Using Mass Media to Influence Energy Consumption Behavior: California's 2001 *Flex Your Power* Campaign as a Case Study

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ABSTRACT

Public information campaigns are one tool often used by government to deliberately shape public attitudes, values or behavior toward some chosen social outcome. During the energy crisis of 2001, California policymakers adopted this tool as part of a statewide multi-layered social marketing effort called *Flex Your Power*. One of the most visible components of the effort was a multi-million dollar radio, television and print mass media campaign aimed at getting consumers and businesses to take energy-saving actions.

Writing in the *Journal of Policy Analysis and Management*, Janet Weiss and Mary Tschirhart (1994) suggest that four factors are key for making media campaigns effective policy instruments. They define these factors as: 1) targeting the right audience, 2) delivering a credible, understandable message, 3) delivering a message that influences audience beliefs, and 4) creating a social context that leads to the desired outcome. This paper uses the *Flex Your Power* media campaign as a case study in the use of mass media to influence energy-related behavior during a time of crisis.

Using the four key factors as a framework, the paper examines the campaign's message formulation and implementation strategy in early 2001 and the strategic evolution of its themes through the summer and into the winter months. The analysis draws from existing behavioral research, interviews with key campaign participants, media tracking data, and results from the analysis of telephone surveys and matched billing data for 1,860 California residential consumers in late summer 2001. The paper concludes with a discussion of the role of mass media campaigns as both short-term and long-term energy policy tools.

Introduction

During the summer of 2000, electricity in California became a topic of increasing public concern. On May 23, 2000, Pacific Gas & Electric (PG&E), California's largest electric utility, experienced its highest peak load to date, forcing the utility to institute rolling outages in the Bay Area. By late summer, after numerous Stage 2 and even a Stage 3 emergency alert,[1] growing concerns about the state-chartered Independent System Operator's ability to match peak power demand with peak generating capacity had become "The Energy Crisis." Fueled by intense media coverage, predictions of blackouts and the state's economic downturn, energy was much bigger news than it had been since the 1970s energy crisis. A

[1] Three levels of public emergency alerts may be announced in anticipation or experience of different levels of low operating reserves, with Stage 3 being the most severe. See http://www.caiso.com/awa/systemstatus.html for more details.

Field Poll conducted in January 2001 indicated that nine out of ten Californians were paying close attention to the state's electricity problems, viewing them as serious even if they resulted more from market manipulation than from "real" shortages (DiCamillo & Field 2001a). When rolling blackouts hit Northern California again on January 17, 2001 in the midst of a 32-day stretch of Stage 3 alerts, the electricity situation seemed to show good promise of getting worse. While various ideas for new supply options ranged from floating diesel power plants to reviving nuclear power, state officials turned to emergency conservation as the only viable short-term policy solution to reduce peak demand.

In January 2001, Governor Gray Davis signed legislation implementing "the largest, most aggressive conservation effort ever launched by a single state" to address the energy crisis. Governor Davis set an initial goal of 5,000 megawatts for reducing California's summer 2001 peak demand, authorizing $949 million for demand reduction and energy saving programs targeted at the summers of 2001 and 2002 (CEC 2002, 1-2). Grey Worldwide, one of California's major advertising agencies and creator of the California Lottery marketing campaign, was selected as the design team. Nine days later, on February 6, 2001, the *Flex Your Power* media campaign launched on statewide television and radio (CDCA 2001).

As it turned out, by October 2001, the combined conservation and efficiency programs had reduced peak electricity demand (adjusted for weather and economic growth) by an estimated 6,369 megawatts, of which 3,743 megawatts (59 percent of total) were credited to demand responsive and rebate/incentive programs and 2,616 megawatts (41 percent) were credited to voluntary conservation savings (CEC 2001, 12). This voluntary peak reduction exceeded all expectations.

This paper will describe elements of the *Flex Your Power* media campaign and explore its role as a contributing factor in achieving these impressive 2001 savings. While several recent publications (Komanoff 2002, Kushler 2002) have declared the effort a success, no quantitative estimate is available to untangle its contribution from all other possible influences. Our intent here is to examine this unprecedented event in the history of energy information efforts using social marketing theory and observations about the efficacy of the campaign itself.

