

Boosting Energy Efficiency With New and Social Media

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ABSTRACT

As efficiency-minded organizations across the country work to crack the code on efficiency programming – to find what will change energy use behavior over the long-term – online stakeholder engagement continues to be a popular tool. SmartPower, a non-profit marketing firm dedicated to promoting clean energy and energy efficiency, has developed a number of successful web-based energy efficiency programs that leverage new and social media, resulting in millions of pounds' worth of carbon footprint reductions.

This paper will discuss these programs, including America's Greenest Campus (a nationwide carbon footprint reduction competition among college campuses); My Gulf Action (a Gulf oil spill relief project that shows users how simple, everyday efficiency actions can reduce their personal use of fossil fuels); and Western Mass Saves, a partnership with Western Mass Electric Company (WMECO) that scrapes utility data and verifies energy use reductions made by ratepayers.

The paper will also provide a brief overview of SmartPower's research with echo boomers, which formed a foundation for much of the organization's applications of new and social media to energy efficiency objectives. It will also discuss the technology and tools behind these initiatives, demonstrating how new and social media, when paired with on-the-ground community outreach and stakeholder engagement strategies, can help meet (or exceed) internal and external energy efficiency goals.

Although this paper does not wish to conclude with certainty that social media is the "silver bullet" that creates long-term behavior change – indeed, it has simply not been in existence long enough to show such effects, and is most effective when combined with other efforts – SmartPower's experience has shown that social media engagement can precipitate energy use behavior change in the short term. This paper will provide insights into what may work for other organizations that seek proven ways of engaging consumers and making them more energy efficient.

Using New and Social Media to Expand Efficiency Markets

The advent of Facebook, Twitter and YouTube – not to mention a raft of technology that changes more quickly than most people can keep up – caused a sea of change in the way that businesses, non-governmental organizations and individuals market themselves and call their constituencies to action. As technology becomes more sophisticated and social media becomes more specialized, its application towards behavior change, corporate social responsibility and advancement of our nation's energy interests becomes more relevant and effective.

To be sure, the long-term cultural effects of social media remain to be seen. In the short-term, as this paper will discuss, social media outreach is most effective when combined with other forms of marketing, including multimedia tools and on-the-ground community outreach. As Malcolm Gladwell says, "our acquaintances—not our friends—are our greatest source of new ideas and information. The Internet lets us exploit the power of these kinds of distant connections with marvelous efficiency. ... But weak ties seldom lead to high-risk activism" (Gladwell 2010).

The “weak ties” of hundreds of Facebook or LinkedIn contacts may lead to a new job, or a date, but they seldom lead to dramatic, sustained social change without the exploitation of existing physical community ties. In energy efficiency programming, only more time will tell whether social media can be credited with the long-term behavior change that will be necessary for a more energy efficient economy.

In the short-term, however, the impact of new and social media is no longer a question. These new platforms and technologies are nimble, forgiving, fast-changing and rewarding to those who can artfully build and gain influence within virtual networks. Programs like those discussed in this paper are designed to use these tools to stimulate conversation, encourage community interaction and ultimately create change in the energy use behaviors of given target audiences.

Definition of terms. For purposes of this paper, “new media” will be defined as any tool or online platform that provides interactivity, or allows for the sharing or conceptualization of data through digital media such as, but not limited to, videos or podcasts. This definition is purposely broad, as there is wide debate over the technical definition of new media, going back to its coinage by communication studies experts in the 1970s (Lievrouw 2002). The definition has changed much since then and will continue to evolve over time.

For purposes of this paper, “social media” will be defined as social networks and platform such as, but not limited to, LinkedIn, Facebook, Twitter, YouTube and Foursquare.

The new and social media spheres overlap and intersect in many ways, and it could be convincingly argued that one could not effectively exist without the other. That view is shared by this author but is not the main argument to be made.

