Online Communities for Creating Change: Home Energy Pros

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ABSTRACT

Home Energy Pros is a global on-line community for home performance and weatherization professionals to share resources, experiences, knowledge, and opportunities. The social network facilitates individual and collective knowledge sharing primarily through blogs and professional discussions (e.g., within community-wide forums and topical sub-groups). Between its launch in November 2010 and April 2012, over 2280 people joined the community from over 40 countries and every state in the U.S. During that period, the site delivered more than 690,000 page-views to members and visitors during 220,000 visits to the site.

A recent survey indicates that members use the community to expand their professional knowledge and network. Importantly, over half of the survey participants report that Home Energy Pros has helped them solve one or more professional problems. This paper describes the social media and community engagement strategy leading to the site launch, key and common uses for the site, and typical user behaviors. Finally, it identifies challenges associated with establishing and nurturing professionally focused social communities and describes how those challenges were addressed in Home Energy Pros.

Introduction

More than a billion people around the world participate in on-line social networks. Today's social networks extend beyond sharing with friends and are increasingly used in professional and trade contexts. A novelty just a decade ago, Americans now spend nearly 23% of their on-line time in social networks and blogs (Nielsen 2011). In 2011, social media websites had more unique visitors than Google and Yahoo! combined (NielsenWire 2011). Modern models of social collaboration can greatly enhance professional collaboration as well as personal sharing. Industry and public-sector organizations, noting the rapid penetration and cost effectiveness of these channels, have systematically integrated social media into their business-to-business, business-to-consumer and business-to-employee communication strategies (Chief Marketer 2011).

Modernizing: Virtual Collaboration Among Energy Efficiency Pros

In 2010, Lawrence Berkeley National Laboratory's (LBNL) Home Energy Saver team engaged *Home Energy* magazine, a leader in building science and home performance, and usability.org, a social media and usability consultancy, to help develop Home Energy Pros (HEPros)[1], an online community for home performance and weatherization professionals. Sponsored by the U.S. Department of Energy, under the American Recovery and Reinvestment

[1] See Home Energy Pros website: http://homeenergypros.lbl.gov/

Act, the objective of the community is to offer a credible, safe (and free!) space to learn about house-as-system building science models and energy efficient methods, materials, and business strategies from thought leaders, building scientists and, critically, other residential energy professionals with positive experiences applying energy efficient building principles.

Members and visitors engage each other through blogs, discussion forums and shared photos and videos. They can also share industry events and training courses on the community events calendar, with over 1300 listings per date. The community is designed to facilitate industry professionals learning from each other.

Since its launch in November 2010, over 2260 people have joined the community from over 42 countries and every state in the U.S. (Figure 1).

Figure 1. Home Energy Pros community utilization metrics: Nov 2010-April 2012

Since launch			
130,000	**People** from	2260	**Members** posted
42	**Countries** made	450	**Blogs**
255,000	**Visits** and spent	640	**Discussions**
11,300	**Hours** viewing	200	**Videos**
690,000	**Pages** and watching	850	**Photos**
12,200	**Videos**	1300	**Events**
HEPros grows 80% per year on an annualized basis			

Source: Home Energy Pros Site Metrics and Google Analytics

Home Energy Pros extends the Home Energy Saver (HES) tool suite, i.e.:

- **Home Energy Saver** – The first do-it-yourself web-based home energy audit tool for consumers supported by house-as-system education content (Mills, 1997)
- **Home Energy Saver Professional** - Advanced interactive energy simulation, and assessment tool for contractors, building professionals, weatherization professionals, and building designers
- **Home Energy Score** - Provides asset-based ratings for homes in support of the U.S. Department of Energy's Home Energy Score program (Bourassa et al., 2012)[2]

These sites provide simulation and decision tools and educational content to help people understand the house-as-system energy efficiency approach, benchmark the energy efficiency of homes, generate tailored energy efficiency upgrades to save energy and lower utility bills, and make more informed decisions on energy upgrades.

[2] See Home Energy Saver: http://hes.lbl.gov, Home Energy Saver Professional: http://hespro.lbl.gov, and Home Energy Score: http://homeenergyscore.lbl.gov

Site usage reports demonstrate significant, consistent use of the Home Energy Saver tools, accessed thus far by over seven million people. However, in the emerging context of social media, the stand-alone websites are limited in their reach and the type of user experience provided. They offer energy experts and consumers a means to individually explore (through the calculators and content) but there is no means of creating a dialogue.