Public Information Campaigns as Policy Tools

In their review of 100 "government-sponsored and directed" public information campaigns (PIC), Weiss & Tschirhart (1994) describe PICs as policy instruments designed by government agencies to change individual behaviors, attitudes, values, or knowledge. Using a definition taken from an earlier work by Rogers & Storey (1987), Weiss & Tschirhart (1994, 82) define PICs as "intended to generate specific outcomes or effects in a relatively large number of individuals, usually within a specified period of time and through an organized set of communication activities." However, PICs have also been characterized as "trivial or ineffectual policy instruments with strictly symbolic value to government officials (Weiss & Tschirhart 1994, 83)."

Writers in the energy efficiency field equate rising interest in mass-market awareness or informational campaigns in the 1990s with the emergence of long-term market transformation strategies in place of more immediately focused demand-side management programs offering rebates and incentives (Egan & Brown 2001; Keane & Tiedemann 1996;

Peters et al. 1998). Given this mindset within the energy community, the *Flex Your Power* campaign offers an interesting case study of a mass-market public education effort designed from the outset to achieve both short-term and long-term outcomes through a mix of conservation and efficiency strategies.

Although this paper focuses on the mass media campaign, it is important to recognize that *Flex Your Power* was an umbrella name for a broader statewide marketing campaign coordinated through the California State and Consumer Services Agency, which encouraged "everyone from CEOs to schoolchildren to conserve" (CEC 2002, 9). With the media campaign as its centerpiece, *Flex Your Power* implemented a reinforcing complement of other conservation and efficiency activities. More than 1,000 businesses and non-profit organizations initiated voluntary partnerships and pledged to reduce their energy consumption by 20 percent. Hundreds of local governments also signed resolutions for 15 percent reductions. Thousands of consumers received energy information on bags from grocery and convenience stores. Teachers in grades 4-6 received energy conservation lesson materials. Special events with national manufacturers and retail stores encouraged consumers to purchase ENERGY STAR® certified appliances and products from participating partners (McGuire 2001).

The *Flex Your Power* mass media campaign focused on the immediate objective of reducing *both* overall consumption and peak demand by percent compared to the same month in the previous year (CDCA 2001) by getting consumers to voluntarily "add to their repertoire" of conservation behaviors (Grey Worldwide 2002a). The campaign designers hoped to do this by "Change[ing] consumer behavior and get[ting] California conserving by creating the image that conservation is smart and simple to do and, ultimately, allows for a better life for all Californians" (CDCA 2001, 4). The targeted conservation behaviors consisted of shifting laundry and dishwashing away from peak hours, turning off lights when not needed, unplugging equipment when not in use, and adjusting thermostat settings upward or downward according to the season.

Since a rigorous evaluation of *Flex Your Power* is not available, two sets of evaluative data are used to inform this exploration into the role of the media campaign in achieving California's dramatic conservation response. The first set consisted of quantitative ad tracking research,[2] videotapes and text of the media messages, and a product image case study provided by the administrators of the campaign (Grey Worldwide 2002, CDCA 2001). The second set consisted of preliminary analyses of 1,860 residential telephone interviews conducted in September through October 2001. Residential electricity customers were randomly selected for the survey from each of the five major California utilities.[3] Household billing data for the years 1999 through 2001 were later matched. This latter research effort was commissioned by the California Energy Commission and is being conducted by Loren Lutzenhiser and the Social and Economic Survey Research Center (SESRC) at Washington State University (WSU). The purpose of that ongoing research is to improve understanding of how consumers perceived and reacted to program messages and other information related

[2] The tracking research was conducted by Grey Worldwide in two waves of telephone interviews with 411 heads of household on March 13-18, 2001 and 406 heads of households November 26-December 3,2001.

[3] The utilities included are investor-owned utilities Pacific Gas & Electric (PG&E), Southern California Edison (SCE), and San Diego Gas & Electric (SDG&E) and non-investor-owned Sacramento Municipal Utility District (SMUD) and Los Angeles Department of Water and Power (LADWP).

to electricity in summers 2001 and 2002. (See Lutzenhiser 2002b for a more detailed description of this research scope and methodology.)

