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PROGRAM OF POLICY STUDIES IN SCIENCE AND TECHNOLOGY

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Basic-Research Foundations for
Public-Education Programs in
Energy Conservation

MASTER

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TASK G

EXECUTIVE SUMMARY

Task G

EXECUTIVE SUMMARY

Overview of Recommendations Derived From the Research Program

Under Task A, a number of approaches to understanding and predicting the energy-relevant behavior of individuals and population segments have been presented. These include the theory of Maccoby, Cialdini, Tversky, Simon, Davis, Ward, Wackman and Wartella. In Part B of Task A, the investigators have assembled a body of knowledge derived from their earlier work in Behavioral Economics in the context of the current literature.

The elements studied were presented so as to be useful to those developing a public information program generally oriented to influence energy relevant behavior and specifically designed for application to appliance labeling. A greater level of specificity could not be obtained in this section in order to maintain its potential for broader application. The findings were then used in the more specific application to labeling in Task B and in the Summary.

In Task B, Decision Analysis Panels were assembled in California, Rhode Island, Georgia and the District of Columbia to determine empirically the kind of information most likely to be used by consumers from affluent to marginal population segments in making decisions concerning energy use, and more specifically, the purchase of energy saving appliances. The factors that will influence these decisions and the dynamics of the decision process were sampled and studied intensively. A number of marketing themes of differing types were discussed with the populations studied and their responses analyzed. The labeling program was also discussed with industrial, commercial and other agents in the delivery system for the appliance labels.

The information derived was then shaped into recommended market approaches. These were introduced to the appliance labeling staffs and to supporting contractors during meetings convened by the appliance labeling staff. The findings were also employed to evaluate and enrich the contributions of other D.O.E. contractors.

Simultaneously, a cost/benefit analysis of other public and private information programs designed to serve the public welfare. These programs were not commercial and uniformly sought to change consumer behavior rather than obtain a larger market share for a given product. This analysis and its findings are presented in Task E. A number of useful findings are presented with the caveat that cost/benefit analysis is not a precise technology.

The final section (Task G) summarizes the application of this study to the needs of the Energy-Conservation Program.

A. Program Strategies

1. Focus on a few basic messages, demonstrating the significant and concrete value and utility to consumers (dollar savings, convenience, prevent "rip-off," etc.). Do so by developing overall themes including items (2) below. Basically we should seek the users "commitment" to this behavior.

2. Focus on increasing the consumer's sense of mastery and control of his use of, and costs for, energy and improving his self esteem (with such themes as "informed choice," "the decision is yours," etc.). Offer him more options rather than fewer and increased freedom to choose.

3. Credibility must be maintained. To do so the message and energy relevant information must a) originate from and be associated with trusted

sources. b) It must not be at variance with fundamental beliefs or assumptions of the consumer. c) It must not be overtly threatening to the consumers existing life style (or it will be denied). d) An opportunity to act on the decision, i.e., use the labels, must be available.

4. The Consumer decision that is sought must be consistent with his self-image. This is determined by his models, reference group or peer group. It cannot vary excessively from the standards set by the media that he is exposed to. It is vital that the image of the consumer suggested by the message-sender not make the consumer look foolish, bad or guilty. Respect for the consumer is essential.

5. The message must be presented at an optimal level over an extended period of time. Both overkill and an inadequate message should be avoided. It should also be directed at a broad range of sub-groups to assure that reinforcement is provided to the individual from as many personal sources as possible.

6. Messages should be intraconsistent and not in conflict with the massive marketing capability of industry.

7. Focus on teaching consumer skills and confidence in using energy appliance labels. Provide a "hassle-free" path to the utilization of the labels.

8. Messages should employ the best technique and information available to influence behavior change decisions, rather than conventional marketing emphasis on name recall and market share.

9. Develop a delivery system for the program that will enlist the necessary gatekeepers (maufacturers, real estate and appliance sales people, etc.) Address the building market, add-on market and replacement market.

10. Test the entire delivery system, as well as its component parts. It should be tested in the various and varying population segments that make up our society, and must be tuned to the specific needs of each segment.