Adding social media outreach to the communication strategy for the Home Energy Saver tools was a logical next step to spreading the energy efficiency message. Social media would enable the Home Energy Saver suite to

- expand the Home Energy Saver range by reaching more people
- introduce more people to the Home Energy Saver tool suite
- engage people in dialogue through various social media channels

The initial social media strategy established Twitter and Facebook channels to engage separate consumer and professional audiences While the feeds attracted the anticipated following,[3] they failed to elicit the desired dialogue. Establishing a community of interest for energy efficiency was the next step. A combined consumer/professional community seemed unlikely to succeed. Three factors lead the team to focus on developing a community for home energy professionals:

1. A review of social media landscape for home energy efficiency revealed numerous communities and feeds designed to engage and educate consumers. However, only a few communities focused on building social community for home energy professionals.
2. A convenience survey of HES consumer users that revealed highly motivated "ready-to-buy" consumers are often frustrated by contractors' lack of enthusiasm for or expertise in house-as-system methods, emerging energy efficient technologies, techniques, and materials.[4]
3. Subsequent (convenience sample) interviews indicated that residential contractors are interested in green building. However, they are reluctant to abandon proven business and building strategies to embrace unfamiliar methods and materials. They cited the opportunity cost of re-learning and re-tooling as the primary barrier to change.[5]

[3] As of April 2012, the HES Twitter reach was 23,000 for @HESConsumer and 14,000 for @HESProfessional. Facebook's consumer page reaches 3,000-12,000 people per week. The Facebook professional site reaches between 600 and 900 people per week. All traffic for both sites is organic. Variance is driven by viral sharing.

[4] During the summer of 2011, Usability.org conducted a series of convenience sample interviews with fourteen consumers who had decided to defer home energy efficiency upgrades. The majority of participants were located in the southwest, although the group included participants from Michigan, Maryland and Pennsylvania, as well. Inability to find a contractor experienced with emerging energy efficient equipment and materials was the most common reason for deferring the work. The sentiment was summed up by one participant's comment, "I want a contractor who knows more than I do about this stuff."

[5] Convenience sample interviews were conducted with eight residential building contractors in Tucson Arizona during June of 2011. Interview question focused on cool roofing, adoption of green building practices and barriers to learning about emerging materials, technologies and green building practices. Six of eight contractors indicated interest in green building practices. Two of eight were trying to learn about new materials on their own "by reading. It will take a long time." Four of eight did not feel they could take the time from their business to ramp up on the new skills or materials. The general sentiment was captured by this comment, "Everybody wants to be green, but you can't just start doing that stuff. People who want it know a lot about it. I don't know anything. The materials are

Taken together, these observations suggested that a social community for residential contractors interested in learning about energy efficient building methods – from energy efficiency thought leaders, building scientists and, most critically, other residential energy professionals experienced in energy efficient building methods—could begin to fill the education and confidence gap felt by residential professionals interested in advancing their knowledge and skills in this area.

Building: Designing and Launching Home Energy Pros

Relevant and vibrant professional communities require thoughtful planning, marketing, nurturing of content and effective moderation. To be meaningful, they need high-quality content presented by respected contributors. Producing the content that engages visitors was the primary challenge for organizations engaged in business-to-business (B2B) communication in 2011 (CMI 2011).

LBNL's residential energy tools contribute significantly to the industry, and provided some of the necessary fodder to seed the network but more editorial support and original content was required. *Home Energy* magazine with its mission to identify key challenges and successes in advancing and implementing residential energy efficiency was approached to collaborate on the project. *Home Energy* magazine brought a well-respected voice and insightful content to the community. Further, their strong network within the home performance community provided a channel to engage the industry influencers who would become the initial contributors. *Home Energy* magazine's large base of readers and subscribers, typically home energy professionals with a committed interest in energy efficient building, would be among the first to join.

Home Energy Pros was built using the Ning platform for creating social websites It uses most of the available social engagement functionality to offer discussion forums, blogs, videos, photo sharing galleries, an events calendar, topical groups, individual member profiles, customizable pages for resources, and live chat (see Figure 2).

