisition of the region's two largest chains – Fred Meyer and QFC – by Kroger. As a result, nation chains account for over 30% of sales in the PNW and, together with national chain wholesale clubs and supercenters, are rapidly growing.

Market Size

Groceries account for about 8 percent of the PNW's commercial energy use; that is, about 4,000-4,500 GWh of electricity per year with an average load of 450-500 MW.

National chain-owned grocery stores (together with warehouse clubs) account for 38 percent of regional sales. Approximately 7,000 retail food stores located in the four-state PNW are classified as supermarkets, groceries or convenience stores. About 30% of these stores are classified as chains and the remaining 70% as independents. However, chain stores are larger on the average than independents and account for over 36% of total sales. About 39% of all retail food stores in the PNW are located outside a metropolitan area. Although concentrated in metro areas, chain stores, especially regional chains, are also well represented in rural communities.

Market Actors

There are only three major, truly national chains in the PNW; namely, Albertson's (based in Boise), Krogers, and Safeway. Efficiency related investments are controlled and influenced by the following players:

- Investment decision-making is highly centralized and heavily influenced by corporate management and in-house design/ engineering staff.

- As support, the national chains possess an extensive network of in-house engineering, design, and financial resources, and can draw on experiences in different geographic divisions. Investment decisions are usually driven by the need to increase market share, address "marketing and presentation concerns," and to control operating costs.

- National chains typically work through regional energy managers who have oversight over stores and work closely with the national office.

- National chains tend to have specialized refrigeration contractors that they work with to design and maintain systems. Design is often the jurisdiction of the contractor, so these parties may be key allies for any innovations.

Business Practices

Retail food stores operate under extremely tight margins in a market that is largely saturated and that must respond to unrelenting competitive pressure to keep prices down. National chains have responded by increasing consolidation and other steps (technology upgrades, innovative inventory/purchasing strategies, etc.) in the effort to increase purchasing power, achieve scales of economy and control food and operating costs.

National chains tend to be industry leaders in energy efficiency, having had long-running experience with efficiency investments and energy management programs. Nevertheless, considerable opportunities remain untapped. Energy issues are driven by appearance, maintaining food quality, minimizing spoilage, maximizing convenience of purchase (e.g., open refrigeration cases) and, to a lesser extent, comfort of occupants. Groceries can be very conservative about changes in lighting and cooler cases that might influence appearances and customer access.

Trends in store design are toward larger stores with more cases, in the hopes of attracting ever-larger consumer volumes and impulse expenditures. This has led to a small counter-trend, at least in urban areas, toward smaller chains offering premium products (gourmet and organic) with a smaller, more intimate floor plan (e.g., Wild Oats).

Market Barriers

There are significant market barriers to utilizing energy investments and management practices that vary widely depending upon the market player. These include:

- Thin profit margins/intense competition favors short pay-backs for investments.
- Uneven application of energy efficiency initiatives across national chain networks; some stores lag in the remodeling/investment cycle behind others.
- National chains have made considerable progress in “first tier” energy efficiency, but are often reluctant to attack the next tier of opportunities.
- Fragmentation of efforts and “boom/bust” implementation when it comes to comprehensive energy management effort.

Potential Opportunities

Increasing competition has resulted in reduced profit margins and greater emphasis on controlling operating costs. Since energy costs account for about 1.2% of sales compared to profit margins of 1% or less, they have gained greater attention. In addition, the recent national and regional movement toward competitive retail energy markets, compounded by recent supply shortages in California and the PNW, have heightened awareness of energy efficiency and have resulted in subsequent initiatives. In fact, the national chains (especially Albertson’s) have widely broadcasted their efficiency accomplishments during the recent “crisis” and their intent to build on these actions. Moreover, some chains feel that they are ahead of utility programs.

A by-product of these market pressures is the increasingly sophisticated use of technology by nearly all players in the retail food sector. These include electronic payment systems (credit/debit/EBT), scanning systems and inventory tracking, retail pricing systems, equipment controls/ automation and so on. This increasing sophistication helps to create a more receptive audience to energy billing analysis, efficiency equipment procurement, and energy management systems/programs (both on-site and remote).

Outstanding Questions

- What are the current efficiency baselines for national chains outlets in the PNW?
- How advanced are national chains with energy management/ investment programs? Do the facts on the ground match their claims.

RATING (scale of 1-5 pts each)	23
Market Interest/Readiness (motivated actors) • Larger chains have long-running (albeit uneven) energy management programs • Energy awareness goes up with costs • Very thin profit margins	2
Market Leverage (concentration) • High degree of competition • Centralized decision-making for national chains	5
Market Packaging (effective message) • Reduce costs, ergo increased profit margin • Improved operations/equipment reliability from O&M • Create competitive advantage	3
Market Size (savings potential) • National chains > 1/3 of PNW market • Supermarkets = very high EUIs • Remaining refrigeration, lighting and HVAC opportunities	4
Spillover Potential (impact on other markets) • Large chains prove concept, others follow • Competitors copy each other	3
Geographic Spread (within PNW) • I-5 metropolitan areas • Large east-side communities (Boise, Spokane)	3
Current Efforts (utilities, alliance, others) • Utility commercial programs • E-Star, Climate Wise, etc.	3

Grocery Stores: Regional Chains and Independents

Market Description

Most retail food stores in the four-state Pacific Northwest are owned and operated by regional chains and independents. Although national chains have been undergoing rapid consolidation in the PNW during the past decade, the regional chains and large independents are still major players in the retail food market and, with their own consolidations, have good prospects for the near future.

Market Size

Groceries account for about 8 percent of the PNW's commercial energy use; that is, about 4,000-4,500 GWh of electricity per year with an average load of 450-500 MW. Over 6,550 retail food stores located in the four-state PNW are classified as supermarkets, groceries or convenience stores. Regional chains/co-ops = for 36 percent of regional food sales, national chain grocery stores/warehouse clubs = 38 percent of sales (w/), smaller independent groceries = 14%, and convenience stores = 12% (both independents and chains). About 39% of all retail food stores in the PNW are located outside a metropolitan area. Regional chains are well represented in rural communities.

Market Actors

Regional Chains and Major Independents - Although coming under increasing competitive pressure, these players continue to play a major role in the PNW. They include such chains as Select, Thriftway, Rosauers, Haggen's, Red Apple and Zupan's. Regional/independent grocers are usually served by regional wholesalers and co-op's.

Regional Wholesalers/Co-op's – Regional wholesalers play a critical role in allowing smaller chains and independents to be competitive with national chains. They consist of co-ops owned by many of the stores that they distribute to; and non-member-owned wholesalers. Both types act as "surrogate" chains by providing such support services as store design/construction, operations services, financing, education and training, and technology support, and are the key to reaching regional chains and independents. Some of these wholesalers are quite progressive when it comes to recycling, community service, and commuting programs. The major co-ops have a long history in the PNW and include: Associated Grocers (active in SCL programs), URM (extensive presence in the Inland Empire), and Unified Western Grocers (a merger of Californian and Oregonian co-ops). The non-member owned wholesalers are also significant regional players and display varied ownership structures; i.e., corporate (SuperValu –Minnesota based) and joint venture (AG Fleming).

Smaller Independents/Chains - Include primarily single stores and some small chains. Minor players in the overall, they are still important for many rural communities.

Business Practices

Retail food stores operate under extremely tight margins in a market that is largely saturated and highly competitive. Both regional and national chains have responded through consolidations and other steps (technology upgrades, innovative inventory control) in the effort to increase purchasing power, achieve scales of economy and control food/operating costs. Investment decisions are driven by the individual corporate managers, with strong influence and support from the wholesale/co-op service provider. In addition, local players, such as refrigeration contractors and local utilities, can have considerable influence.

Independent supermarkets/small chains (under 5 stores) have felt increasing competitive pressure from both the larger chains at one end and the convenience stores at the other. Independent stores are either falling to the wayside or are surviving through either acquisitions or membership in wholesale co-ops. Individual store owners/managers: make their own equipment decisions; are very concerned about reliability; are very independent and absorbed with their responsibilities; and, thus, are very difficult to influence with respect to efficiency decisions.

For nearly all players, key investment decision factors include marketing and sales issues, and equipment reliability. Energy issues are driven by appearance, maintaining food quality, maximizing convenience of purchase (e.g., open cases) and, to a lesser extent, comfort of occupants. Groceries can be very conservative about changes in lighting and display cases that might affect appearance and customer access.

Market Barriers

Although grocers has made significant strides in energy efficiency, significant market barriers to efficiency investments/practices remain depending upon the market player:

Regional chains:

- Thin profit margins and intense competition = short pay-backs for investments.
- Uneven application of energy efficiency initiatives across stores and chains.
- Regional chains still lag nationals in expertise/experience with efficiency.