The Internet as an extension of community

As a marketing organization, SmartPower uses a three-pronged strategy to create effective on-the-ground campaigns. First, it prioritizes the forging of strong relationships with municipal leaders, community groups and other stakeholders in the communities where SmartPower does its work. This creates additional “boots on the ground” that help to bring SmartPower’s programs to scale. Second, it utilizes innovative web platforms and social media tools to amplify this community outreach. And third, it creates incentive programs that urge individuals and communities to rally around specific calls to action.

SmartPower’s community outreach campaigns are built upon consumer market research, which it conducts regularly on topics related to its work and programming. For example, a 2004 study discovered that while more than 84 percent of Americans say they would buy clean energy, less than 3 percent actually do (Keane 2009, 3-4). While this research identified many reasons for such a disparity, consumers overwhelmingly expressed a lack of faith in clean energy’s efficacy. SmartPower used these findings to create the “It’s Real. It’s Here. It’s Working” campaign, a series of television spots, print ads and billboards that addressed this concern (SmartPower, Inc. 2004).

SmartPower’s focus on energy efficiency has led to a variety of campaigns that are educating American consumers about their energy use and how they can become more energy efficient. New and social media have been significant drivers of this work, as has the realization that online community organizing is an effective way to expand the scope of traditional community outreach. Neighborhoods are not the only places where people gather and form

relationships. The virtual gathering place, now thriving on websites like Facebook and Twitter, is also a place where people interact with acquaintances and share things that are important to them. It is therefore an extension of our existing neighborhoods and community groups.

Research With Echo Boomers and Energy Efficiency

In 2009, SmartPower partnered with the U.S. Department of Energy (DOE) to conduct research with Echo Boomers, young people born to Baby Boomers between the years 1982 and 1995. The research focused on Echo Boomers’ attitudes toward energy efficiency. The DOE wished to target this group because they are heavy users of energy, mainly due to their reliance on consumer electronics, personal computers and constant Internet access. This group is also thought to have an influence on both the older and younger members of their families.

Findings. The research reaffirmed that American consumers have a profound distrust and resentment toward businesses, governments and institutions. This makes the idea of “personal responsibility” a real motivator to adopt more energy efficient behavior. The idea of “energy savings” was also shown to be a motivator that cuts across generations (Keane 2009).

The study revealed several key findings about the energy use attitudes of Echo Boomers. Among them:

- They need to be inspired to take action.
- They need to see how their own personal actions make an impact.
- They’re more likely to do something if it makes them feel smarter.
- Echo Boomers and their parents have very different attitudes about energy efficiency (see Table 1).
- Echo Boomers use the Internet as a primary source of information about topics of interest to them, as well as a primary means of communication with their peers.

Table 1. Baby Boomer vs. Echo Boomer Energy Efficiency Attitudes

“Old School” Efficiency	“New School Efficiency”
Not being wasteful; reducing, reusing, maintaining	“Save my world,” make a difference
Explain what they had to do versus what they were going to do	More focused on what they are going to do, new opportunities
A little more defensive about efficiency	Starting with a clean slate, open to change
Efficiency seen as discipline and work	Efficiency seen as a normal part of life
A little more interested in maintaining what they have	Want luxuries but are focused on the future

Comparison of attitudes about energy efficiency between Echo Boomers and their parents (Rosoff 2007, 4).

Application of findings to efficiency programs. The findings of SmartPower’s Echo Boomer research helped to refine the way that new and social media are used in SmartPower programs. Namely:

- **Online platforms:** Campaign websites should educate and empower – and should allow participants to see the impacts of energy efficiency actions in ways that make sense to them. For example, it should be easy to see how much money and energy one can save by switching to

compact fluorescent light bulbs, or how much water, electricity and money one can save by using low-flow showerheads. This knowledge will make people feel smarter and more likely to return to the website to take more actions.