Anatomy of a Public Information Media Campaign: *Flex Your Power*

For more than twenty years, behavior change has been part of the energy conservation and efficiency agenda. Public information campaigns such as *Flex Your Power* fit into the broader realm of social marketing. Social marketing approaches to behavior change have been used widely in the health area—AIDS prevention and smoking cessation campaigns most prominently. More recently, the techniques have been applied to environmental education efforts like recycling and storm water pollution—and energy-using behavior. According to Alan R. Andreasen (1995, 8), "In its simplest terms, social marketing is the application of marketing technologies developed in the commercial sector to the solution of social problems where the bottom line is behavior change."

In their review of hundreds of public information campaigns, Weiss & Tschirhart (1994) identify four factors that appear to be essential for success. These include: 1) targeting the right audience, 2) delivering a credible, understandable message, 3) delivering a message that influences audience beliefs, and 4) creating a social context that leads to the desired outcome. In this section of the paper we draw upon the Weiss & Tschirhart analytic framework, along with research on consumer response conducted during the California energy crisis, to examine *Flex Your Power*'s communication strategies. —the key question being "How well did the *Flex Your Power* campaign approximate a four factor model of success?"

Factor 1. Targeting the Right Audience

Conventional wisdom among social marketing practitioners is that there should be nothing "mass" about public information campaigns. To be effective, campaigns must precisely define a target audience, select appropriate information channels to reach the target, and attract the attention of the intended target (Weiss & Tschirhart 1994).

The *Flex Your Power* media campaign refined target population by age group, ethnicity, and language spoken in the hone. Targeted customers received conservation messages through television, radio, print, and outdoor advertising. Unlike many public information campaigns that depend on donated broadcast time, *Flex Your Power* relied on prime-time television and radio buys. Campaign designers wanted to avoid over-delivering to the 50+ age segment and under-delivering to the 18-49 age segment. Therefore, their primary television-buying and radio-buying target was refined to adults 25-54 years old. Teenagers 12-17 years old became a secondary target audience for selected ads since households with teenagers were assumed to be higher consumers of energy.

A separate series of ads, formulated through pre-campaign focus group research, used messages designed to attract the attention of specific ethnic groups (CDCA 2001). For example, research had revealed that most Asians did not feel that they were wasting energy and that they paid little attention to public announcements unless they were directly affected. Therefore, the designers' ad strategy for Asian target groups aimed to deliver a pragmatic, direct message to communicate clear personal benefits. Asian-related visuals, such as chopsticks, were also incorporated into print messages to attract attention. Similarly, since

soccer is a popular sport among Hispanics, ads targeted at the Hispanic audience used soccer as an attention-getter.

Targeted age segmentation also occurred for three ethnic groups. Messages for African-Americans and Asian non-English speakers were targeted to 25-54 year-old adults, while Hispanic messages targeted a slightly younger audience—18-49 year olds. Asian advertising appeared in Vietnamese, Korean and Chinese (Mandarin and Cantonese dialects). Ethnic messages were also targeted geographically to market areas with high concentrations of the relevant populations.

To be successful, advertising must attract viewer attention and address the viewer's interests and concerns. The *Flex Your Power* 30-second spots were soft, more in the nature of a public service announcement than a commercial message. In fact, state officials initially criticized the ads for not being hard-hitting enough. The ads conveyed simple, universal portrayals of daily energy-using activities.

Early results from the WSU research conducted in late summer 2001 (Lutzenhiser 2002a) show that consumers reported the media formats as a "major influence" on conservation decisions and actions in the following order: "news stories on television" (44 percent), "advertisements on television" (31 percent), "information from the radio" (24 percent), "information included in utility bill" (21 percent), and "information from World Wide Web" (10 percent). The dominance of television as an information source is repeated in the ad tracking surveys; over 80 percent reported using it most often. Radio was next in importance with an average of 48 percent between the two survey waves, while newspapers trailed at a distant 15 percent (Grey Worldwide 2002a). Interestingly, the largest group of consumers (83 percent) in the WSU research, however, credited their own "past experience or common sense" as most influential in guiding their actions (Lutzenhiser 2002a).