B. Examples of Strategy Applications

Themes for Appliance Labeling Public Education Program. (Report under this contract to Ms. Ingrid Nelson, 12/4/78).

This is a distillation of a number of strategies and themes that we are currently considering for conservation programs in general and for energy labeling specifically. They are based on a blend of psychological and economic factors derived from the likely state of individual attitudes and potential behavior today and the economic, political, and social context in which they will probably operate. We would prefer somewhat more specific targeting of disaggregated populations, but these are designed for mass use. these strategies can be combined if care is taken to avoid dissonance.

Strategy #1 - would suggest a constraint-release approach or theme. It pervades television and other media, featuring the trapped or pursued hero(ine) and the eventual escape or victory.

a. People today (and perhaps universally) are experiencing a sense of being constrained, fenced in (almost claustrophobic), suffering relative disadvantage or victimization from a variety of sources. These include economic constraints, e.g., loss of income or capital (which represents freedom to have or do), taxes, inflation, job preference to others, etc. People also have been led to believe they can obtain what they want and should actualize themselves and satisfy their desires.

b. People are also increasingly skeptical, even cynical, about the information they receive about the quality or value of products; the economic information they receive about supply and demand of things and services; the promises that are made by politicians, vendors, the media, etc.

Relief takes the form of increased options, removal of threat, increased status, winning, etc. Some people want mastery, others want to be saved (passive). Some want a technological fix.

The constraint-release strategy would follow the theme of "trapped or losing ground - the truth will set you free."

It may follow many patterns, several of which were suggested by George Idelson in his memo of 11/6/78.

1a. Trapped by higher utility bills, prices - now you have options
Buy and use home and appliances more efficiently'

1b. When the program is released, add the line "read the new energy labels carefully."

2. In a bind? - Streamline! Get the facts about appliance efficiency and use them. You'll feel a lot better at the end of the month.

3. Bills growing faster than income? Feel trapped/swamped? You have more clout than you think. Get the facts about energy labeling/efficiency and get a leg up on inflation.

Strategy #II - Another theme might be derived from a combination of adult nurturant feeling for their young and the strong, positive psychological feeling that one's children are learning from their parents, emulate them or model themselves after parents. This provides a sense of self-validation, mastery, worthwhileness, etc. - Basically, it's a positive reinforcement and outcome for the responsibility of parenthood, which is powerful because we have so few good measures of self-worth these days.

Ex. (video spot)

- 1a. Susie (age 5) is "freezing" in her bedroom.
- 1b. Parents cooperate in insulating the house (while kids Susie, age 5, and Billy, age 8, look on)
- 1c. Billie helping Susie put storm windows on her doll house while parents beam from the doorway.

Theme: Conserve - It pays in many ways!

Strategy #III - Conserve energy - extend life of appliance and save two ways.

(Economic) ex. - "Double your savings. The motor on a more energy efficient refrigerator/air conditioner/etc. doesn't have to work as hard - it lasts longer and so does your money. (Add) read your energy label carefully." It makes good sense.

Strategy #IV - Identification with high status model or desirable reference group (group that provides one's model).

ex. a "Sally Wallace used to be a model, she's now a discerning/model wife and mother."

Video

Kate, thirtyish but very stylish middle class woman parks her sporty compact car in front of appliance store, brief case beside her on front seat. Long leg out, determined stride into store. She examines labels carefully (later can close on label). Looks up approvingly as mature, good looking husband approaches. She leads him to an impressive looking refrigerator pointing out the label to him.

Audio

"She is discriminating in her choice of her cars, her clothes, her men, and her appliances. (Then a note re their not being very rich). That's how she can afford those clothes!"

See attached advertisement from Wall Street Journal illustrating print-media potential of theme (Appendix B).

ex. b Replace above with less fashion conscious woman and shift to "sensible people" theme.

ex. c This is a combination of Strategies I & IV

Video

Will at the wheel of a sporty compact. Will walks up to jewelry counter, is waited on by, obviously approving, salesgirl. Shot of him putting new bracelet on wife's wrist. Both examining specs or label on dishwasher, carefully. Shot of him looking up at Cape Kennedy with gantry in background.