Ning also provides graceful integration with existing social media channels (Twitter, YouTube and Facebook). The efficiency and maturity of the platform allowed the Home Energy Pros team to focus on content and community building, rather than tools and infrastructure. Since first impressions matter, the Home Energy Pros team carefully planned the community rollout. First, the team engaged industry leaders to ensure that each area of the community (blogs, forum, groups, videos, photos and events) contained interesting and relevant content before the community launched.

Then, the team offered industry leaders and professional organizations a sneak peak at the community. These well-respected home performance professionals and affiliated groups (including ACI, ACEEE, Alliance to Save Energy, EEBA, RESNET, Energy Vanguard, Energy Circle, and BPI), were among the first to join the community, post content, and establish topical groups reflecting the areas of their expertise. They also helped to launch the community by spreading the word through their networks, via e-mails, newsletters, blogs, and social media feeds, amplifying the launch announcement beyond the reach of Home Energy Saver and *Home Energy* magazine's existing network.

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different. The installation is different. Some guys can afford do that, take time out to learn new stuff or go to a conference about it in California. If I take time off to do that, I lose money. I can't afford that."

Hundreds of members joined Home Energy Pros in the first week. The community moderator individually welcomed new members and encouraged them to engage. Industry leaders facilitated interactions by posting, commenting on other's posts, and inviting their colleagues to join. New members quickly started to post discussions, blogs, videos, photos and events and commenting on other members' posts.

Today, the Home Energy Pros community is integrated into the communication and outreach strategies of both Home Energy Saver and *Home Energy* magazine. Both organizations promote the site using opt-in push strategies, such as embedding links to new content in Twitter and Facebook posts. Weekly push emails nudge members to check in by providing a clickable listing of interesting new content. Usage analytics show an upward trend in both membership and engagement immediately following these alerts.

Engaging: What Can People Do on Home Energy Pros?

Forums and discussion groups, and to a lesser extent blogs are the coffee shops of social communities. Internet forums such as Home Energy Pros provide an inspiring multi-media platform for user-generated content, fostering many-to-many conversations and, in the words of the Ning social website provider, "create social experiences that inspire action" (Ning, 2011). Similar themes recur in many of the discussions. Researchers, policy makers and educators seeking to prioritize the issues that concern energy performance professionals could start by reading the Home Energy Pros forums.

Forum Discussions

The forum is the heart of the Home Energy Pros community, with 650 posts to-date. Topics are member-generated, and cover the gamut of member interests. Provocative topics can elicit up to 100 responses, with a modal range of 10-20 comments.

Members use the forum to draw on the experience and knowledge of their industry peers. For example, the discussion, "Vent Cap Systems for Duct Testing: Has anyone had any experience using the Vent Cap Systems product for duct pressure testing vs. conventional perforated register tape?" quickly elicited pro and con replies on this duct testing system including a video of the product inventor (followed by some gentle teasing about his on-camera sartorial presence.). Questions eliciting experience on advice and new products are common discussion topics.

Figure 2. Home Energy Pros Home Page

Source: Home Energy Pros

"Strategies for explaining complex building science topics to customers" is another common and vibrant theme. For example, "*The science of hot air rising*" generated 96 comments and over 2516 pageviews. The member started the discussion by saying: "Since energy myths are front and center at the moment, I would like to discuss a single myth, the science of hot air rising."

Forum discussions also frequently discuss dynamics in the home performance marketplace. In a provocatively titled post: "The end of profits for auditors/raters" an extended conversation garnered over 100 comments over a four-month period: the most of any discussion

thus far. The discussion opens with an expression of concern about downward pressure on energy audit pricing as an "attack on the industry", and then expanded into related issues of the need to educate customers and others about the cost/value of audits, disadvantages as well as benefits from subsidies such as rebates, and the separation between auditors and contractors.

Blogs

Home Energy Pros bloggers include industry thought leaders, professional writers, and building science researchers. But the majority of blog creators are energy auditors and contractors working in the front lines of home performance and weatherization. Each member receives their own "micro-site" and has the ability to post and design their own blog and the diversity of their experience enriches the community. *Home Energy* magazine and LBNL scientists contribute professional quality blogs on a variety of home performance topics and provide editorial oversight. Each week, the editorial board highlights new blogs on the homepage and in the weekly e-mails, ensuring a continual rotation of fresh content. Members have created 450 blog posts to date.

Groups

The 42 topical groups provide space for discussions on a focused subject area. Members must actively join a group to participate and receive email updates on activity in the group. Member-initiated groups range from topical (HVAC, Historic Homes), to trade organizations (Building Performance Institute-BPI or Energy Upgrade California) to a Job Board.