- **Facebook:** Campaigns should have clearly branded and well-maintained Facebook pages that curate campaign updates, earned media, and video clips while encouraging feedback and testimonials from participants. This both inspires participants to take action by engaging a “movement” of like-minded individuals and offers them a chance to brag about what they’re doing to make a difference, making them feel like leaders. Using Facebook contests to recognize “energy rock stars” also makes participants feel smarter and involved in something they can be proud of.
- **YouTube:** Campaigns should deliver inspirational calls to action through videos that feature celebrities or otherwise influential public figures, as these videos are more likely to have general appeal and appear on a large variety of websites and blog postings. Participants can also be engaged through YouTube contests, where their creativity is rewarded and they can feel like leaders among their peers.
- **Twitter:** Campaigns should have clearly branded and frequently updated Twitter feeds that show movement, build excitement, and call participants to action. Twitter should be used to promote campaign videos, increase Facebook “fans,” and frequently tease people back to the campaign website, where they can take further actions.

Social media metrics. To date, SmartPower has not set specific social media metrics (number of Twitter followers, number of Facebook friends, etc.) for its campaigns. This is because social media metrics can be difficult to define in a meaningful way. For example, 100 Twitter followers who never interact with a campaign account are far less valuable than five Twitter followers who are dedicated to spreading the word about a campaign to their own followers. And among those five dedicated Twitter followers, it is difficult to quantify how many of their own followers took action as a result of their tweets about the campaign. For purposes of this paper, the author is not concerned so much about metrics as with the use of social media as a promotional tool in campaigns that saw strong overall results.

Applications in Efficiency Programs

America’s Greenest Campus

In 2009, SmartPower used its research with echo boomers to launch America’s Greenest Campus. The campaign was nationwide in scope and designed to urge young people to develop energy efficient habits using new and social media.

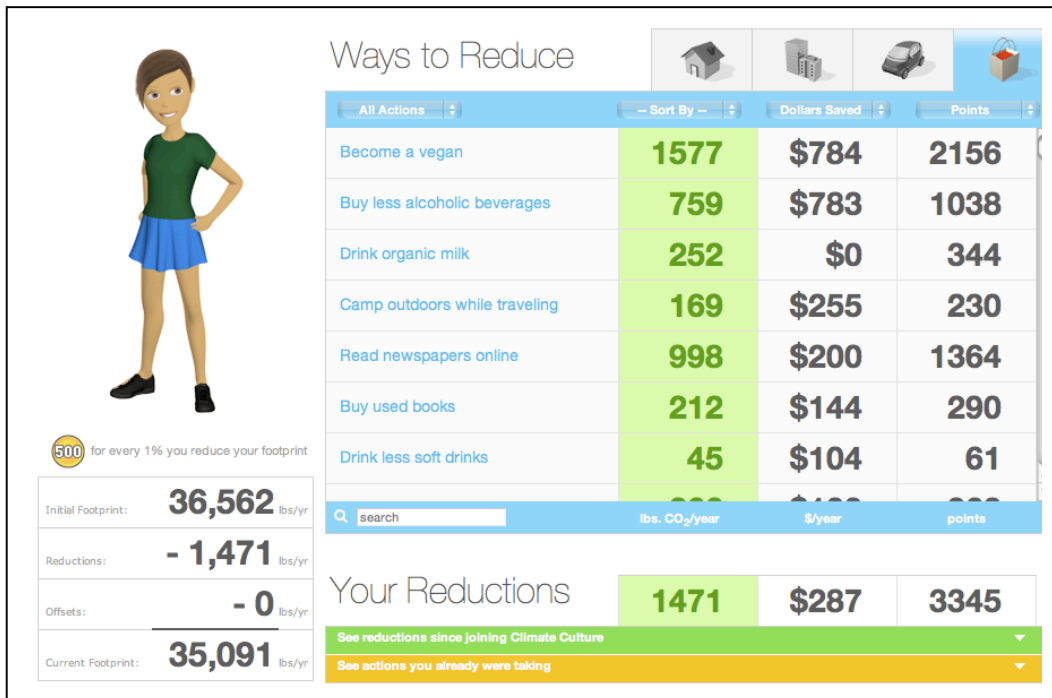
SmartPower’s technology partner, Efficiency 2.0, created the program’s online platform, known as Climate Culture (www.climateculture.com). The site contains a sophisticated and highly customizable carbon footprint calculator. Users create a free account, enter as little or as much detail as they wish about where they live, the size of their home, their transportation habits, and other lifestyle information. They are then presented with an estimate of their personal carbon footprint. Separate modules of the site allowed users to create an avatar and a profile, and to review personalized suggestions for ways they could start reducing their personal energy use.