Audio

Intro statement:

"His energy efficient car gives him more miles for his money. His improved fabric clothes save on laundry and cleaning and keep him looking great. He and his wife, Anne, make sure that their new appliances save money and last longer. And it's not because he's designing a new space probe - it's because he's a practical guy. We can all save money the same way. Keep your eye on the facts!"

Please note: Each of the above are based on positive themes. No one is made guilty, nor is anger elicited from audience. All are constructive models that provide reward and satisfaction to the individual through being capable and being approved.

TASK A

BASIC PRINCIPLES OF DECISION MAKING

PREFACE

THE ROLE OF DECISION-MAKING THEORY IN ENERGY CONSERVATION

Prediction of behavior is the acknowledged key to the development of policy. It may a) seek to predict demand, e.g. travel, or b) determine readiness to behave in a given manner, e.g. conserving.

The authors have been commissioned to attempt to extend these capabilities somewhat by introducing a necessary (but not sufficient) element hereinafter to be described as "the behavioral aspect." Its understanding is derived from available psychological, sociological and anthropological theory, from experience with marketing and consumer behavior as well as the extensive experience in advertising and related fields. It intends to introduce both theory and methodology designed to objectify and utilize that hitherto mysterious and usually unknown world of psychodynamics and sociodynamics that contain many of the causes and explanations for the difficulties associated with the current state of our ability to anticipate a predict behavior.

In the service of prediction, a number of techniques are employed. Survey techniques are intended to reveal the desires and intended behavior of individuals sampled and to be projected to the entire population. Law and political science make an effort to project future behavior on the basis of previous action and indeed there is reason to believe that he who does not read history is doomed to relive it.

More recently an extensive and expensive process known economic modeling has developed which is designed to provide mathematical series that will allow projecting the behavior of either populations, segments of those populations, or perhaps of individuals on the injection of certain key information into a dynamic configuration that approximates the interactions and effects of vality. However, in most cases, the models are based on hypothesized or synthetic values

and dynamics and more seriously, they tend to ignore any information that the model builder presumes to be either unavailable or "soft." It is also common for the model builder to ignore those disciplines with which he is not acquainted. Unfortunately, there are many soft, even subjective factors in most economic or social processes, and the model builders to date have not proven themselves able to reflect the full mixture of disciplines effecting major human economic and behavioral events.

Thus, in the case of many of our predictive tools we find ourselves with the analogy of observing a engineer-bridge builder planning and constructing his bridge without knowledge of metalurgy, meteorology and sometimes the potential weight that the bridge has been intended to bear.

In these days of rigid science and careful evaluation, it would seem strange to accept the incompleteness with which the science of prediction appears to be functioning. This is particularly true of predictions concerning decision making and the comprehension of the decision-making process.

What will be introduced is not psychology as such, or sociology as such, but rather a set of principles based on behavioral science, social science and practical experience in the prediction and influencing of every day human behavior. It is based on work in decision-making economics, marketing and sales motivation, research, transportation, energy use, psychology, public health, communications and education. The approach employed is the product of fourteen years of research and development in decision-making by the Behavioral Studies, Group Program of Policy Studies in Science and Technology at the George Washington University.

The sections that follow have been selected by the investigators and the project monitor to present current information and theory on decision making in government, industry and academic settings. Some sections are free-standing chapters, others are reviews of the theoreticians position and principles derived therefrom.

PART I: CONSULTANT REPORTS AND ANALYSIS OF THEORY
INTRODUCTION TO THE REPORT ON DECISION MAKING

The report that follows is a study of consumer motivation and behavior. It is not a conventional academic study of a specific portion of the motivational process. Nor, on the other hand, is it a marketing study designed to determine how the population of the country or a specific region feel about a topic or a product at a given point in time.

It is a study of the processes whereby people make decisions about specific behavior, the forces that operate on those decisions, and the interaction of several decisions and their modifying effect upon each other.

The report will present an overview of the current approach to decision study and behavior change studies of various forms including economic incentives, advertising and media activities, motivation research and others. It will describe the context in which this work is developing and the current and future objectives, potential and limitations.