And also for smaller chains and independents:

- Lack of knowledge/expertise about opportunities to reduce energy related costs
- More likely to be strapped for ready financing.

Potential Opportunities

Increasing competition from traditional competitors (supermarkets), chain convenience stores, warehouse clubs and large discounters (e.g., Wal-Mart) has resulted in reduced profit margins and greater emphasis on consolidation and controlling operating costs. Since energy costs account for about 1.2% of sales compared to profit margins of 1% or less, they offer opportunities for profit enhancement. In addition, recent movement toward competitive retail energy markets (however uneven), compounded by recent supply shortages, have heightened awareness of and actions toward energy efficiency.

A by-product of these market pressures is the increasingly sophisticated use of technology by nearly all players in the retail food sector, including electronic payment systems, scanning systems/inventory tracking, equipment controls/automation and etc. This increasing sophistication helps to create a more receptive audience to energy billing analysis and energy management systems/programs (both on-site and remote).

Outstanding Questions

- How will regional chains/co-op's fair in the face of increasing mergers and competition in the following decade?
- How sophisticated/motivated are regional chains re: energy management.

RATING (scale of 1-5 pts each)	**26**
Market Interest/Readiness (motivated actors) • Energy awareness up as cost increase significant • Very thin profit margins puts pressure on controlling operating costs	**4**
Market Leverage (concentration) • Strong influence and centralized technical assistance through regional wholesalers	**4**
Market Packaging (effective message) • Reduce costs, ergo increased profit margin and competitive advantage • Improved operations/equipment reliability from O&M	**4**
Market Size (savings potential) • Regional chains > 1/3 of PNW market • Supermarkets = very high EUIs • Massive refrigeration and significant lighting/HVAC opportunities	**4**
Spillover Potential (impact on other markets) • Large chains prove concept, others follow • Competitors and co-op members copy each other	**3**
Geographic Spread (within PNW) • Metropolitan areas (especially in-town) • Strong east-side presence • Independents widely distributed	**4**
Current Efforts (utilities, alliance, others) • Utility commercial programs • EPA Energy Star, Climate wise, etc.	**3**

National Retail Chains (Dry Goods)

Market Description

Most large retail outlets (20,000 square feet or greater) are owned and operated by national retail chains. National large retail chains encompass diverse and growing retailing categories but are typified by centralized ownership of outlets. They include:

- Department stores: these include more traditional, full-line department stores (e.g., Sears, J.C. Penney) and apparel-based department stores (Nordstrom's , Saks Fifth Avenue). Regional department stores and chains have steadily fallen to the wayside, been acquired (Meier & Frank) by larger national chains, or, less frequently, expanded to nation prominence (Nordstrom's, REI).

- Discount department stores/mass merchandisers are the major players in the national retail market and are dominated by a few large national chains and a couple regional players . The three largest national discounters are: Wal-Mart (largest retailer in the country), K-Mart (recently entered chapter 11), and Target (rapidly expanding).

- A variation on the discount/mass merchandisers are the membership-based warehouse clubs, including Costco ("local") and Sam's Club (a Wal-Mart subsidiary).

- Specialty stores encompass a variety of specialized goods and are often housed in "big box" construction. Some specialty categories are overwhelmingly dominated by major players (i.e., category killers) such as Home Depot (home improvements), Office Max (office supplies), Barnes and Noble (books) and Best Buy (electronics). Other specialty categories are highly fragmented without dominant players; e.g., home furnishings, specialty apparel, auto parts, etc. Whereas big box specialty tend to be chains, small specialty tend to be franchises; this paper focuses on the former.

Market Size

The retail sector accounts for about 19 percent of the PNW's commercial energy use with another 4.4 percent from warehouses (some of which can be assigned to retail). Discount stores (including their supercenters) dominate dry goods retail, followed by department stores and a wide variety of specialty stores.

Market Actors

The national retail (dry goods) chain sector is composed of the following major actors:

National Chains – Most chains have long-running energy management and investment programs in place. Investment decision-making is highly centralized and heavily influenced by corporate management and in-house design/engineering staff that are often regionally located (e.g., Seattle for JC Penney's and Nordstrom's, Issaquah for Costco).

Regional Chains and Major Independents - Several former regional chains are now properly considered to be national; nonetheless, the "local" location of their headquarters allow for more ready access for efficiency program outreach. Otherwise, decision-making is centralized with the chain/independent owner and/or facility manager.

Energy Service Companies/Vendors/Contractors - These firms are making increasing in-roads in providing a variety of outsourced energy services, such as bill consolidation, utility bill analysis, O&M, energy management, etc.

Business Practices

The retail business is basically a high-volume, low-margin business dominated by intense competition within a largely saturated market. Price deflation is in effect; hence, retailers must a) sell more goods, and/or b) <u>cut costs</u> to make up the profit shortfall. Department stores, in particular, are being squeezed by discount stores at one end and specialty stores at the other. Because of these intense competitive pressures, retail is driven in two separate directions: a) increasing expansion of product line through supercenters (providing more choice at a lower cost structure) that increasingly encompass retail food sales, and b) increasing retail specialization in the form of either large, category killer stores (like Best Buy and Staples), or smaller, narrowly focused retailers (specialty apparel, home furnishings).

Discounters continue to gain market share by appealing to all income levels. They have the financial muscle to build big stores with a wide range of offerings. For example supercenters are the growth vehicle of choice for Wal-Mart and Target (planning to double its supercenters). In general, the mature retailers have strong cash flows for expansion and acquisition, but weigh new stores carefully.

For specialty chains, the environment is also a highly saturated, slow growth market that forces emphasis on acquisition and operating cost control. A number of niche oriented chains try to diversify by pursuing separate concepts within their specialty (e.g., Gap + Banana Rep, Old Navy). Specialty chains are increasingly dominated by giant superstores (“category killers”); e.g., Barnes and Noble, Home Depot, Office Depot, Toys R Us. Such stores are typified by lower cost structures and stand-alone outlets (e.g., big boxes). Many big box chains rely on leasing rather than out-right ownership of the properties.

A continuing trend is that of “regional” chains being absorbed by national players; e.g., Best Buy recently acquired Magnolia Hi-Fi whereas Meier & Frank is now part of the May family. Although local department stores continue to populate the PNW (such as Lamonts, Emporium, Tri State), especially outside the major metro areas, they are increasingly at risk from competitive pressures.

Market Barriers

Current business practices result in significant market barriers to effectively and comprehensively utilizing energy investments and management practices; however, these vary widely depending upon the market player. These barriers include

- Thin profit margins and intense competition = short pay-backs for investments.
- Uneven application of energy efficiency initiatives across national network, thus some stores/regions may lag in the remodeling/investment cycle behind others.

- National retail chains, even with regional offices, difficult to reach and influence.
- Lack of knowledge and expertise about opportunities to reduce energy related costs (this is primarily true for smaller chains/operations).
- A tendency toward fragmentation of efforts and "boom/bust" implementation when it comes to a comprehensive energy management effort.

Potential Opportunities

Large retail stores have relatively low EUI's but, because of their increasing size, are major energy users. Many large retailers report that energy use is their highest operating cost after labor and, thus, have in place active, long-running energy efficiency programs. Although efficiency actions and investments have played a secondary role to retailers primary concerns of marketing, sales, and labor, recent movement toward competitive retail energy markets accompanied by the recent "energy crisis", have heightened awareness of and interest in energy efficiency.

Large retailers have shown an increasing interest in outsourcing various energy management functions. For example, such services as consolidated bill payment and bill auditing/analysis, HVAC and refrigeration O&M preventive maintenance contracts, planned equipment replacement, emergency maintenance call centers (HVAC dispatching), etc., are being used by such chains as Costco, Blockbuster Video, 7-11 and Federated Department Stores. These and other chains want to take advantage of external expertise and liberate their store managers from O&M tasks to focus on sales.

Many major retailers are relying on remote and automated systems for tracking and controlling outlet operations. In some cases, such as Wal-Mart, these systems are used to remotely control operations, in other cases, remote monitoring is used to advise the local manager of needed changes. Since retailers have made increasingly sophisticated use of technology for sales tracking, inventory control and other uses, they may have become more receptive to technology-based energy services

Most big boxes use fairly efficient lighting, limiting opportunities for easy or dramatic improvements. The best opportunities would require architectural changes, in the form of extensive daylighting and attending lighting system changes, but no trend is in sight. For example, Costco is emphasizing daylighting in all of its new facilities.

Outstanding Questions

- How advanced are national chains with energy management/investment programs?
- How much in-roads has energy service outsourcing made among PNW chains?
- How sophisticated/motivated are chains re: energy management and investments.