BPI is an example of an organization that uses a Home Energy Pros group to cost-efficiently enhance member outreach. BPI reposts announcements and feature stories from their monthly e-mails in their Home Energy Pros group. The commenting function of the community provides members a highly visible feedback channel, which they use regularly to provide regular and thoughtful comments. BPI also leverages Home Energy Pros as a channel to promote new certifications and standards.

In The Hall of Shame—a popular group created by LBNL—members share an array of images from the field showing the kinds of issues encountered by home performance professionals in real homes. Group members add their photos to the gallery with short descriptions of how hidden (but fixable) problems in homes can cause high energy bills and other problems. All group members get an e-mail notification when there is a new post and can drop by to leave a comment or just see the latest comments. There are many comments from pros having encountered similar situations and often they will compare war stories by posting a photo showing their experience with the same issue.

Photos and Videos

About 800 photos and 200 videos (viewed over 12,000 times) are shared in their own sections on Home Energy Pros. Posting a photo is a fun way to participate on the community and featured photos are shown in a colorful ongoing slideshow on the homepage. The video library includes a broad range of resources, including how-tos, demos[6] and interviews with home performance industry leaders.

[6] Note that the community members adhere to a strict non-promotional content agreement.

Nurturing: Fostering a Culture for Professional Conversations

Professionals don't want to learn that their customer just recognized her attic ducts on the Hall of Shame. Nor do they want to enter a competitive, contentious or agenda driven exchange. To engage professionals in meaningful dialogue, social communities must offer a safe space for members to debate, question, and explore solutions.

To cultivate this environment on Home Energy Pros, the team defined guiding principles to limit and shape the membership and conversation. These were later codified into the membership agreement. These principals are, in essence:

1. This is a professional community. While educating consumers is a critical component of sustainable energy efficient building, inviting consumers into the community would have shifted the focus and diluted the professional dialogue. To be a valuable addition to the home energy efficiency ecosystem, Home Energy Pros needed to create a space for peer-to-peer dialogue. Anonymous comments and 'flames' detract from the conversation and undermine members' willingness to pose questions. Therefore, before people can contribute to the community, they must register and be accepted into the site, and keep the discourse civil and professional.

2. Speak from experience and stay on topic. The goal of the community is to expand the prevalence and sustainability of energy efficient building practices through knowledge sharing. All energy efficiency professionals are welcome to contribute, as long as the dialogue stays on focus. Individuals who have created and demonstrated solutions to persistent problems are encouraged to share those insights. However members who "toot their own horn" should expect tough questions about their ideas and innovations from thoughtful community members.

3. **Play by the rules**. Aggressive or agenda-driven exchanges detract from the objective of the site and the experience of the community members. Members are expected to maintain a civil tone and refrain from unconstructively criticizing others' ideas. Promotional agendas undermine honest information sharing and commercial posts are not allowed in the forum or blog - only in special areas created for that purpose (News & Announcements, Equipment for Sale, Job Board, Member Discounts, Events).

Moderating: Supporting the Community

To join the community, members fill out a short profile showing their connection to the home performance industry. The moderator is the community host and reviews profile pages before accepting membership requests. Since only members can post content on Home Energy Pros, this keeps the community free of spam and focused on the topic of home energy efficiency. There are no obstacles for non-members to visit the website and view the content.

Members display various motivations for participating in discussions. Some are seeking professional connections. Some want to learn. And some want to use the forum as a political or commercial soapbox. Members get to know one another and sometimes can be quite polarized and even dramatic in the forum discussions.

Home Energy Pros has developed and posted engagement guidelines, as described above, to help facilitate a professional forum. On several occasions, the moderator has asked members to modify posts that were too commercial or aggressively attacked the perspectives of other

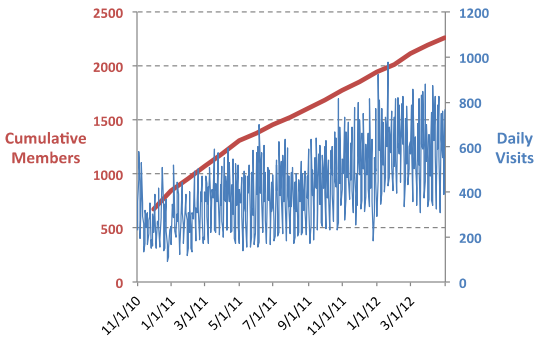
members or even entire segments of the population—violating the guidelines. In almost every case, a friendly nudge to the member asking them to edit or remove the content resulted in cooperation. Occasionally a member has repeatedly engaged in behavior that detracts from the network. They steer other members off course and contribute to a negative atmosphere. When that happens, after editorial review, they may be suspended from the community. But, it very rarely happens in this professional environment.