The first section of the report will include brief papers prepared by scientists who have pioneered the field. It will include Nathan Maccoby, Amos Tversky, R. B. Cialdini, Joseph Margolin, and selected items from the work of Herbert Simon, Fritz Heider, Leon Festinger, Kurt Lewin, and others.

A number of methodological considerations will also be discussed, although the major effort is not methodological. These will have bearing on the nature and future of motivation -- behavior change research and development, as well as the relationship between the several disciplines involved.

A significant portion of the report will be addressed to the discussion of the findings of recent research and the development of principals for their utilization in energy conservation program development.

Decision Making: The practical problem of how decisions are made and how they can be influenced requires an exceedingly broad canvas since it

includes many or most of the factors that influence the individual, the small group, and the society. Nevertheless, it must be possible to contain a description of these processes within a reasonably succinct document in order to communicate useful information to those whose responsibility it is to work with the decision-making process in our society in order to implement policies and programs.

The decision-making process: Maccoby points out that previously we did very little to understand why people do things. He states that the problem has tremendous implications for economics. We always assume that people behave on rational grounds. Even when we do not comprehend, we assume that they have a rationality of their own. However, we (the government and the research community) have not done much to understand their logic or reasons and make use of them in program development. We started out with the simple and traditional notion that "We teach people a lot of information...some of it filters through." This "trickle down" approach leads to only some attitudinal change and even less behavioral change. Maccoby traces the efforts back to incentive programs employed to improve productivity during WWII.

The decision-making process as it is described in this report should, in the words of Dr. Raymond Bauer, make an effort to determine 1) what the decision depends upon, and 2) the interaction of factors that yields the rational or consensual decision made by the individual or group.*

A significant aspect of the approach employed herein is that it seeks to obtain knowledge of the decision process from a combination of factors including the individual's response to a range of consumption-centered situations in conjunction with predictions made on the basis of socioeconomic, educational, cultural, personality, or other population segment characteristics.

*Raymond Bauer, "Application of Behavioral Science," in Applied Science and Technological Progress: Report to the Committee on Science and Astronautics, U.S. HR, by the NAS, 1967.

The approach employs the cognitive process itself, in conjunction with an understanding of motivational factors affecting the individual which of course are determined in part by cognition. This will assist us in determining how the attitudes and understanding contribution to the decision are arrived at from both an intellectual and an emotional or subjective point of view. The boundaries between cognition and motivation are thin, and highly permeable; neither is well understood without an understanding of the other.

To obtain the full picture of consumer decision-making while retaining the capability to make predictions about the specific product or service, it is necessary for us to consider the stimuli which would include the: product or service itself; the way in which it is presented; the setting in which it is presented; as well as the individual upon which they are acting; and the values and the characteristics of the individual. This would suggest a learning theory approach, which indeed offers one option for us. However, it is not a simple stimulus-response or modeling formulation. The consumer may not purchase on the basis of rewards. Rather, he chooses sometimes exclusively on the basis of a personal pattern of decision making or at least one that is shared with a segment of the population. This phenomenon requires the elaboration that follows.

Decision Making and Energy: One of the central factors influencing the decision-making process is the topic or the subject which is being decided upon. In this case, the utilization of energy has a profound impact on the individual's style of life, comfort, and economics. His style of life has an even more profound effect upon his utilization of energy.

The cost of energy determines in what manner and how rapidly or comfortably a person travels, whether his environment is the right temperature, whether it is clean, whether his food is edible, or his clothing is presentable.

It also affects his job productivity, the value of his currency and the security of his nation.