RATING (scale of 1-5 pts each)	**18**
Market Interest/Readiness (motivated actors) • Larger chains have long-running experience with energy management • Energy awareness up due to price increases, deregulation, summer crisis • Very thin profit margins	**3**
Market Leverage (concentration) • High degree of competition • Centralized decision-making for national chains	**2**
Market Packaging (effective message) • Reduce costs, ergo increased profit margin • Improved operations/equipment reliability from O&M • Create competitive advantage • "Automate" energy management, let managers concentrate on core competencies	**2**
Market Size (savings potential) • Retail = 19% of commercial electricity use • National chains dominate • Large retail = high energy use	**3**
Spillover Potential (impact on other markets) • Large chains prove concept, others follow • Associated warehousing/distribution centers	**2**

Geographic Spread (within PNW) • National chains in most communities of any size • Regional chains/independents have wide distribution	**4**
Current Efforts (utilities, alliance, others) • Utility commercial programs • Success with local stores, others difficult to reach • EPA Energy Star	**2**

Regionally and Locally Based Retail Chains (Dry Goods)

Market Description

Most large retail outlets (20,000 square feet or greater) are owned and operated by national retail chains. Regional and locally based dry goods chains are a rapidly diminishing group due to intense competitive pressures from national chains and franchisers. Larger department store/general merchandisers are being squeezed from the large discounters at one end while smaller local/regional specialty stores/chains are squeezed by major specialty chains/franchisers at the other.

Regional department stores and chains have steadily fallen to the wayside, have been acquired (e.g., Meier & Frank) by larger national chains, or, more infrequently, expanded to nation prominence (e.g., Nordstrom's, REI). Regional successes, such as Costco and Nordstrom's, are more properly regarded as national chains and are treated as such in that section.

Regional specialty stores have also been subject to mergers and acquisitions. For example, Magnolia Hi-Fi has been recently acquired by Best Buy, a dominant player in the electronics/entertainment equipment specialty market. A challenge in understanding this sector is that good secondary information sources are difficult to find.

Market Size

The retail sector is an important energy user accounting for about 19 percent of the PNW's commercial energy use. However, good data characterizing the size and types of regional/local chains is not available without engaging in more detailed research.

Market Actors

The regional/local retail (dry goods) chain sector is composed of the following players:

Locally-Based Regional Chains - Several former regional chains are now properly considered to be national; nonetheless, the "local" location of their headquarters allow for more ready access for efficiency program outreach. These include Costco, Nordstrom's, REI, and Nike. Energy related decision-making tends to be centralized with a designated facility/energy manager. For example, Costco makes most major facility decisions, such as new construction, renovations/remodels, equipment purchases, and equipment maintenance contracts, out of their Issaquah office.

Regional and Local Chains - A basic distinction can be made between regional/local department stores/merchandisers and the smaller specialty chains/stores. Although local department stores continue to populate the PNW (such as Lamonts, Emporium, Tri State), especially outside the major metro areas, they are increasingly at risk from national competitors. Energy decision-making is typically centralized in the hands of a facility/energy manager or the owner, depending on the size of the operations.

Trade Associations – Retail trade associations exist within all four states but tend to focus more on lobbying than on operations services for their customers. Association contacts acknowledge their own difficulty in reaching the disparate retail operators. Nevertheless, they are among few avenues for reaching these smaller operations.

Vendors/Contractors/Energy Service Companies – Vendors and contractors, in particular, offer important services to the regional/local retail outlets but have limited influence over energy-related decision-making. ESCo's are starting to make in-roads, mostly with larger chains, in providing a variety of outsourced energy services, such as bill consolidation, utility bill analysis, O&M, energy management, etc.

Business Practices

The retail business is basically a high-volume, low-margin business dominated by intense competition within a largely saturated market. Price deflation is in effect; hence, retailers must a) sell more goods, and/or b) <u>cut costs</u> to make up the profit shortfall. As noted above, both regional/local department stores and specialty stores are being increasingly squeezed by national competitors. In addition, these operators are much more capital constrained than the national chains.

Business practices focus on profitability, cost control, sales growth and when possible, mergers and acquisitions. Controlling operating costs is of primary concern although, for smaller operations, managers are distracted by the need to focus on sales and labor costs. Growth and diversification among these regional/local independent operations is uncertain given the intense competitive pressures, the cost of cold-starting a business, and the more attractive avenue of pursuing a franchise.

Market Barriers

Current business practices result in significant market barriers to effectively and comprehensively utilizing energy investments and management practices; however, these vary widely depending upon the market player. These barriers include

- Thin profit margins and intense competition = short pay-backs for investments.
- Lack of knowledge and expertise about opportunities to reduce energy costs.
- Regional/local chains are small and widely distributed, thus difficult to reach.
- The pressure to survive distracts store managers from considering efficiency options.

Potential Opportunities

Regional/local retail chains are subject to intense competitive pressures making them open to any affordable cost control strategies. However, because of the noted market barriers, they have done less than national chains. Most of the larger retailers report that energy use is their highest operating cost after labor and, thus, have in place active, long-running energy efficiency programs. In addition, they have not been oblivious to the recent events re: restructuring, supply constraints and rising energy prices.

Outstanding Questions

- How sophisticated/motivated are regional/local chains with respect to energy management/investment programs?

- To what extent have regional/local chains relied on outsourcing for O&M and energy management services?
- Prospects/survivability for regional department stores?

RATING (scale of 1-5 pts each)	**14**
Market Interest/Readiness (motivated actors) • Larger chains have at least some experience with energy management • Energy awareness up due to price increases, deregulation/summer crisis • Very thin profit margins and intense competition	**3**
Market Leverage (concentration) • Smaller economies of scale re: national chains • Local operator distracted by core needs	**1**
Market Packaging (effective message) • Reduce costs, ergo increase profit margin • Increased reliability and reduced distractions from O&M • Outsource energy management, let managers to concentrate on core competencies	**2**
Market Size (savings potential) • Retail = 19% of commercial electricity use • But regional/local chains = small part of the pie	**1**
Spillover Potential (impact on other markets) • Large chains prove concept, others often follow • Competitors copy each other	**2**
Geographic Spread (within PNW) • Smaller metropolitan areas • Small/moderate east-side communities	**3**
Current Efforts (utilities, alliance, others) • Utility commercial programs • Retail chains, excepting some local stores, have been difficult to reach	**2**

Regional and Local Franchises (Dry Goods)

Market Description

Franchising has experienced dramatic growth nationally during the last two decades with sales reaching over $800 million. Thousands of franchisers with over a half million outlets representing over 60 different sectors, operate nationally. For example, a web search of franchises found over 1,000 listed franchisers, mostly small-scale, in the PNW.

Franchises are estimated to be responsible for about 35-40% of total national retail sales and encompass such varied business as business/professional services, personal care, household services, home furnishings, auto care, dining, and retailing. Although, franchising is most dominant in the restaurant sectors (over 70% of chain sales), they also are major and growing players in the dry goods retail as well, especially specialty retail. This paper focuses on dry goods franchises.

Market Size

The retail sector is an important energy user accounting for about 19 percent of the PNW's commercial energy use. However, good data characterizing the size and types of regional/local franchises with respect to national franchises is not available without engaging in more detailed primary research.

Market Actors

The dry goods franchising sector is composed of the following major actors:

National Franchises - National franchises have extensive reach in both urban and rural communities throughout the PNW. These include such well-known and diverse operators as 7-11 convenience stores, Oil Can Henry, Mail Boxes, Dunkin Donuts, Red Roof Inn, McDonalds, Century 21, and so on. The parent franchising chains greatly vary in their level of control of and support to franchisees, although this usually includes education and training, operational and technical assistance, outlet siting, and financing.

Regional/Local Franchises - Regional/local operators account for the majority of franchises but a minority of actual sales. Nationally, about 55 percent of franchisers have 50 or fewer outlets under franchise, thus the franchise market is populated with smaller, aspiring operators. The ability of these franchisers to support their franchises (e.g., through training, building design, financing, etc.) varies greatly but is usually substantially less than that of national operators. Nonetheless, they remain a primary source of information on operational practices and improvements to their franchisees. These players are much more active during periods of economic growth when there is more ready access to capital.

Franchisee: Franchisees typically consist of individual entrepreneurs, although multi-unit franchisees (i.e., a single individual or investment firm owning multiple franchise operations) have been making significant in-roads into the franchise market. The franchisee owns or leases the property and, thus, has the primary responsibility for utility bills, equipment acquisition, and facility remodeling and appearance upgrades. Investment decisions are usually driven by the need to (initially) establish the business, increase market share, address "marketing and presentation concerns," and to control operating costs.