Ethnicity turned out to be significant factor in whether people reported television or radio ads as being a major influence on conservation decisions and actions. Controlling for all other variables, Hispanics, African-Americans and Asians wee more likely than average to report that ads had a major influence, whereas Whites were less likely than average to report major influence (Lutzenhiser 2002a). Continuing analysis will probe for further explanation for these results.

Factor 2. Delivering a Credible, Understandable Message

Delivering a message that is clear, credible and easy to understand is much more difficult than it may appear. Weiss & Tschirhart (1994) cite source credibility, message clarity, knowledge fit, and duration as the most critical factors making a message effective. In this section we discuss how *Flex Your Power* fared with respect to each of these factors.

During the early months of the energy crisis, the political atmosphere was highly charged, with considerable discussion both in the media and on the street regarding whom could be blamed for what. Pre-campaign polls and subsequent research indicated that Californians assigned blame for the energy crisis to politicians or electric utilities for deregulation and to new electric generators for overcharging. This posed a credibility challenge for *Flex Your Power*, a government-financed campaign, as is most other social marketing. Campaign designers recognized that it was critical to create an apolitical tone in the actual advertisements (CDCA 2001). While the campaign was funded and managed through the Governor's office, only the Department of Consumer Affairs was publicly

associated with the messages. This was intended to remove any association of the message with blame for the "crisis" and instead add an association with a consumer "watchdog" organization whose mission is to protect consumers.

To achieve clarity, messages need to communicate specific, easy things to do to conserve electricity. Here, as in other energy efficiency campaigns, and in much of other social marketing, the trade-off between simple-to-do and effective-to-reduce energy consumption can be tricky. Simple actions may be moderately effective, effective actions may be moderately simple. But the most effective actions may not be simple (e.g., do this action only when certain conditions apply), and simple, or simply stated, actions are not necessarily technically effective in reducing energy consumption (Diamond & Moezzi 2000)

The behaviors patterned in the *Flex Your Power* conservation messages involved simple actions, many of which have been promoted as energy tips since the 1970s. However, unlike many previous energy education campaigns, this one contained little complexity and no exaggerated claims or promises (e.g., "An efficient house is a healthy house," or "You'll save 25 percent on your heating bill by doing X."). The messages simply told consumers what to do without too much "economically rational" motivation, i.e., cost-effectiveness. In fact, only three of the seventeen ads made any connection between energy use and costs to the consumer. One ad linked the action of shifting laundry off peak with lower power bills, although few Californians have time-of-use rates. Another implied that operating a second refrigerator in the garage could be "costing you an extra $150 a year." A third promoted the 20/20 Program, a conservation incentive program in which investor-owned utility customers "might" receive 20 percent direct credit on their bills their summer bills for a 20 percent reduction in consumption over the same month (June, July, August and September only) in the previous year (Grey Worldwide 2002b).

Energy efficiency has always been a hard sell because electricity is invisible. According to Manrai & Gardner (1992), message comprehension is negatively related to perceptions of intangibility. Using sensory images is one way to make the intangible, including the invisible, more tangible. Incorporating images of filmy curtains blowing in front of a whirring fan to mean "cool," "killing a watt" by turning off an incandescent bulb, a "smart" thermostat keeping watching over a family's comfort or office equipment "humming" away in a dark office, *Flex Your Power* ads gave viewers new and imaginative ways to visualize using energy. One of the most tangible, and most talked about, images associated with electricity—a power plant—appeared in only one of the ads. Although building new power plants was a popular solution in 2001, such an image carries negative connotations for some consumer groups.

Energy was such a salient topic at the start of 2001 that building awareness for an energy message was hardly necessary. Two of the campaign's most frequently mentioned activities—turning off lights and equipment when not in use and adjusting thermostats—were also messages that have been played since the 1970s. These behaviors fit well with the knowledge of many in the target audience. The earliest ads gave viewers familiar spaces—laundry room, garage, living room, and office—and with voice-overs, reminded consumers of an energy-using activity associated with each location.

Repeated exposures over an extended duration of time increases the likelihood that consumers will understand the message. Seventeen unique general market 30-second television spots aired the thirteen month period from February 2001 March 2002 (Grey Worldwide 2002b). Two of these general market ads were translated into Mandarin,

Cantonese, Korean and Vietnamese. Two television ads aired in the Spanish-language market; one was a translated general market ad and one uniquely addressed the Hispanic market. Two unique 60-second radio spots appeared in each of the Asian, Spanish and African-American target markets.