Critical to his decisions about energy utilization are:

- ° the individual's valuation of the importance of each of the benefits that accrue from the cost of energy, e.g., comfort, safety, etc.;
- ° the individual's position in life;
- ° his experiences;
- ° his lifestyle;
- ° the opportunities and denials to which he has been subjected;
- ° the individual's needs:
 - objective - lodging, food
 - subjective - mastery, security, dependency, mobility, comfort;
- ° his capabilities and level of and experience with mastery;
- ° the information available to the individual or group;
- ° the options available to the individual and the opportunities and trade-offs among the things he needs, is obligated to obtain, and has to retain;
- ° very significant in the more subjective aspects of decision making is the social matrix, the influence of others, whether they be members of one's family, parents, dependents, or spouse:
 - reference groups or models,
 - peer groups or colleagues; and
- ° the cognitive processes derived from the individual's early formal and informal education and subsequent experiences are also critical factors in the decision-making process.
- ° the motivational processes derived from his history, his needs and his personality.

This is a bare beginning of the list of items that must be examined to understand the decision-making process in an individual.

While sex, socioeconomic group, and age are not as decisive as has been expected by the scientific literature, they are integral parts of the considera-

tion of the individual's likely patterns of decision making. However, in this day of mass culture, people of many ages are exposed to similar stimuli, and "unisex" concepts emerge as well as a certain amount of "egalitarianism."

Perhaps the most vivid explanation of the decision-making process may have to do with individual self-interest, either objective or subjective. Indeed, a very apt description has been provide by a colleague who frequently suggests that "where you stand depends on where you sit."

This appears to be an imposing list of variables. They represent the forces that interact to produce decisions. It is fortunate that social and cultural processes operate to produce a smaller number of prototype groups that tend to be homogenous in their decision-making behavior concerning discrete issues.

As the study proceeds, it will move from a general examination of the decision-making process, primarily on adults, to a more focused examination of buying or marketing decisions. (Task B) These will focus heavily on the specific issue of the purchase of energy efficient appliances. The labeling of such appliances has been mandated by the Congress and will be implemented by the Department of Energy and the Federal Trade Commission.

Perhaps the major problem with the current state of the art of understanding decision-making has to do with the fact that the advertising industry and many students thereof have been more interested in the buying patterns of the individuals or the immediate attitudes towards or recall for given products than in the underlying causes and dynamics of the buying behavior, and the decision to buy a certain product at a certain time. In commercial programs, the competition is more for a larger share of the existing market than for producing or different behavior by the consumer.

Maccoby notes that "Madison Avenue is not interested in skill training to

make behavior change possible. Product or topic recall are not equivalent to purchase or other active response."

"Red herrings" abound in this field. Great concern with the effects of television, and before that comic books, on the buying habits of children were expressed. These too diverted us from a true understanding of the decision making process in the individual. More recently, there has been some shift to the broader issue of how children acquire knowledge, attitudes, and skills relevant to their functioning in the market place. While consumer socialization and consumer education have been stressed somewhat more effectively, the major efforts have been on the effects of television which has probably skewed the concerns and state of the art in a manner that precludes the possibility of knowing about the child's or the adult's decision, but rather stresses the effect of the given media stimulus recognition or recall.

On the other side of the media studies much of the research that has been accomplished has been of a broad, advocacy nature and stressed either alleged abuses of marketing or effective antidotes for the abuses that the process.

It is true the products of such research reports could be used for the purpose of "advertising" or influencing decision-making that is not socially useful. However, we feel that there is also ample opportunity for creative and positive utilization of such findings, for the objectives served by this study and for related work in the fields of health, nutrition, safety, and other socially beneficial activities to justify such research.

DISCUSSION OF DECISION MAKING AND CURRENT RESEARCH:
SELECTED SECTIONS

Dr. Nathan Maccoby, Director
Stanford University Communication Center
with
Joseph B. Margolin, Ph.D.

(The following is a summary of an interview with Dr. Nathan Maccoby, Director of the Stanford Communications Center. The interviewer is Dr. Joseph B. Margolin. The interview was conducted in January of 1979.)

Maccoby pointed out that previously we did very little by way of understanding why people decided to do things. He stated that the problem has tremendous implications for economics. We always assume that people behave on rational grounds, and even when we don't we assume that they have a rationality of their own. "However, we have not done much to understand that rationality either." We have started off with the simple notion that has been traditional in psychological thought which is to teach people a lot of information--some of it filters through.