In general, Home Energy Pros is a self-moderating community. Marginally inappropriate postings quickly disappear from the dynamic forum because members simply don't engage. Particularly egregious violations of the guidelines elicit disappointed responses intended to marginalize the post and refocus the group.

Growing: Member and Visitor Behaviors

Engagement with Home Energy Pros network is both broad and deep. In the 17 months since its inception, over 255,000 individuals have visited the network from 171 countries (Figure 3). As of April 2012, over 2,260 individuals from 42 countries had become members of the network, enabling them to have a personalized homepage, post content, and participate in discussions (Figure 4). Only 0.6% of members have subsequently chosen to leave the community.

Figure 3. Growth in Home Energy Pros visitation rates



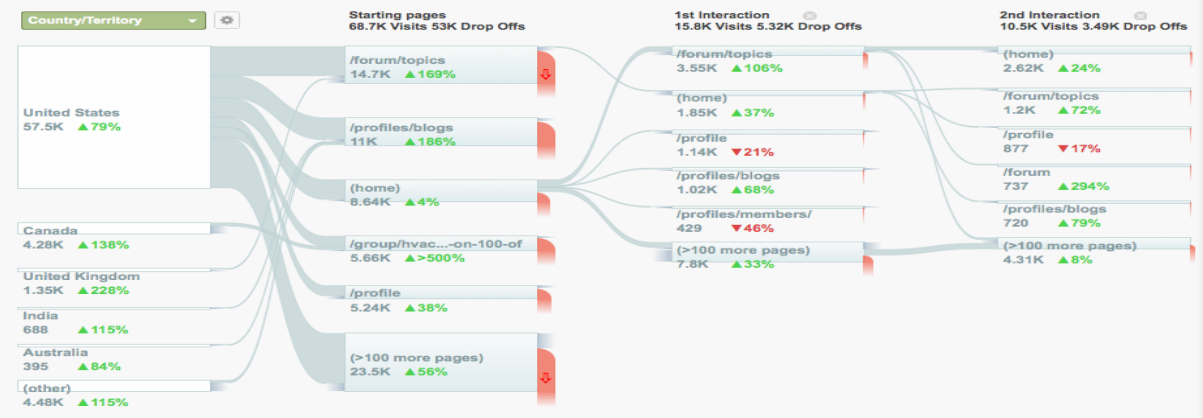
Source: Google Analytics: Home Energy Pros

Figure 4. Global Distribution of Home Energy Pros Members (not all members post their location)

Source: Home Energy Pros Member Map

Figure 5 presents activity by site area for January 1-April 1 2012 compared with the same period in 2011. During 2011, site visitors viewed member profile pages most often. During the same period in 2012, views focused on forum discussions and blogs. The shift from "*Who do I know here?*" to "*What can I learn here?*" marks an important transition. In 2012, Home Energy Pros became a trusted brand and content resource to itself, independent from the collective credibility of individual members.

Figure 5. Starting pages & interactions for Home Energy Pros (January-April 2012)



Source: Google Analytics: Home Energy Pros

Typical visitors arrive at Home Energy Pros via organic search, direct access (e.g., emailed links or bookmarks) and Twitter referrals. The prevalence of Twitter referrals indicates both that the home energy efficiency community has begun to embrace social media as an effective communication channel and that Home Energy Pros has become a fixture in the home energy social media ecosystem.

In early 2012, Home Energy Pros conducted a survey to explore the use and perceived utility of the community. One hundred and one individuals participated in the survey. Participating members reported that they typically visit Home Energy Pros 2-4 times per week. When they visit, they focus on the conversation: forums, blogs and topical group discussions. Videos and photos get visited next, but receive substantially fewer views overall than the professional dialogues. Events were not a priority for survey participants, although many members take the effort to post there.

About 50% of the survey participants have responded to other peoples' blogs or discussions. One quarter (25%) have re-posted HEPros content through their other social media streams (Twitter, Facebook, etc.).