Since its launch in February 2001, the media campaign has had only two significant off-air periods, during the months with lowest energy and peak consumption. One hiatus occurred in April 2001, the second in March-April 2002. During 2001, general market and ethnic ads generally ran 50 times per week from February through mid-September. After mid-September frequency dropped to 25 times per week for television and radio. The campaign's aggressive media buy plan enabled it to reach 95 percent of the state's adult population 25 times by the fourth week (CDCA 2001).

Full-page newspaper ads ran in key state papers during the opening weeks of the media campaign in March 2001. From late May through July, 1/3 page-sized ads ran weekly. After the summer period, ads appeared every two weeks for the duration of 2001. Print ads also appeared in the ethnic and gay/lesbian community press. Outdoor ads appeared in the hottest urban geographic areas during June through September, the hottest months.

Media tracking data collected at two different points in the campaign indicate that many people recognized and remembered conservation messages and ads (Grey Worldwide 2002a). In March 2001, 35 percent of those who were aware of any type of conservation advertising (247 of a sample of 411 were aware) "correctly played back" unaided descriptions of *Flex Your Power* images or messages. Another 41 percent recalled non-campaign conservation messages of some kind. By the next survey wave in November 2001, 53 percent of the group that had seen or heard *Flex Your Power* conservation messages (272 aware in a sample of 406) gave interviewers correct ad descriptions without aid. A smaller group than in April (25 percent compared to 41 percent) remembered ads or messages from other sources. These awareness numbers are higher than most of those cited in a recent review of energy efficiency campaign research (Egan & Brown 2001). It is unlikely, however, that any of these campaigns operated in a crisis environment similar to 2001. The tracking report also indicated that one-fourth of the sample could not recall any conservation messages or ads at either the April or November sampling points. Anecdotal evidence suggests that viewers did not closely distinguish the source of the message, often recalling *Flex Your Power* images, but attributing them to ads from their local utility.

Factor 3. Delivering a Message that Influences Audience Beliefs

Once a target audience has seen a campaign and understood its message, the target may or may not find it persuasive. Using principles from theories of social influence drawn from psychology and sociology can help to increase the likelihood that the target audience moves from being aware to being motivated to act. To effectively influence audience beliefs, a message must provide new information, trigger norms, and direct attention (Weiss & Tschirhart 1994). Providing new information is the most common strategy for motivating a target market in public information campaigns. Information at the motivation stage of behavior change may consist of new consequences or new alternatives that interact with existing beliefs or attitudes; or it may reinforce existing beliefs. It also may crystallize ill-formed beliefs or trigger emotions that stimulate further action.

Flex Your Power introduced consumers to the concept that the time of day they used electricity matters too, a new and somewhat challenging concept for a campaign focused on simple actions, but one that also helped engage the audience. In particular, the campaign offered new criteria for considering when to do certain activities to "help us all get through the power emergency." The first ad in the general market series specifically asked consumers to do laundry after 7 p.m. Four additional messages focused on the more general idea of using major appliance after 7 p.m.

Introducing new information is not without its pitfalls. California's energy crisis stemmed from insufficient peak power, therefore reducing peak power demand was the primary goal. Yet in two of ads targeting peak reduction, consumers got a mixed message. Although concentrated during the summer months, several of these ads continued into the winter months. During winter, doing laundry at 7 p.m. may actually fall within or overlap the peak period in some parts of California. Another ad blended turning off lights with shifting peak load in the same message. While the messages directly identified shifting appliance usage as the critical thing to do, the association of shifting activity off-peak with turning off lights may have diluted the peak reduction message. Since most consumers are only peripherally aware of the distinction between energy savings and peak load reduction, some consumers may have associated taking any type of energy action as a symbolic substitute for making more difficult, but more useful, peak-related adjustments.