Maccoby refers to this as the "trickle down" theory in psychology, i.e., you teach people a lot of information, a little of that trickles down into attitudes, and a little of that trickles down into behavior. "And so damn little that you can't find it if you look at some studies like Festinger's presidential address. There is no evidence that this really results in behavior changes at all. You guess occasionally that it does, but we found for example in World War II in a book on "How to Achieve Increased Preference for Serving in the Infantry" we introduced an incentive program building an infantry badge program and expert riflery badge, a combat rifleman, and then did an experiment in which we introduced it in some cases and not in others. It was the most elaborate field experiment in psychology ever conducted."

Maccoby noted that during a recent Denver study, and other studies like it, people were given a large amount of information and then one month later

were called and asked whether they had seen the energy conservation program. Maccoby states "You may get a fifty percent recall of the message, but action? that's something else again."

Dr. Maccoby recalled the work that Dr. Cartwright had done during World War II in selling Treasury War Bonds. He felt that all the advertising in the world and massing of all the communications capability could not sell war bonds. He then analyzed the data to find out who bought war bonds and found out that it was those who had been sought after by other individuals. That is, a face-to-face approach had been most successful. He then published in a journal an article that he called "The Power of Persuasion." Dr. Maccoby pointed out that in order for human behavior to be changed you have to effect changes in the human's motivational structure and that's where the campaign starts. The mass media does a good job on cognitive and motivational structure, but they do a terrible job on action structures.

The most beautiful illustration by Maccoby of Cartwright's theory took place when he was on a subway in Boston. There were many posters asking people to donate blood to the Red Cross. So many that Maccoby was prepared to do so when he got off the subway. But at that point there was no basis for action. He, being unable to donate blood at that point, found the motivation to be gradually extinguished. We agreed that this principle needs to be recalled over and over again. The objective is to change the behavior not only to convince people that it is a good idea.

Maccoby noted that the changing of behavior is probably the best way to change attitudes. Margolin said that indeed when you change behavior you are almost forcibly changing attitudes; it is necessary to maintain cognitive stability. "Precisely," said Dr. Maccoby, "Otherwise you can't live with it." He related the story of his wife Eleanor changing the rules at the Federal

Reserve Board by having lunch in the cafeteria with a black man and raising a great many eyebrows. The interesting part about it was that she wasn't really trying to desegregate, she was merely trying to have lunch with a colleague.

Maccoby said "The thing that gets to me is the 'action structure.' You see it conceptually as we chat about some of these instances." Margolin noted that Cartwright was getting into these principles of 'action' and Maccoby affirmed that he was.

Maccoby pointed to the need to associate mastery, simplicity of life and a selected variety of other desirable aspects of living with the programs that we seek to achieve. These resemble in many ways the models that were developed by the Behavioral Studies group as a part of the work on energy appliance labeling -- they associate the woman who is selfassured and demonstrates mastery to the people who have control of their lives and to the attractive aspects of life that people like to identify with. Thus, the principle that Maccoby espouses is already in operation in the program recommended to DOE over the year (1979-80).

Margolin raised with Maccoby the principle of building and releasing tension as a process that may be used. He associated to that the idea of "it is good for you" and "it doesn't hurt." Maccoby feels that building up a certain amount of self-concern is one of the things that they are doing in the Heart program -- giving a great deal of attention to what they call periovascular epidemiology designed to build up a needed level of tension, the creation of an immediate threat, which does work.

We discussed the tension that is developed about sexual adequacy and being accepted socially. Commercials for Certs and other cult of youth oriented commercials were cited. The real problem is whether it is possible

for people in those situations to achieve the satisfactions and the objectives that are offered to them. The difficulty is that these people are not in a position to achieve the goals and may produce some negative conditioning in the course of trying.

Attitudes, Decisions and Skills

Maccoby makes the important point that a decision itself is not enough. The decision to engage in a behavior still requires the skills learning that he refers to. "I may decide I want to play the violin like Heifetz, but that doesn't make me play the violin like Heifetz." I can learn a lot of information about violins but that isn't enough. "I think an awful lot of behavior that we are asking people to engage in is perhaps not that complicated but it is of that order that requires skills." He notes that the mass media typically cannot and does not teach skills, (although he may have data that refute that.)