Suggestions for reducing energy use (see Figure 3) varied widely across the site, from small actions that were free or low-cost (taking shorter showers or installing a kitchen sink

aerator, for example) to bigger actions that cost more money or represented a significant lifestyle change or personal commitment (buying carbon offsets for travel or becoming a vegan, for example). As seen in Figure 4, each suggested action came with detailed information about its impact based on the users desired level of commitment. Users could then commit to these actions and see instantly how taking them would reduce their carbon footprint, save them money, and reduce their consumption of a variety of natural resources.

America’s Greenest Campus was open to anyone with a .edu email address, including faculty and staff at any higher education institution in the country. (Although some participants may not have met the criteria for consideration as an Echo Boomer, faculty and staff were considered to be influencers of echo boomers on college campuses, therefore making their participation valuable.) Participants accessed Climate Culture by visiting www.americasgreenestcampus.com, where a leader board tracked the number of participants and per capita CO2 reductions. Although individuals were responsible for taking their own actions, the object was for each institution to encourage as many people to join the site and adjust their energy use behaviors as possible. The winning institutions – one for greatest per participant CO2 reduction, and another for most participants – would each receive a \$5,000 cash prize for use towards an on-campus sustainability project of their choosing.

Figure 3. Climate Culture User Reduction Center



This screenshot from a user profile on www.climateculture.com shows a sampling of energy efficiency actions and their impacts in, left to right, pounds CO2 saved per year, dollars saved per year, and points earned toward site bonuses.

Figure 4. Climate Culture Action Description

The screenshot shows a web interface for a climate action. At the top, there are navigation elements: "All Actions", "Sort By", and "Dollars Saved". The main heading is "Install an aerator on my kitchen faucet." Below this, there are input fields for customizing the action: "I will install a [2] gallon per minute aerator on my kitchen faucet which currently has a flow rate of [2.5] gallons per minute. I use my kitchen sink for [30] minutes per day on average, and the temperature of the water coming out of my faucet is usually [68] degrees. My water heater is [10] years old." To the right of these fields are two green buttons: "commit to it" and "I already do this". Below the form, a blue bar displays "Your CO2 reduction: 143 lbs/yr" and "Total Savings: \$26 /yr". A small image of a faucet aerator is shown next to a text box explaining: "Create your own low-flow faucet by attaching an aerator to reduce the water flow by about 25% without sacrificing your ability to wash properly. Aerators mix air into the stream of water so that you only get as much water as you need to get clean. It is an easy way to save water, money, and energy." Below this, it says "Also saved: 5479 gallons" and "8 therms". A "cancel" button is at the bottom right. At the very bottom, there is a yellow bar with the text "See actions you already were taking".

This screenshot from www.climateculture.com shows detail of a suggested energy efficiency action (installing a kitchen sink aerator). It describes the action and allows the user to customize it based on his or her specifications. It also explains the energy, resource and cost savings associated with this action.

Program Components. Besides the online platform and cash prizes, America's Greenest Campus included the following program components:

- **Campus outreach effort**, involving traditional stakeholder outreach to groups at campuses around the country that show interest or actively promote sustainability and conservation efforts;
- **Identification of campus ambassadors**, students or staff members with an interest in sustainability and conservation efforts and a willingness to promote the campaign to their peers and the university campus as a whole;
- **An active presence on Facebook and Twitter**, promoting the campaign and keeping a running commentary on the leader board to stoke competition among rival schools;
- **Energy Smart Ad Contest**, a YouTube video contest that offered a \$10,000 prize for the best 30-second PSA about the importance of energy efficiency;
- **Traditional print/online media campaign**;
- **Viral marketing campaign** featuring "Save Your Energy," a music video by Obama Girl, as well as a PSA by hip-hop mogul Russell Simmons, the campaign spokesman.