Equipment Vendors/Contractor: Equipment vendors (e.g., refrigeration, lighting, HVAC) play a modest role in influencing equipment purchase decisions, although their influence can be substantial if approved or encouraged by the parent franchise office.

Trade Associations – Retail trade associations exist within all four states in the region but they tend to focus more on lobbying than on management/operations services for their customers. Association contacts acknowledge the difficulty in their own right in reaching the disparate retail operators. Nevertheless, they are among few avenues for reaching these smaller operations.

Business Practices

The retail business is basically a high-volume, low-margin business dominated by intense competition within a largely saturated market. Price deflation is in effect; hence, retailers must a) sell more goods, and/or b) <u>cut costs</u> to make up the profit shortfall. As noted previously, franchise operations tend to work in specialty markets where competition is intense. Franchising allows parent franchisers to achieve higher returns through rapid expansion, a steady stream of franchising/royalty fees, reduced debt load on a per outlet basis, and reduced direct operating/management costs.

A key aspect of franchisers' business strategy is to support their franchisees through extensive training and technical assistance. Many of the major national chains, such as McDonald's and Wendy's, assume fairly tight control of local operations through the franchise agreement, extensive training and assistance to their to the franchisees, and, in some cases, outright ownership of the outlet. While most other national franchisers provide a more limited level of assistance to franchisees, they remain a critical, respected and preferred source of information on operational practices and improvements.

Franchisees also benefit from an established and, presumably, successful business model, training and management assistance (this varies), easier entry than starting a business cold, access to design and financing assistance (also varies), and the purchasing power of a franchised system.

The franchise industry has seen some emerging trends in ownership and franchising strategies. Many local/regional companies and entrepreneurs are acquiring/operating portfolios of franchises (either multiple outlets of the same franchise or alternative franchise markets). Also, a well-established pattern that is seeing increased use is the multi-franchise owner, i.e., a middle level franchiser who owns multiple franchise outlets under a given parent organization (in effect a chain).

Market Barriers

Current business practices result in significant market barriers to utilizing energy efficient investments and management practices; however, these vary widely depending upon the market player. These barriers include

- Very thin profit margins and intense competition = short pay-backs.
- Franchisees are small operators with limited time and resources.
- Lack of knowledge and expertise about energy efficiency.
- Regional/local franchisers are modestly-sized and have limited resources.

- Regional/local franchisers are widely distributed, thus difficult to reach.

Potential Opportunities

Franchises are a major retailing and service force in the PNW economy and are steadily growing. Although typically small in size, their growing numbers make them an important consideration for energy efficiency initiatives. Despite the sheer number and diversity of franchises, their standardized and structured system of business arrangements makes them amenable to broad-based influence. Innovations in franchising practices are quickly noted, publicized and incorporated into franchise agreements and practices.

As with all retail, franchises are very sensitive to rising energy costs and have developed an increased interest and appreciation for cost savings opportunities. However, because of the noted market barriers, they have done less than national franchises.

Outstanding Questions

- Capability of regional/local franchisers to provide technical assistance?

- Size of franchising in the PNW (floor area, energy use/loads)

- Sophistication/motivation of franchises re: energy management/investment?

- Use of regional/local franchises rely on outsourcing for energy related services?

RATING (scale of 1-5 pts each)	16
Market Interest/Readiness (motivated actors) • Energy awareness up due to price increases, deregulation/summer crisis • Very thin profit margins and intense competition • But, franchisee distracted by core needs	**3**
Market Leverage (concentration) • Franchisees strongly influenced by franchisers • Successful strategies spread quickly	**3**
Market Packaging (effective message) • Reduce costs, ergo increase profit margin • Quick results possible with O&M • Improve equipment reliability/performance	**2**
Market Size (savings potential) • Retail = 19% of commercial electricity use • Franchises small but growing part of the pie	**2**
Spillover Potential (impact on other markets) • Large franchises prove concept, others often follow • Franchisees copy each other	**2**
Geographic Spread (within PNW) • Metropolitan areas (large and small) • Moderate sized rural communities	**3**
Current Efforts (utilities, alliance, others) • Utility commercial programs • Disaggregated and difficult to reach	**1**

Restaurants: Chains and Franchises

Market Description

Despite the trend toward consolidation, the restaurant industry remains highly fragmented. Nationally the top 200 chains control about 56% of restaurant sales, while the remaining 44%, of sales is claimed by smaller chains and independents. Chains and franchisers overwhelmingly dominate limited service restaurants (in terms of sales), but also account for much of full-service restaurants as well. The commercial food service sales are dominated by two primary restaurant concepts: a.) sit-down/table service restaurants (about 39%) of sales and, b.) limited service restaurants (e.g., fast-food operations) at 31% of sales. Although fast-food continues to grow, it is being outpaced by sit-down restaurants (including independents). The restaurant industry is nearing market saturation and is subject to very intense competition amidst slowing sales growth. Nevertheless, "eating out" has been accounting for a increasing portion of the food dollar, and is projected to continue.

Market Size

Restaurants account for about 5.4 percent of the PNW's commercial energy use. They also display the highest EUI's within the commercial sector, although these vary by restaurant type and chain. Fast food outlets tend to have higher EUIs and longer operating hours. There are over 29,800 eating and drinking establishments in the four-state Pacific Northwest with 40% in Washington, 30% in Oregon and 11% each in Idaho and Montana. Total sales exceeded $13.4 billion in 2001. The National Restaurant Association (NRA) projects a growth rate of 3 to 5% for the four respective states for 2002. Franchises account for approximately 70% of chain operations with the remaining 30% of outlets being chain-owned.

Market Actors

Within the context and chain/franchise dominance, the major players include:

Chains as Owners – The majority of chains both own/operate their own outlets and franchise outlets. Decision-making for chain owned outlets is centralized at the division or regional office, with new construction centrally controlled by the central office. The major chains are usually reasonably informed about energy efficiency options and have at least some degree of long-term experience.

Chains as Franchisers – The parent franchising chains greatly vary in their level of control of and support to franchisees, although this usually includes education and training, operational and technical assistance, outlet siting, and financing. Whatever their level of support, franchisers remain a critical, respected and preferred source of information on operational practices and improvements.

Franchisee: Franchisees typically consist of individual entrepreneurs, but multi-unit franchisees (i.e., a single individual or investment firm owning multiple franchise operations) are increasingly common. The franchisee owns or leases the property and has the primary responsibility for utility bills, equipment acquisition, and facility remodeling and appearance upgrades. Investment decisions are usually driven by the need to increase market share, address "presentation concerns," and to control operating costs.

State Trade Associations: Some state associations (especially Oregon) are becoming increasingly active in assisting members with energy price increases and deregulation.

Equipment Suppliers: Restaurant equipment vendors (e.g., refrigeration, cooking equipment, water heating) play a modest role in influencing equipment purchase decisions, with their greatest direct influence on smaller/local chains and independents.

Business Practices

The restaurant industry is heavily dominated by franchise operations: both national and regional . Whereas franchised business account over 41% of all retail sales, they account for about 70% of restaurant chain sales. The reliance on franchising varies greatly, however, among the major chains. For example, 85% of Wendy's outlets are franchised, whereas only 9% of Ryan's Family Steak Houses are so. In either case, parent chain companies offer, at a minimum, an influential source of information and technical assistance concerning operational improvements.

Franchising allows chains to achieve higher returns through rapid expansion, a steady stream of franchising/royalty fees, reduced debt load on a per outlet basis, and reduced direct operating/management costs. A key aspect of franchisers' business strategy is to support their franchisees through extensive training and technical assistance. This is especially true for the major national chains, such as McDonald's, Applebee's, and Wendy's. All of these factors account for growing strength of restaurant franchising.

The restaurant industry has seen some emerging trends in ownership and franchising strategies. Many national restaurant companies are developing portfolios of restaurant chains (targeting either different demographics groups within the same concept and/or different concepts) for growth purposes and to hedge their bets. For example, 31 of the top 100 national restaurant companies (most of which are represented in the PNW) manage three plus restaurant concepts. Also, some companies regularly buy and sell restaurants as a means of strengthening their operations. For example, Tricon Global, which owns Taco Bell, Pizza Hut, and Kentucky Fried Chicken, uses refranchising to upgrade its units, trim back losers, and generate additional franchising fees and sales.

In terms of operating trends, business costs are rising (especially labor), therefore operators are seeking offsets to maintain/enhance their profit margin. Nevertheless, restaurants continuously feel the pressure to "remodel" on a frequent basis, especially with respect to facility appearance. According to a NRA Survey (1999), nearly 75% of quick service restaurants invested in remodeling (mostly appearance related) and close to 50% of table service restaurants did so. Although some major chains are self-financing, most chains, their subsidiary franchises, and independents require some form of external capital for improvements and expansions.