Social norms, the behavior people expect of each other, played a prominent role in the campaign's desire to "give people permission, regardless of bias, to participate in the conservation solution" (CDCA 2001, 17). *Flex Your Power* linked individual household behavior to larger social consequences, especially the much publicized and feared specter of sudden rolling blackouts endangering the health and safety of Californians. This emotion (apprehension) seems to have provided a very useful extra impetus to pay attention to energy-related messages. Since the 1970s energy crisis, saving money has been a primary message among many of the national energy information campaigns (Egan & Brown 2001). However, this benefit appeared in only three of the seventeen *Flex Your Power* ads. Instead, messages connected actions of individuals just like themselves to the powerful impact a group of individuals could achieve in a time of emergency with these closing message themes: "It [taking conservation action] will help us all get through the power emergency," and "Together we can do this." This moral imperative theme runs throughout the campaign, thus, taking advantage of the sense of community that a crisis can build.

A similar social norm influenced messages targeted at Spanish-speaking Hispanics, where pre-campaign research revealed that this cultural group valued helping others. Therefore, the creative strategy focused on pulling community (and families) together to solve problems (CDCA 2001). The cooperation needed to play soccer was used to reinforce the importance of working together effectively to conserve electricity in a series of radio ads. Such targeting may have had symbolic ("hey, they know us") as well as more routinely practical effects.

In contrast, messages targeting African-Americans were based on a personal reflection of the consumer's energy use. Research conducted by the campaign designers indicated that African-Americans were more likely to distrust energy companies and the government (CDCA 2001). Rather than asking "everyone to get through together," the ads focused on individual values— "What I can do as an individual to save energy?"

When asked what reasons had been important motivators to conserve energy, respondents in the WSU survey reported a mixture of economic self-interest and civic or other-regarding motives (Lutzenhiser 2002a). Motivations were judged to be "very important" in this order: "stop energy suppliers from over-charging (79 percent), "use energy resources as wisely as possible" (78 percent), "avoid blackouts" (77 percent), and "keep electricity bills down" (77 percent), "protecting the environment" (70 percent), "help California through a difficult time" (69 percent), and "qualify for a utility rebate" (33 percent). In contrast, 65 percent of the total respondents in the November 2001 media tracking study reported financial reasons as their main reasons for using less energy and only 29 percent reported any type of altruistic reasons. Among the smaller group who correctly identified *Flex Your Power* campaign ads, however, the percentage citing altruistic reasons (39 percent) was significantly higher than among the total respondents (Grey Worldwide 2002a).

Directing attention is the third ingredient in an influential message. One of the strengths of media campaigns is being able to focus on a specific factor. Seeing and hearing about energy-reducing behaviors so frequently may have raised its level of importance in the minds of the audience. Consumers had these beliefs reinforced in a variety of ways as they went about their daily lives. Businesses posted *Flex Your Power* partnership logos in their windows. Grocery stores turned out some of their lights, signaling to customers that they were doing their part too. News personalities repeated energy-saving tips on the evening news. Everybody seemed to doing something about the problem. In short, the *Flex Your Power* media campaign was launched in an atmosphere that favored success. As early as April 2001, 62 percent of the campaigns ad tracking survey respondents stated a belief that conservation could solve the energy problem (Grey Worldwide 2002a). In the next section, we will discuss the behavioral changes that people actually made to conserve in 2001.

Factor 4. Creating a Social Context that Leads Toward the Desired Outcome

Providing cost and benefit information has been the hallmark of energy conservation and efficiency campaigns for decades. Unfortunately, in most cases, this is not sufficient to bring about the desired behavior change because it assumes that an individual is free to carry out the behavior at will. Since behavior is always carried out within the context of others, focusing only on the individual's own attitude toward the behavior may not be enough. Weiss & Tschirhart (1994, 90) suggest that PICs can increase their leverage over an individual by "attending to both the individual and the social institutions that surround him…family, friends, neighbors, co-workers or other significant social groups." During the September-October 2001 survey period, WSU researchers found little evidence that Californians had been actively influenced in large numbers by the educational or community initiatives. Support for the importance of social networks of friends, neighbors or co-workers also lagged expectations (Lutzenhiser 2002a).