Results and verification. America's Greenest Campus launched on Earth Day 2009 and ran through the fall of that year. The winners were Rio Salado College, with 4.4 percent CO2 reduction per participant, and University of Maryland, College Park, with 2,257 participants.

Overall, more than 20,000 people at 470 campuses across the country took part in the campaign. This turnout was driven in large part by the identification of campus ambassadors, initially, and social media and viral marketing, which in later stages of the campaign delivered the message into already existing social networks. The Obama Girl music video, which was

picked up by BarelyPolitical.com, received over half a million views, and the video endorsement of Russell Simmons allowed SmartPower to reach urban and African American audiences, which are often overlooked in the course of community outreach on energy issues.

Other outcomes of the campaign, as tracked by proprietary software built into www.climateculture.com:

- \$4.25 million in energy cost savings
- 186,705 therms of gas
- 156,743 gallons of gasoline
- 154,838 tons of paper
- 28.41 million gallons of water
- 5,984 megawatt hours of electricity

As it would have been impossible to verify energy reductions logged on the site by tens of thousands of college students from across the country – many of whom do not pay their own electric bills, or ever see them – it is unclear how closely these reported results mirror actual reductions. However, the program succeeded in engaging a large audience through new and social media, and showed that there is an appetite for learning about energy efficiency through interactive online platforms.

My Gulf Action

Shortly after news broke of the Deepwater Horizon disaster and subsequent Gulf oil spill in the summer of 2010, SmartPower quickly mobilized to create My Gulf Action, a energy efficiency education effort that educated American consumers about the effects of their personal energy use on the U.S.'s overall oil consumption and reliance on energy from fossil fuel sources.

SmartPower's reasoning for launching the program was two-fold. First, it was clear that, while people were angry and moved by the news and images coming daily from the Gulf, Americans remained frustrated by their lack of ability to do anything about the disaster. While donating money and volunteer hours was always an option, it was clear that even the nation's brightest engineers were stumped on how to plug the leaking deepwater well. This left an overall feeling of helplessness, which SmartPower felt was a missed opportunity to create a "teachable moment" about taking responsibility for the amount of energy we each use and understanding the impact of the sources of that energy. The thought was that this effort could supplant that helplessness with a feeling of empowerment and a shift toward energy use behavior change.

Second, SmartPower had already seen great success using the Internet and social media to mobilize young people around energy issues during America's Greenest Campus. The existing platform, Climate Culture, was still available, and SmartPower was interested in expanding the efficacy and applications of this versatile technology. As a catalyst, the Gulf oil spill devastation seemed an important time in the national consciousness to rebrand this tool and channel frustration into responsible action.

Program Components. SmartPower and Efficiency 2.0 mobilized quickly in June 2010 and were able to rebrand Climate Culture as My Gulf Action (www.mygulfaction.com) and launch the new site in less than four weeks, a significantly smaller window than most from-scratch web

development projects require. The following program components were launched in quick succession to bolster the site launch:

- **Development of outreach partnerships** with environmental groups and NGOs with interest in the Gulf, including Waterkeeper Alliance, DoSomething.org, League of Conservation Voters, Center for Resource Solutions, Clean Water Action, Healthy Gulf, Save Our Gulf and 350.org. In return for us promoting these organizations on the My Gulf Action website, they would create e-blasts to their membership lists, urging their members to join the site and share it with their friends and social networks;
- **Traditional print/online media outreach campaign**, including a full-page ad in the New York Times that recognized all outreach partner organizations. The ad featured an arresting image of an oil-covered pelican, which was central to the website imagery and was circulated heavily on social media;
- **Aggressive social media outreach campaign**, using Facebook and Twitter pages to circulate news about the Gulf spill and promote content that pushed www.mygulfaction.com through viral channels;
- **Celebrity endorsement** from Ed Asner;
- **Guest blogging and online op-ed placement** in the Huffington Post and other widely read/linked online publications, including an article on Planetsave.com that urged people to visit the site and learn more about the way they use energy, arguing that “our nation’s insatiable appetite for bigger cars, new electronic devices, and climate-controlled homes is a driver of the work that makes these disasters possible” (Keane 2010).