Market Barriers

Current business practices result in significant market barriers including:

- Very thin profit margins and intense competition = short investment pay-backs.

- Individual owners and franchisees have limited time, knowledge and resources with respect to energy efficient investments and practices.

- Parent restaurant companies are not equally adept at alerting their chain outlets and/or franchisees about energy savings opportunities.

- Independent restaurateurs and small chains are especially strapped for capital.

- Obsession with appearance and comfort sometimes lead to over-lighting and over-sizing of equipment

Potential Opportunities

The unrelenting emphasis on cost control, increased awareness from the "energy crisis," coupled with the relative energy intensity of restaurants, provides an opportunity for energy efficiency investments and O&M. Opportunities to leverage efficiency messages/offerings through parent franchises include the franchise contract, training, direct technical assistance, and information sharing. Although franchiser support varies considerably depending on the business structure, the franchisee is heavily influenced by the recommendations of its parent. In addition, the example of progressive franchisees can influence sister franchisers and the parent.

Finally, restaurateurs are becoming increasingly sophisticated in their use of technology. For example, the NRA found that more than 40% of table service restaurants reported using technology to improve labor, automate operations, and, thus, improve operational efficiency. This increasing use of and comfort with technology for operational efficiency offer opportunities for energy efficiency as well.

Outstanding Questions

- How to reach the unaffiliated independents and small/localized franchises?

- How advanced are national chains/franchises with energy efficiency programs?

- How much emphasis do franchisers place on energy awareness and solutions in their franchisee training and support efforts.

RATING (scale of 1-3 pts each)	21
Market Interest/Readiness (motivated actors) • Franchises have limited time and resources • Very thin profit margins put pressure on operating cost control • Energy costs increasingly significant, energy awareness up	**3**
Market Leverage (concentration) • Industry dominated by franchisees • Franchisers have considerable control/influence over franchisees	**3**
Market Packaging (effective message) • Reduce costs, hence increase profit margin • Improved O&M and equipment reliability	**4**
Market Size (savings potential) • Restaurants = 5.4% of commercial loads • Franchises = 70% of market • Restaurants = relative high EUI's • Refrigeration & lighting opportunities	**3**
Spillover Potential (impact on other markets) • Large franchisers prove concept, others follow • Franchisees follow peers	**2**
Geographic Spread (within PNW) • I-5 metropolitan areas • East-side communities and rural areas	**4**
Current Efforts (utilities, alliance, others) • Utility commercial programs • EPA Energy Star	**2**

Lodging: National and Regional Chains/Franchises

Market Description

Lodging can be generally categorized into full-service lodging (typically larger chain hotels with restaurants and other services) and limited-service lodging (mostly motels without restaurant services). Name-brand chain companies (both company owned and franchised properties) dominate the industry, with about 70% of all rooms affiliated with regional or national chains. This trend toward chain ownership/franchising/management increased significantly during the 1990's and is expected to continue. Nevertheless, independents and local/regional chains continue to play an important role in the Pacific Northwest, although they are under increasing competitive and economic pressures.

The lodging industry is typified by a complex amalgam of ownership, management, franchising relationships with no consistent pattern across the industry. For example, Marriott International both owns and franchises properties, is a major provider of lodging management services (often to competitors), owns a diverse collection of lodging brands (Courtyard, Renaissance, Fairfield), spun-off a major REIT (Host Marriott), and is engaged in other business ventures (e.g., as a major player in the assisted living market). Other major lodging companies, such as Hilton (hybrid ownership and franchising), Cendant (largest hotelier and franchiser), and Red Roof (chain owned, starting to franchise), are equally distinct in their ownership/management patterns.

Market Size

The lodging sector is accounts for a little over 3 percent of the PNW's commercial energy use. In 1997, the PNW contained over 2,800 lodging establishments, with over 143,000 rooms and over $2.8 billion of total sales. Hotels with 25 or more rooms accounted for about 27% of the total establishments but over 72% of total lodging sales.

Market Actors

The lodging industry is composed of the following major actors:

National/Regional Chains - National chains increasingly dominate the lodging industry. They tend to have centralized decision-making authority, usually vested in a corporate vice president (e.g., the chief engineer), an upper-level procurement agent, or even a dedicated energy management specialist. These individuals play a leading role when considering new construction, remodeling, equipment, and energy efficiency decisions. This is typical for chains with significant direct ownership/management of properties.

REITs: Real Estate Investment Trusts have assumed an increasingly important role in the lodging industry. They are increasingly prominent as: a) owners of hotel chains, such as Starwood Hotels (Sheraton, etc.); b) owners within a given chain (Host Marriott); and c) as owners of multiple franchises among different chains, (e.g., FelCor which operates Embassy Suites, Crowne Plaza, and Holiday Inn properties).

Franchisees: Franchisees consist of a variety of operators with larger hotels/complexes dominated by property management/investment firms, and, the smaller, motel properties displaying more representation from individuals/limited partnerships. In both cases, middle level property management/investment firms (e.g., Bristol) and REIT's are also very active. Many, if not most, franchisees are very independent operations under a limited degree of control from the parent franchisers (e.g., Cendant's properties).

Trade Associations – Lodging trade associations exist within all four states in the region but they tend to focus more on lobbying and travel promotion than on operational services for their customers. Nevertheless, both the primary national association (American Hotel & Lodging Association) and some state associations (especially Washington) have teamed with Energy Star and other environmentally based programs in effort to educate and support their members.

Equipment Vendors/Contractor: Equipment vendors (e.g., laundry related, lighting, HVAC) play a modest role in influencing equipment purchase decisions, although their influence can be substantial with independents, regional chains and franchisees.

Business Practices

In the lodging industry, hotel companies can own, manage and/or franchise their properties, with most chains displaying all three practices to various degrees. These business management practices vary greatly from company to company with no discernable trends, with the exception of increased acquisitions, across the industry. Some major companies, such as Marriott and Hilton, will own and franchise in near equal proportions, while also engaging in a separate lodging management and other businesses. Further complicating this picture, is that the scene is continuously changing with further acquisitions, franchising and adjustments in business ownership/management patterns.

Lodging owners and operators have three main avenues for growth: expansions of existing properties, new construction, and acquisitions. Up until the recent economic downturn and the 9/11 tragedy, most hotel companies were expanding. For example, acquisitions were the theme for the 1990's with Hilton acquiring Promus Hotels (Hampton Inns and Embassy Suites), Starwood's creation (absorbing the Sheraton and Westin chains) and Marriott International undergoing extensive expansions through new construction and acquisitions (Courtyard, Renaissance Hotels, etc.). As the economy recovers, these trends can be expected to resume.

Market Barriers

Current business practices result in significant market barriers to the use of energy efficiency investments and management practices; however, these vary widely depending upon the market player. These barriers include

- Economic slow down = indebted companies with deferred capital improvements.
- Thin profit margins and intense competition = short pay-backs.
- Franchisees are often small operators with limited time and resources.
- Capital constraints for, especially, smaller chains, franchisees and independents.
- Lack of knowledge and expertise about energy efficiency by lodging managers.
- National/regional/local franchisers are widely distributed, thus difficult to reach.

Potential Opportunities

As noted, lodging accounts for a minor proportion of commercial energy use (3%) in the PNW. Nevertheless, significant energy savings are available for this sector including common area and room lighting, HVAC systems (centralized, roof-top and PTAC's) and hot water. Lodging owners/operators have become very sensitive to rising energy costs and have developed an increased interest in energy efficiency. This is especially true for the major chains, which have developed centralized expertise in energy management. Nevertheless, due the noted market barriers, significant savings opportunities remain.

Outstanding Questions

- Ability of specific chains to influence franchisees energy management practices.
- Sophistication/motivation of franchises re: energy management/ investment.
- Capability of trade associations to provide technical assistance.

RATING **(scale of 1-5 pts each)**	17
Market Interest/Readiness (motivated actors) • Energy awareness up due to price increases, deregulation/summer crisis • Thin profit margins and intense competition • Strongly impacted by economic slowdown	**3**
Market Leverage (concentration) • Strong central control of chain owned properties • Some franchisers very influential • But, industry is largely fragmented with diffuse leverage points.	**2**
Market Packaging (effective message) • Reduce costs, ergo increase profit margin • Increase customer comfort/satisfaction • Improve equipment reliability/performance	**2**
Market Size (savings potential) • Lodging = 3% of commercial electricity use • Several important savings opportunities	**2**

Spillover Potential (impact on other markets) • Larger lodging companies prove concept, others often follow • Franchisees copy each other	**3**
Geographic Spread (within PNW) • Chains/franchises well distributed • Regional chains/independents well represented in rural communities	**3**
Current Efforts (utilities, alliance, others) • Utility commercial programs have had successful initiatives • Otherwise, disaggregated and difficult to reach	**2**

Appendix C: Institutional Market

State Governments

Market Description

State governments in the Pacific Northwest assume the roles of property owners, lessees, and facility managers. State governments are major property owners in the region (controlling millions of square feet) including state capitol complexes consisting of legislative facilities and state agency office buildings; satellite offices in major cities throughout the respective states; distributed maintenance/operational facilities (e.g., transportation/highway maintenance and state patrol); and major stand-alone non-administrative facilities (especially corrections facilities).