In part, this may be because the media campaign, in contrast to the broader portfolio of initiatives, focused on simple, emergency-type demand reduction behaviors. *Flex Your Power* derives its message more explicitly from the Theory of Planned Behavior. In this theory, Ajzen (1991) identifies three concepts useful to predict or understand an individual's intention to behave in a specific way. The three concepts are the individual's personal attitude toward the behavior, the influence of others on the individual relative to the behavior,

and the perceived degree of control by the individual over the behavior. Ajzen refers to the last of these as "perceived behavioral control." Other researchers exploring this concept in energy consuming behavior (Peters & Feldman 2001) use the term "self-efficacy," taken from the research of Albert Bandura (1997) and argue that messages that say "I can do it" may be more effective at achieving energy-efficient behavior than cost savings or non-energy benefit advertising.

Behavior change is the culmination of many small decisions and steps. Social marketing theory argues that people will not undertake new behaviors until two conditions are met: (1) a person must believe that he or she possesses the skills and knowledge to take the action, and (2) a person must believe that situational factors will permit the behavior to happen and that the consequences will be positive (Andreason 1995).

Providing a consumer with information about the desired action (e.g., how, when, where) and the skills to do it can satisfy the first condition required for self-efficacy. The behaviors requested of viewers of the media campaign all operated at this level of individual control. The conservation actions required no money, no tools, and no contractors. People could thus feel empowered to act, not overburdened. The closing lines on the first wave of six messages all reinforced this theme. After asking people to take a specific easy-to-do action, the ads closed with these lines: "It'll help us all get through the power emergency. *And it's not even hard*."

On the other hand, the second pre-requisite condition requires improving the ease of actually doing the behavior. What matters here is why people think they cannot carry out a proposed action – whom do they blame? If they blame themselves for their inaction, then teaching new skills is appropriate. If individuals blame other people or situational factors—as Californians did—the task is to persuade them that there are actions they can take that will contribute to a beneficial outcome. Two strategies to improve the perceived level of individual control demonstrated in *Flex Your Power* are role models and behavioral modeling.

Using humor to make a point, a well-known comedian in the African-American community, D.C. Cary, lampooned his personal misuse of energy in a series of radio ads. The ads used exaggerated examples rooted in everyday wasteful energy habits that people could relate to and find funny. The print ads announced that "D.C. says: Stop using the washing machine to wash one pair of shorts! D.C. understands that we're in the middle of an energy crisis." Thus, as a role model, D.C. communicated not only what can and should be done, but how to do it.

Research has also demonstrated that people can learn new behaviors vicariously through observational learning—seeing others do the desired behavior. This process, called modeling, helps develop an individual's sense of self-efficacy, and thereby increases the chances that a desired behavior will take place. *Flex Your Power* used modeling in a variety of television ads. A woman holding an iced drink sits contentedly in front of billowy sheer curtains moved by a fan's breeze. A father reminisces about how he used to watch his own father conserving as he walks around turning off lights and equipment in front of his little son. Children in Spanish language radio ads tell friends how they help their parents by turning off lights, or changing incandescent bulbs to fluorescent ones. In a Spanish language television winter ad, a series of different hands each model an action by turning off a light switch, a stereo-system, setting a thermostat to 68 degrees and finally turning off a lamp.

In the initial analysis by Lutzenhiser (2002a) of reported changes in consumers' behaviors,[4] nearly all households reported turning off indoor and outdoor lights. Consumers responded less frequently with other actions specifically promoted in the messages. Approximately one-quarter of the households reported turning off or unplugging equipment despite numerous ads calling for this behavior. Shifting energy usage to off-peak hours or altering clothes washing habits was volunteered in 21 percent of the interviews. Installation of compact fluorescent or other low-watt bulbs was reported by 18 percent of the households. Only 7 percent of the households reported making thermostat adjustments despite several messages promoting appropriate settings for winter and summer. Instead, a much larger proportion (44 percent) of consumers reported turning off their air conditioners completely or using them only sparingly. The households that did report changes in conserving behavior typically reported two or three new actions. The media tracking surveys reported much higher numbers of actions per household, but did not differentiate whether the actions were new or typical behavior (Grey Worldwide 2002b).

To maintain the new behavioral patterns, consumers must feel rewarded, and they must continue to receive reinforcement until the new behavior becomes habit. As the summer continued with no rolling blackouts and both energy consumption and peak demand use stayed below 2000 levels, viewers heard a new theme emerge—one of reward for a job well done. By the fall of 2001 the message changed yet again. The messages ended with the phrase, "Conservation...it's a way of life.'