Mass Media and Teaching of Skills

Maccoby noted that during the Fifties he did a great deal of work sponsored by the Air Force designed to discover the use of film for skill training.

Margolin noted that it is not just the availability of film for skill training but the way in which it is made available to the people and the way in which the teachers decide to use it that influences whether skills are acquired by the learners. The attitude of the instructor toward the medium and its message are generally conveyed to the learner and often adopted. The same may be true of the mass media which may be used in an unproductive way.

Entertainment set

He called attention to the television show "Feeling Good" in which the context includes some very entertaining television. On the assumption that

people watch television to get entertained a great many messages were presented along with the entertainment. This was later found to be unproductive. They were selling health as a message working on everything from self-tests for breast cancer to exercise and healthy diet for children to inoculation and vaccination, with no observable effect. He called attention to the symposium at Nebraska's Business School a couple of years ago in which Robertson on seat belts and Twineheart on "Feeling Good" both reported failure while he (Maccoby) reported success on his three communities studied. Maccoby believes that the problems arose from the fact that when you "focus on entertainment you engender a kind of set that is a non-learning set." "It's amusement, you know, you don't take it seriously. You just have fun and often you have incidental learning only." He also pointed out that the problem lay with the evaluation, i.e. these measurements do not give you a precise measure of the effects. It's lovely to determine audience size which is the basic thing that most television surveys do, but they don't tell you how many packages of soap they sell. They tell you how many people remember or were exposed or who was watching, but not what effect was achieved.

Entertainment and Participant Learning

Margolin raised the question of whether television can be used to teach in view of the fact that Maccoby had noted that there is an entertainment set in which people don't expect to be taught and they turn off the learning mechanism. How do you deal with that?

Maccoby noted that he did not know how to deal with it, and that it's a problem. People who have an entertainment set are difficult to teach. They lose interest quickly in a lecture. However, he feels that interaction shows like the one just described are different. He disclaims credit for developing the idea. CBS did. But notes that the format of this show is entertaining

and probably instructive like playing a quiz game. He noted that you play bridge because you enjoy it, but you're still using your head. (This raises the question of whether it is the same as the passive entertainment set or whether "using your head" is equivalent to competition or problem solving?)

Learning by Meeting Cognitive Needs

Margolin noted that there may be some programs that are entertaining but listened to because of the availability of added information or "inside information." These are things like "Wall Street Week" and, perhaps, science fiction programs where people are interested in finding out a little more about the future but want it in an entertaining and attractive way. In other words, there are some cognitive needs or tangible benefits being met by this particular type of entertainment.

Maccoby agrees that that is true and we need to find out more about that.

Maccoby notes, however, that the preference is very often for passive observation rather than the human participation show. Thus, a program on heart disease might be less attractive than a big display on the solar power satellite. This was agreed upon.

We also agreed that the need for a "technological fix" is very great in most populations. This is a passive way of solving problems. Diet pills are easier than disciplined diet.

Effects of Elevating Risk

Maccoby discussed the question of elevating risk (tension?). They ask questions like, do you smoke? how much? If you don't smoke, write down zero; if you do smoke, write down how many cigarettes per day. If you're a male, write down one, if you're a female, write down zero. Anybody in the family ever die of heart attack? Do you know your blood pressure? At the end, people

add them up and can judge the level of risk at which they are operating. This part is like a quiz show, competition or self-evaluation. He believes that people are interested in health (this may be borne out by the large number of talk shows about health which may or may not have a large audience). He notes that the show is all about heart disease with a great deal of interesting material and his sample survey indicated that over 80% of the audience picked up the pencil and paper while watching. He doesn't know the effect on their later behavior, but he does have reflection of initial behavior. This is cited as an example of using television to teach.

Mass Media and Behavior Change

Maccoby noted that you can do some things with television alone. However, one must note that numbers may be high despite small percentages. He noted the CBS driver-education programs from which a very small percentage of the viewers enrolled in the driver education school, but "if you can get 15,000 to 20,000 people back to school to learn to drive, that is quite an effect."