Although major property owners, state governments typically occupy even more space as lessees. For example, whereas the Oregon's Department of Administrative Services owns over 2.3 million square feet of facility space, it leases, on behalf of state agencies, over 3.6 million square of (primarily) office space state-wide.

Decision-making is typified, more or less, by central control and/or influence over facility development and management. The degree of such central control/influence varies from state to state and from agency to agency. For example, the four Northwest states largely utilize a central administrative entity to manage state properties and leases, and oversee new construction and major renovations (e.g. Oregon's Department of Administrative Services and Washington's Department of General Administration, Idaho's Department of Administration and Montana's Department of Administration). These state agencies vary in the degree of direct control that they have over state-owned property management and leased spaces; for example, Washington's and Oregon's agencies encompass nearly all state government facilities whereas Montana's agency has primary control over the state capitol complex. In addition, other key state owned/funded facilities are subject to direct control by the central administrative agencies; namely, the corrections departments, state-owned universities and colleges, and other miscellaneous facilities located outside the respective state capitals. Nonetheless, in all cases, the ultimate control over construction, operations and maintenance, and leasing budgets lie with the governors and legislatures.

Currently, all state governments are dealing with severe budget deficits due to the economic downturn and the effects of the 9-11 tragedy. This situation has caused all state legislatures and governors to prescribe in major budget cuts for all state-funded entities including state agencies, higher education and K-12 schools.

Market Size

The four Northwest state governments own approximately 8 million square feet of public facilities and lease over 13 million square feet of space (author's estimates based on standard space/employee allocations), in both cases mainly office space. As would be expected, the largest facility owner is Washington State with an estimated 4.8 million square feet owned, followed by Oregon at 2.6 million square feet, Idaho at an estimated 975,000 square feet leased) and Montana at an estimated 772,000 square feet.

Market Actors

With respect to facility ownership, leasing and management, state governments are composed of the following major actors:

State Legislatures and Governors – The legislative and administrative branches set budgets and prescribe policies for facility operations, expansions, as so on.

Central Administrative Divisions/Departments - Under the respective governors, these state administrative agents typically have primary responsibility for: state-owned property management; space leasing for state governmental agencies; major equipment procurement; and facility maintenance services. All of these agencies also offer design, architectural and engineering services for major facility improvements, expansions and new construction.

State Agencies – State agencies have primary responsibility for administering their affairs, determining their facility needs (either through construction or leasing), and arranging for facility management. In the last case, agencies often contract out to the central administrative agency although private service providers are used as well. Once these agencies propose an expansion or upgrade, they are subject to state policies/requirements and follow procedures handled by the central administrative agency.

State Agencies That Self-Manage Their Facilities – These agencies directly own, lease and/or manage their facilities as well as assume primary responsibility for operations and maintenance (whether in-house or contracted out) and for new construction. For all four states, these agencies typically include: higher education, corrections departments, and some distributed transportation related facilities. In most cases (especially Washington and Oregon), the central administrative agencies provide many of the O&M services under contract.

Business Practices

As noted, central administrative agencies largely assume centralized control for state-owned properties, leased properties, facility management services, major facility improvements/expansions, and major equipment procurement. However, agencies maintain a considerable degree of discretion in decision-making and some exercise decentralized control for these activities (e.g., corrections and higher education).

The central state administrative agencies typically offer the following array of services to state agencies, either as part of their direct management responsibilities or under competitive contract:

- Property management, operation and maintenance of state-owned buildings. At a minimum these responsibilities encompass the respective state capital complexes (e.g., Montana) whereas as other agencies have state-wide facility responsibilities (e.g., Idaho and Oregon).

- Leasing facilitation, review and final approval for the leasing of non-state-owned properties (e.g., private or federal) by state agencies. For all states, the central administrative agency has direct responsibility for reviewing and authorizing space leasing. In addition, these agencies provide technical assistance in the areas of space needs analysis.

- Design and construction of state-owned facilities including administration of construction bidding, contractor/project management, and follow-up energy management services. For example, Washington's DGA is responsible for managing nearly $350 million of construction per year.

- Facility operation and maintenance. All states offer these services for state-owned properties not under the direct control of the central agency and for leased properties. Within this context, these agencies also offer a variety of energy related services pertaining to new construction, renovations/remodels, facility management and so on.

All states have recently enacted, through the respective governor's office, strong energy conservation policies in reaction to supply uncertainties of 2001 and recent rate increases.

These policies call for a reduction in energy use (e.g., Oregon targets 10% for existing and 20% savings for new facilities) and/or specify efficiency steps (e.g., Idaho). Most of these policies are in effect for the next few years. In addition to these recent actions, most states have other energy-related policies for such areas as new construction standards, commissioning requirements and so on. In some cases (e.g., Oregon and Washington), these policies are particularly strong and comprehensive.

All states have some degree of experience and capability with respect to energy management and efficiency improvements, although Washington and Oregon in particular have sophisticated energy efficient management/construction capabilities/expertise. For example, the State of Washington's Facility Engineering Services offers ESCo type energy management/engineering services to both state agencies and, as part of a state/local governmental consortium, to other public and non-profit entities. These services can be quite sophisticated in their technological expertise including advanced metering, complex mechanical systems, system/building commissioning and retro-commissioning, performance contracting for public entities and project financing.

The state agencies engage in a highly structured capital facilities planning process that necessarily revolves around each state's legislative budgeting process (normally on a bi-annual basis). Once state policy is firmly in place and a multi-year plan in place, new construction (if called for) can be predicated with some degree of certainty. For example, all states during the past decade have in engage in prison construction projects and, in most cases, will continue to do so (e.g., Oregon has recently completed two prisons and plans for six more). However, severe episodes of revenue short-fall, as is the current case, can severely constrain moderate priority projects and even effect high priority projects.

Market Barriers

Despite considerable and long-term experience with energy efficiency investments and practices, current business practices still offer significant market barriers to effectively and comprehensively utilizing energy investme nts and management practices. These barriers include

- Current economic slow down = major budget deficits that are constraining the activities of all four PNW state governments.
- Inconsistent implementation of energy efficient practices/policies among and within the four state governments.
- Varying commitment to energy efficiency.
- Serious financial constraints for the foreseeable future.

Potential Opportunities

Although PNW state governments have had, respectively, considerable experience in energy efficiency initiatives in the past, these actions have varied widely based on the state, agency and time period. In addition, although most states presently have in places relatively aggressive energy conservation policies in place, specific opportunities remain for increasing the energy efficiency of facility and O&M practices.

Outstanding Questions

- Consistent application of energy conservation policies and utilization of energy efficiency capabilities/expertise across all state governmental divisions and facilities.
- Opportunities to influence energy management practices in buildings leased by the states.

RATING **(scale of 1-5 pts each)**	18
Market Interest/Readiness (motivated actors) • Energy awareness up due to price increases • Offset by prior efforts and constrained finances for major improvements • Impacted by economic slowdown and state budget shortfall	**3**
Market Leverage (concentration) • Generally strong central control/influence of facilities • Varies from state to state fragmented with diffuse leverage points. • Central directives unevenly implemented.	**3**
Market Packaging (effective message) • Control costs, ergo improve use of public funds • Increase user comfort/satisfaction • Improve equipment reliability/performance	**3**
Market Size (savings potential) • Modest slice of the commercial market • Fragmented savings opportunities remain	**2**
Spillover Potential (impact on other markets) • Impact largely limited to in-house facilities • Perhaps some spillover to local governmental facilities?	**2**
Geographic Spread (within PNW) • Limited to state capitals and certain major cities	**2**
Current Efforts (utilities, alliance, others) • Utility commercial programs – successful initiatives • Current in-house efforts/policies • National and regional initiatives	**3**

K-12 Schools

Market Description

The governance and financing of school activities, operations and facilities has changed dramatically during the past decade. Traditionally, schools were largely controlled by local school boards and financed at the local level through levies and bond measures, with modest influence and financial support from state governments. This situation has changed dramatically with the onset of property tax reform, restrictions on local self-taxation, major changes in the region's economic base, and dramatic population growth.