Persistence remains a critical issue. In a sense, energy conservation is a job that is never done and requires vigilance and constant reminders. Respondents in the WSU survey indicated that the conservation actions they had taken to date had not proven difficult or inconvenient. Some 17 percent even said the changes had actually improved their quality of life (Lutzenhiser 2002a).

Mass Media Campaigns as Short- and Long-Term Energy Policy Tools

Over the course of 2001, Californians, on average, reduced their peak demand by 8.9 percent and their energy consumption by 6.7 percent, adjusted for growth and weather factors.[5] The drop in peak demand in 2001 was not related to unusually mild weather as has frequently been claimed. The summers of 2000 and 2001 both rank as the 25th hottest summers in the previous 107 years. One difference is that in 2002, the large interior valley of the state, which is an area of rapidly growing air conditioning load, actually experienced four additional days of temperatures over 100ºF than in 2000 (CEC 2002). Consumption patterns of 2001, however, are significantly different from those in 1999 and 2000. Regression analysis, using representative electricity bills for residents living in the same house for three years and summary weather statistics for each bill, indicates that consumers *did change* their reaction to the weather and used less electricity in 2001 (Woods 2002).

[4] In the WSU study, consumers were asked to describe in their own words specific *new* actions they were taking to use less energy in summer 2001. These responses were initially coded into seventy behavior types and then further condensed for analysis into eleven categories of behavior.

[5] Updated monthly statistics for actual load, load adjusted for weather, and load adjusted for growth and weather are available on the California Energy Commission's website, http://www.energy.ca.gov/electricity/peak_demand_reduction.html.

Flex Your Power has demonstrated that mass media campaigns can be effective short-term policy tools given the right context. A crisis mentality prevailed throughout California during the early part of 2001, so it is reasonable to ask about other causes of the conservation response that took place. By all measures, the *Flex Your Power* media campaign did not operate in a typical environment. Awareness was heightened and there was widespread talk about price increases, blackouts, incentives, and so forth. But none of these logically leads to the linking of individual action with possible collective benefits. *Flex Your Power* did attempt to make that connection—admittedly in an atypical environment. In fact, leveraging the timing and concentrating the mass media campaign on the repetition of specific, vivid, workable emergency conservation messages may have been its greatest strength. Early evidence, however, suggests that the savings may *not* have been evenly distributed across the population. Preliminary analysis of survey and billing data for a sample of customers in the SCE service territory in southern California suggests that a small minority of very active conservers may account for a large share of the overall energy savings (Lutzenhiser 2002b). Heightened awareness and a crisis situation did not equate to behavior changes by everyone.

The umbrella *Flex Your Power* Campaign clearly separated its energy efficiency purpose (purchasing equipment) from its immediate conservation message (altruistic action), yet linked them into one interrelated campaign with multiple strategies that could synergistically interact. Paul Stern has long argued (e.g., 2000), and social marketing researchers agree, that the most successful behavior-change programs involve combinations of carefully orchestrated intervention strategies that foster greater synergy. Multi-faceted sets of interlocking strategies that evolve over time along with changes in the targeted behaviors may be the only way to achieve long-term policy goals. The next challenge in California will be to build from this foundation and incorporate the more complicated efficiency messages that can ultimately affect long-term purchasing decisions and consumption habits.

Planners of public information campaigns often underestimate the importance of understanding how consumers make decisions and take action. To be successful as long term policy strategies, public information campaigns must put the consumer's point of view about the policy outcome being addressed at the center of the campaign. After reviewing communication campaign research on energy efficiency and related topics, Egan & Brown (2001, 43) found, "Surprisingly little research has been conducted by national, regional, and state communications campaigns upfront for program, message, and tool development."

Promoters of conservation and energy efficiency need to recognize that creating awareness alone will not change behavior and that attitude may be a poor predictor of subsequent action. A wide variety of social processing and cognitive theories offer strategies largely untapped by energy professionals for achieving long-term behavior change. Making behavior change become habit will take a long time and a large commitment of funds.

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