Members interact with other members both inside and outside of the site. Almost 70% of survey participants reported exchanging emails with other HEP members. 33% have interacted with HEPros peers in either other social media channels or in person.

Most critically, HEPros helps members solve problems: 50% of survey participants reported that using HEPros has helped them solve professional challenges including providing decision-driving feedback on instrument choices, generating examples to use in (promotional) customer communications, and offering guidance on construction solution choices (e.g., weather stripping or crawl space ventilation). Construction-related guidance is typically associated with experience-based descriptions of similar problems.

Collaborating: Sharing Outside the Box

New members, who are active in social media, promote HEPros to their followers. For example, members frequently use the Twitter and Facebook sharing functions to re-tweet or repost an interesting blog or discussion. In a matter of seconds, a discussion on HEPros can reach many thousands of readers through this type of "viral" dissemination.

Members with their own active social media footprints often cross-post original content both on their site and on HEPros. Typically these posts include reciprocal links between the original content creator's site and HEPros. While some moderators are reluctant to accept re-posted content, we feel that this provides a win-win. The original poster gains social marketing impact and traction. In return, HEPros gains new visitors: Google Analytics shows that two-thirds of the sites referring visitors to HEPros (other than search engines) are other social media sites, including Twitter, Facebook, LinkedIn, and EnergyAuditorTalk.org

Tipping: From Sponsor-Guided to Member-Driven

The objectives for establishing the HEPros community were to:

- Engage more people
- Drive traffic to the HES tools
- Create a practitioners' dialogue about home energy

The community (and associated social media channels) have extended the reach and increased the chatter within the home energy efficiency community, exceeding our goals and expectations. However, the community has not increased traffic to the HES web-based tools. In fact, HEPros quickly became an entity unto itself, related to but distinct from other tools in the HES suite. Although the HES benchmarking and simulation tools are designed especially for members of HEPros, the very rules that guide the community context prohibit the sponsors from promoting those tools within the community. However, as the community grew, additional objectives were added and achieved:

- Enable home energy professionals to help solve one another's problems.
- Develop the community into a self-sustaining entity

The carefully coordinated soft-launch strategy included and yielded planned obsolescence for the sponsoring partners. With the exception of periodic email blasts and blog promotion, the role of the sponsoring partners role has been reduced to moderation and content creation. Founding community members continue to engage and contribute in exchange for industry visibility. Peer-level community members generate equally valuable content from a different perspective. Both groups promote interesting content within the site and virally through their personal social media channels. Members troubleshoot and solve each other's problems in a very constructive, non-proprietary way with a low level of self-serving commercialism and negativity.

Conclusion

Social communities are not just personal. They can also offer a springboard for professionals to connect, share, explore and innovate. However, to thrive professional social communities must provide a flexibly focused space that encourages frank but constructive exchange of ideas and experiences. Home Energy Pros provides a unique space for home energy efficiency professionals to share create conversations, share experiences and resources and learn from each other. Feedback from community members shows that Home Energy Pros succeeds in

fostering a supportive environment for bringing about change in home energy efficiency technology and practices.

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References

Nielsen. 2011. *Social Media Report: Q3 2011* http://blog.nielsen.com/nielsenwire/social/

NielsenWire. 2011. *Nielsen's Tops of 2011: Digital* *http://blog.nielsen.com/nielsenwire/online_mobile/nielsens-tops-of-2011-digital/*

Chief Marketer. 2011. Social Marketing Goes Mainstream http://chiefmarketer.com/social/social-marketing-survey-overview-1001bq7

Bourassa, N., R.E. Brown, L. Rainer, and E. Mills. 2012. The Home Energy Scoring Tool: A Simplified Asset Rating for Single Family Homes, Proceedings of the 2012 ACEEE Summer Study on Energy Efficiency in Buildings, ACEEE: Washington, D.C.

Mills, E. 1997. "The Home Energy Saver: Interactive Energy Information and

Calculations on the Web." *Center for Building Science News* 16(4):1-2. LBL/PUB-731

Content Marketing Institute (CMI) / MarketingProfs. 2011. *B2B Content Marketing: 2012 Budgets, Benchmarks and Trends*

Ning. 2011. Ning POV Unveiled: Data Reveals Emergence of Custom Social Revolution. http://www.ning.com/about/press_release_062011