Currently, the operations of public schools in the PNW are largely funded by the state governments (e.g., state governments underwrite over 70% of school operations in Washington, Oregon and Idaho, and nearly 50% in Montana) with accompanying control/influence by the states over school curricula, educational policies, operational practices, and so on. Even school construction, now largely funded through local bond measures, are becoming increasingly subsidized by state funds. Thus the increasing control and support of school activities by the states and is also extending to school construction and improvements to existing buildings,

The characteristics, needs and capabilities of school districts vary based on their location/community:

- Urban based – older facilities, large demand for special needs, weakening tax base.

- Suburban/high growth areas - typified by rapid growth during the past decade, overcrowding/temporary facilities, stronger economic base but tax limits

- Rural – weakening economies, often population declines or stagnation, weaker tax base, aging facilities

Currently, all state governments are dealing with severe budget deficits due to the economic downturn and the effects of the 9-11 tragedy. This situation has caused all state legislatures and governors to prescribe in major budget cuts for all state-funded entities including K-12 schools. As a result, most school districts in the PNW are looking at major staffing cuts (especially for custodial/maintenance), larger class sizes, dropping of “non-core” programs, and so on.

Market Size

There are over 4,000 K-12 public schools and supporting facilities in the four Pacific Northwest states serving nearly 2 million students. These facilities contain over 300 million square feet of conditioned space (authors’ estimates), representing a very significant population of commercial-type buildings. As a result, these schools/facilities account for over 9% of commercial electricity use in the Pacific Northwest.

Market Actors

A variety of market actors are involved in the financing, management, implementation, and review of school operations, improvements and expansions:

State Legislatures and Governors – The legislative and administrative branches set educational policies, assign budgets for school operations and, to a lesser extent, construction; and often set requirements concerning school construction, improvements, facility management, etc.

State Administrative Divisions/Departments - Under the respective governors, these state administrative agents typically have primary responsibility for administering state education policies, review school districts’ performance, and, in many cases, reviewing school construction and improvement projects.

Local Schools and School Districts – Local school board and administrators have the primary responsibility for managing school operations, capital improvements, and local levy and bond initiatives.

Local Contractors/Service Providers – Schools typically rely on a well-defined group of A/E firms and contractors who specialize in school construction and maintenance services. These can be important avenues for facility improvements and expansions.

Utility/Agency/Third Party Service Providers – Schools have often utilized the programs and services of local and regional third-parties including: utility conservation programs; state programs (e.g., loans and grants;

regional initiatives (NEEA, BPA); and national initiatives (EnergySmart, E-Star, Green Schools, etc.)

Business Practices

Local school districts retain primary responsibility for managing school operations, capital improvements, and local levy and bond initiatives. School districts usually rely on elected school boards to set policies, oversee the administration, and approve budget outlays; and administrators to manage schools, develop budgets and oversee improvements.

Increasingly, school boards are charged with implementing policies and directives set at the state and national levels. This top-down trend in control and influence also extends to schools facility operations and expansions. As noted, state governments subsidize the vast majority of local school operations which come with accompanying requirements pertaining to school operations and maintenance.

In addition, states are providing increasing assistance for capital budgets although this is still largely a local responsibility. Accompanying this financial support are both funded and unfounded state-mandates that address school operations, facility health and safety, bidding/project management requirements, conservation practices, requirements for and constraints on local bonds and levies, and new construction and commissioning requirements.

Most school district have some degree of experience and capability with respect to energy management and efficiency improvements. Past experiences and current initiatives were/are often done in partnership with utility conservation programs, state sponsored grant/financing/technical assistance programs, federal initiatives, regional/third part offerings, and private sector offerings (ESCo's, performance contracts, innovative financing arrangements, etc.). The following are examples:

- Oregon's restructuring bill assigns 10% of the public purposes funds for school energy efficiency initiatives.
- EPA's Energy Star program is sponsoring workshops on innovative efficiency financing approaches for schools in the PNW.

- The State of Washington's Facility Engineering Services offers ESCo type energy management/engineering services to public and non-profit entities including schools.

Market Barriers

Despite considerable and long-term experience with energy efficiency investments and practices, current practices and financial circumstances still offer significant market barriers to effectively and comprehensively utilizing energy investments and management practices. These barriers include

- Current economic slow down = major state budget deficits that are resulting in budget cuts for schools.
- Constraints on local taxation for school operations and construction.
- Perception by school district that they cannot afford the "extra" costs for energy efficiency in both existing and new buildings.
- Inconsistent implementation of energy efficient practices/policies among and within school districts.
- Severe capital constraints for the foreseeable future.

Potential Opportunities

Although PNW schools have had considerable experience in energy efficiency initiatives in the past, these actions have varied widely based on the state, school district and time period. In addition, although most states presently have in place relatively aggressive energy conservation policies and programs/services/offerings that address schools, specific opportunities remain for increasing the energy efficiency of existing facilities, new construction, and O&M practices.

As previously noted, an array of state, regional, national, and private energy efficiency and financing initiatives/services are available to schools. These offerings provide opportunities to leverage an regional market transformation initiative.

Outstanding Questions

- How will the current budget shortfalls impact school districts' capabilities re: facility maintenance/operations, improvements and new construction?

- Given the variety of services/initiatives direct at schools, what are the best avenues for genuine market transformation?

RATING **(scale of 1-5 pts each)**	23
Market Interest/Readiness (motivated actors) • Energy awareness up due to price increases • Offset by prior efforts and constrained finances for major investments • Impacted by economic slowdown and budget cuts	**3**
Market Leverage (concentration) • Largely locally controlled • But strong influence from state requirements • Varies from state to state	**3**
Market Packaging (effective message) • Control costs, ergo free-up funds for core educational activities • Increase student/teacher comfort/satisfaction/performance • Improve equipment reliability/performance	**3**
Market Size (savings potential) • Schools > 9% of commercial electricity use • Significant potential remains in existing schools • Major opportunities for daylighting/etc. in new schools	**3**
Spillover Potential (impact on other markets) • Spillover most likely to other school districts • Limited/no spill-over to commercial sectors • Perhaps some spillover to other local governmental facilities	**2**
Geographic Spread (within PNW) • Schools are in virtually every community	**5**
Current Efforts (utilities, alliance, others) • National and regional initiatives • State programs for schools • Utility programs	**4**

Universities and Colleges

Market Description

Higher education consists of universities, colleges, community colleges, technical schools and other post-K-12 education. Publicly owned higher education are essentially state agencies, albeit with a considerable degree of autonomy. Higher education is highly dependent on state government funding for operations and capital improvement, with major supplements from tuition, research contracts, endowments and other external sources.

Universities/colleges are typified by large sized campuses containing a wide diversity of building types and end uses. The major campuses usually have their own central power plants with heating distribution systems. These facilities are maintain by a central facilities management team with sophisticated technical/engineering expertise. Complementing the main campuses are increasing trend in satellite campus development in high growth, largely suburban areas

Currently, all state agencies, including higher education, are dealing with severe budget deficits due to the economic downturn and the effects of the 9-11 tragedy. This situation has caused all state legislatures and governors to make major budget cuts for all state-funded entities including higher education facilities.

Market Size

Higher education is a major owner and operator of commercial-type buildings in the Pacific Northwest. For example, the University of Washington campus contains over 16 million square feet of facilities, Oregon State University 6.5 million square feet, and University of Idaho 3.8 million square feet. Therefore, some educational campuses rival major private sector property owners and managers in the region.

Universities/colleges account for over 4% of commercial electricity use in the Pacific Northwest. Thus, higher education represents one of the largest and most coherent market segments in the region.

Market Actors

With respect to facility ownership, leasing and management, universities/colleges are composed of the following major actors:

State Legislatures and Governors – The legislative and administrative branches set overall educational policies, assign budgets for school operations and, to a lesser extent, construction; and often set requirements concerning school construction, improvements, facility management, etc.

University/College Administration and Boards – As largely autonomous state entities, universities are governed by an appointed board and administrators. These players have responsibility for setting university policy, ensuring compliance with state/federal requirements, budget development and priority setting, and oversight of facility planning.

University/College Facility Departments - Campus facilities are maintain by a central facilities management team, usually with sophisticated technical/engineering expertise. These departments are usually charged with facility operation and maintenance, new construction planning, and construction/renovation project oversight.

Local Contractors/Service Providers – Universities/colleges typically rely on a group of A/E firms and contractors who specialize in school construction and maintenance services. These can be important avenues for influencing facility improvements and expansion decisions.

Utility/Agency/Third Party Service Providers – Universities/colleges have often utilized the programs and services of local and regional third-parties including: utility conservation programs; state programs (e.g., loans and grants; regional initiatives (NEEA, BPA); and national initiatives (E-Star, etc.)