Results and verification. The signature feature of www.mygulfaction.com was that it used Climate Culture’s proprietary tracking software and algorithms to translate energy use reductions made by each user into gallons of oil conserved. These reductions would aggregate on the homepage, showing in real time how many gallons of oil had been offset by the users of the website.

This powerful connection between new media and harsh reality showed how everyday actions can, and do, make a difference – and provided what SmartPower believes is a powerful educational tool.

During the initial three-month period of promotion through social, online and traditional media, visitors to www.mygulfaction.com offset more than 50,000 gallons of oil by committing to reducing their personal energy use. The website and its accompanying Twitter and Facebook pages are still present and active for anyone to use.

Western Mass Saves

While America’s Greenest Campus and My Gulf Action were open to nationwide audiences, SmartPower felt the next logical progression of its new media and energy efficiency campaigns was toward utility ratepayers in smaller, more ground level groups, where lessons learned could be applied to verifiable reductions. Working once more with Efficiency 2.0, and in partnership with the Western Massachusetts Electrical Company (WMECO), SmartPower created the Western Mass Saves campaign.

Western Mass Saves is an energy efficiency program that helps WMECO customers reduce their home energy bills through a web platform, available at

www.westernmasssaves.com, that scrapes utility data and provides corresponding personal energy advisement (Figure 5), offering suggestions for ways that WMECO customers can reduce their monthly energy bills while making their homes more energy efficient. As a result of the utility data scrape, all actions taken by ratepayers through the program are verifiable and will be subject to independent measurement and verification. The program also includes personalized direct mail with energy consumption information, as well as comparisons to neighbors; personal rewards for energy use reductions, provided by RecycleBank (www.recyclebank.com), and community-based outreach and free 1kw solar PV incentives in four pilot towns, which are considered part of SmartPower’s Western Mass Saves Challenge.

The program’s goal is to show 2.5 percent energy use reductions through use of the website and receipt of direct mail pieces – and to show a 3 percent energy use reduction in the four pilot towns that are receiving added on-the-ground community outreach.

The program launched in November 2010 and will run through November 2011, at which point data collection and measurement and verification will be completed for further review.

Figure 5. Western Mass Saves Progress Tracker



This user profile chart from www.westernmasssaves.com shows a year of energy use data for a ratepayer that has agreed to participate.

Community Outreach. In the four pilot towns that make up the Western Mass Saves Challenge, SmartPower is working with a number of stakeholders: municipal leaders, faith-based groups, interest groups, and NGOs like the Sierra Club, the National Wildlife Federation, Massachusetts League of Environmental Voters, Clean Water Action, Interfaith Power & Light, and the Massachusetts Climate Action Network. These groups help bring the program to scale by promoting it within their memberships.

Results to-date. Although the program is ongoing and measurement and verification has not yet been completed, initial results show that customer acquisition (measured by web signups and use of the online platform) in the four Challenge towns is approximately twice that of other towns. The average residential reduction in Challenge towns is also outpacing towns that are not part of the Challenge at this time.

Time will tell which towns take the most action. But these preliminary results suggest a tie between new media, community outreach, and the 1kw solar panel incentive, which is only offered to the four towns in the Western Mass Saves Challenge.

Conclusions

Will new and social media have long-term impacts on energy use behavior change? Maybe so. They are built into many programs, like the U.S. Department of Energy's BetterBuildings initiative, that were created to "see what sticks" when moving ratepayers towards persistent energy use reductions. The next two years of results from these experimental programs will present much fodder for research, debate and innovation.

Meanwhile, in the short term, designers of energy efficiency programming will most likely benefit from incorporating new and social media into their efforts. At least, it can amplify existing outreach efforts and help deliver targeted messaging in neighborhoods and towns. At best, it can create miniature "movements," like America's Greenest Campus, that educate and engage large numbers of people around energy efficiency actions. The work – and research – continues.

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