Business Practices

As noted, central administrative agencies assume centralized control for state-owned properties, leased properties, facility management services, major facility improvements/expansions, and major equipment procurement. However, higher education (along with corrections) is among the agencies that have more decentralized control for these activities.

Decision-making is usually highly centralized and in the hands of the university's governing board and administrator. These decisions are, in-turn, impacted and influenced by state government budgets, regulations, and administrative policies. Decisions concerning new facility design and existing facility renovations are usually a collaborative among the facility users and the university's facility design group (usually a sub-set of the facilities management department).

All states have recently strong energy conservation policies in reaction to supply uncertainties of 2001 and recent rate increases. These policies affect most publicly universities/colleges and call for a reduction in energy use (e.g., Oregon targets 10% for existing and 20% savings for new facilities) and/or specify efficiency steps (e.g., Idaho). Most of these policies are in effect for the next few years. In addition to these recent actions, most states have other energy-related policies for such areas as new construction standards, commissioning requirements and so on that apply to higher education facilities. In some cases (e.g., Oregon and Washington), these policies are particularly strong and comprehensive.

All universities/colleges have some degree of experience and capability on their own with respect to energy management and efficiency improvements, although Washington and Oregon in particular have particularly sophisticated requirements and offerings that apply to higher education facilities. Most campuses have developed energy efficiency policies and practices with respect to facility operations and capital improvements. In some cases, such as University of Oregon, they operate co-generation facilities along with managing building operations.

The university systems continue to engage in, sometimes, extensive expansion and facility improvement projects. These apply to both existing campuses and, especially, newer satellite campuses/facilities located in high growth/demand areas.

Market Barriers

Despite considerable and long-term experience with energy efficiency investments and practices, current business practices still offer significant market barriers to effectively and comprehensively utilizing energy investments and management practices. These barriers include

- Current economic slow down = major budget deficits that are constraining the activities of universities/colleges throughout the PNW.

- Inconsistent implementation of energy efficient practices/policies among and within university systems.

- Capital constraints for the foreseeable future.

Potential Opportunities

Although PNW higher education facilities have had considerable experience in energy efficiency initiatives in the past, these actions have varied widely based on the state, university/college and time period. In addition, although most universities/colleges are subject to relatively aggressive state energy conservation policies, specific opportunities remain for increasing the energy efficiency of facility and O&M practices.

As previously noted, an array of state, regional, national, and private energy efficiency and financing initiatives/services are available to schools. However, state/local offerings vary greatly from state to state.

Most universities/colleges retain educators who have considerable expertise in architecture and facility-related engineering. However, except in an occasional advisory capacity, these resources seem largely untapped.

Outstanding Questions

- How will the current budget shortfalls impact universities/colleges' capabilities re: facility maintenance/operations, improvements and new construction?

RATING **(scale of 1-5 pts each)**	16
Market Interest/Readiness (motivated actors) • Energy awareness up due to price increases • Offset by prior efforts and constrained finances for major investments • Impacted by economic slowdown	**3**
Market Leverage (concentration) • Generally strong central control/influence within facilities • Cross-university leverage varies from state to state.	**3**
Market Packaging (effective message) • Control costs, ergo improve use of public funds • Increase teacher/student performance/comfort/satisfaction • Improve equipment reliability/performance	**3**
Market Size (savings potential) • Modest slice of the commercial market (4% of commercial electricity use) • Fragmented savings opportunities remain	**2**
Spillover Potential (impact on other markets) • Impact largely limited to in-house facilities	**1**
Geographic Spread (within PNW) • Limited to university campuses and certain major cities	**1**
Current Efforts (utilities, alliance, others) • National, regional, and state initiatives • Utility programs	**3**

Hospitals/Health Care

Market Description

There are over 250 hospitals located through Oregon, Washington, Idaho and Montana. These hospitals are primarily community based non-government not-for-profit hospitals, with some state/local government community hospitals and some investor owned (for-profit) hospitals. These hospitals range from large hospitals with hundreds of beds to small hospitals with a few dozen beds. Some hospitals are part of a multi-hospital system (MHS), some are part of an integrated healthcare network (IHN), and others are independent. Hospitals are a tightly nit group, with a strong national organization (American Hospital Association), strong state organizations, and numerous other healthcare related business and professional organizations.

Market Size

Despite the small number of hospitals, they are very energy intensive, ranking up with grocery stores and fast food restaurants as the biggest commercial sector energy consumers per square foot. Over 5% of commercial sector energy use region wide is consumed by hospitals and other health care facilities. Hospitals and the health care industry are also big regional employers. For example, Providence Health System employs more than 32,000 people, primarily in Oregon and Washington. Legacy Health System is the sixth largest employer in the state of Oregon. Just as important is the fact that hospitals continue to grow, even during less than robust economic times. For example, Salem hospital (Oregon) recently announced a big expansion, Sacred Heart Hospital in Eugene announced plans to build a new facility in nearby Springfield, and Legacy Health System intends to build a new hospital and medical office building in Clark County, Washington.

Market Actors

Hospitals are a very self contained market due to the specialized nature of the services they provide, and the equipment and critical environments they must house and maintain. There is typically a hospital administrator, or president/CEO, and others responsible for important business functions, such as operations, finance, patient care, medical affairs, etc. They are responsible to a Board of Directors or Trustees. Hospitals generally have some in-house staff responsible for building operations, and have vendor and contractor relationships for activities like building remodels; equipment maintenance, repair and replacement; janitorial services, elevator services, etc.

Business Practices

Hospitals operate as businesses, whether they are publicly owned, private non-profit, or for-profit companies. Most of the hospitals in the region are private non-profit, often with a religious and/or community based origin. Multi-hospital systems and integrated healthcare networks continue to grow and evolve, with all hospitals using internal or external group purchasing organizations (GPOs) for purchasing leverage. Hospital operations are financed from patient care and through foundations (charitable contributions).

From a business perspective, the focus of facilities management is to support patient care. Precise temperature and ventilation control is needed in operating suites, patient rooms and other critical areas, with high standards of reliability. There are vendors and contractors that focus on or have business units dedicated to the hospital market. Services can include operations and maintenance of HVAC equipment, lighting, automated controls, electrical distribution, interruptible power supplies, and emergency power generating equipment. Some vendors offer comprehensive building management and maintenance services on an outsource basis.

Market Barriers

Unlike most of the commercial market, energy savings at hospitals represent a direct reduction in operating costs. Market barriers include:

- Lack of knowledge about opportunities to reduce energy related costs
- Lack of time/expertise to identify and implement specific actions
- Potential interruptions to hospital operations (24/7 operating hours)

- Specialized needs for critical environments/high reliability requirements
- Capital constraints given other hospital needs

Potential Opportunities

The fact that the owners are the occupants of the buildings and facilities means that they can directly benefit from the actions they take to manage and reduce energy related costs. Through realizing significant savings in operating costs, hospital administrators are free to re-deploy capital to other pressing needs (of which there are many). The growth in multi-hospital systems and integrated healthcare networks provide natural leverage opportunities, and use of group purchasing demonstrates the efforts hospitals making to control costs. In addition to the American Hospital Association (AHA), each state in the region has a very active hospital association, and there are organizations such as the American Society of Healthcare Engineers (ASHE) that focus more specifically on facility management. Larger hospitals, systems or networks with in-house capabilities have taken actions to manage energy costs. For example, Providence Health System has a utility manager and estimates that it is saving more than $700,000 annually on utility costs by implementing energy-saving steps at three Portland area hospitals.

Outstanding Questions

- Look at differences between smaller rural and larger urban hospital business practices and facility operations.
- Identify/confirm extent to which hospitals use in-house staff verses contractors to handle facility operations.
- Examine the extent to which organizations like the ASHE provide training and guidance on energy management.

RATING **(scale of 1-5 pts each)**	23
Market Interest/Readiness (motivated actors) • Energy costs significant • Direct financial benefit • Regional/local companies	**4**
Market Leverage (concentration) • Hospital systems and networks • Strong associations and professional orgs • Large single sites	**4**
Market Packaging (effective message) • Reduce operating costs/increase reliability • Re-deploy capital to other pressing needs • Patient comfort/healthcare worker productivity	**3**
Market Size (savings potential) • Significant percentage of commercial market (5%+) • High energy intensity • Significant savings potential (HVAC, lighting, controls, etc) • New construction opportunities	**3**
Spillover Potential (impact on other markets) • Self-contained market • Specialize needs • Little cross-over	**2**
Geographic Spread (within PNW) • Located throughout the region (over 250 hospitals) • Urban and rural, large and small	**4**
Current Efforts (utilities, alliance, others) • Utility commercial programs • EPA Energy Star	**3**