Maccoby believes that the mass media may be able to produce behavior change if good psychological principles are used. "I can take all those studies and show you why they shouldn't work, and there is no reason why that means that you can't use them on media. When I suggested that mass media alone may not be able to do it, he was sure that that is the finding so far, but it's like saying words won't work. Perhaps properly arranged they will. He cited the Cincinnati experiment attempting to get people involved and interested in foreign affairs discussions. They ran a mass media campaign to do this. It was a poor one. First of all, you are taking something in which people don't have any potential interest and secondly you run on a very low budget, on a professionally weak mass media campaign and you get no effect.

Learning by Setting Up Personalized References

He noted that they are going to do a one hour program in which there is a live panel and the topic is heart disease. They are going to do a quiz to see how people are getting along -- it will be designed to "diagnose ourselves, what our risk is" and people would take tests, the panel takes the test, the audience takes the test. The issue of raising risk issues and setting up risk tensions by television has tremendous possibilities. (This could be applied to the energy situation with a variety of possible scenarios.)

He noted that the spots were being made from the same materials and that it ties the program together and saves a lot of production. Illustrations of three questions are: The announcer beginning with "Get out your paper and pencils. You can't just sit and watch." So they would answer them. Maccoby would then turn to each person and say, "Well, how did you do?" And they would indicate how many they got right and what problems they had. Everyone gets a chance to participate actively, to try to answer questions and everyone gets "feedback" of knowledge about the results of his performance. And everybody gets a chance to practice the right answer. He notes that these are the principles that we are talking about here. Feedback and practice.

Margolin notes that "what or how did you do?" can be accusatory question unless properly couched.

Maccoby agrees and notes that it has to be perfectly permissible (a) to be wrong, and (b) to be at risk. Being at risk is a normal thing that is extremely important to convey.

The message should be "Doing something about it can be a pleasurable thing. Not a nasty thing." He then told the story that ends up with "That's what I tell my Sunday School children. You don't have to smoke or drink to have a good time."

Skills for Behavior Change

Maccoby notes the unique nature of the department in which they have trained journalists with audio-visual people. They train people to do documentaries and also give them behavioral instruction. Spot announcements are being made by people who have had a course in media behavioral science and broadcasting and the technical aspects of making film. They do their own formative evaluation. Maccoby cites the problem of getting the researcher or the filmmaker together on formative evaluation. "Those guys only had to talk to themselves," he notes. The filmmaker will hold out as long as possible before showing the researcher anything because he feels the researcher doesn't know a thing about filmmaking. He is going to start telling him his business and the researcher is going to say "This is a beautiful piece of film but what does it mean?" The net effect there is poor communication between filmmaker and research. He cites the importance of a well-formulated communications program built on sound psychological principles.

However, he found that "the television spots (10-, 30-, or 60-second ones were not teaching people a whole lot." They were, though, useful in "setting people up." They reduced people's thresholds for exposing themselves to communication of information about the topic in greater depth. If you want people to read a booklet, you can promote it in a sense through television. You don't have to promote the booklet directly. You can promote the topic. Then the booklet can go into greater depth.

"This is essentially what we found in the Colombia studies in the early 70's," Margolin commented, noting the relationship of Radio Sutatenza in Bogota to their publications and the fact that most people do not realize that Radio Sutatenza happens to be the largest publishing firm in South America and turns out a regular newspaper. Just so, the Open University is the largest publishing

company in England and Margolin had been told that the most paralyzing thing that could happen to them is not going off the air but rather having the Postal Service stop its deliveries of their publications. Margolin noted that they cannot be prioritized. They are a package and belong together.

They Need to Build-In Institutions to Maintain the Stimulus

Maccoby notes that there is a difference between one-shot behavior and behavior that is repeated behavior. If you are trying to get somebody to commit suicide who doesn't want to, the worst is over immediately. On the other hand, if you are trying to keep someone from getting pregnant you have to keep doing it over and over again. Thus, you put in a solar hot water heater only once and you don't take it out once you have put it in. There are no more decisions to be made about it. On the other hand, sometimes you have to do it repeatedly, like turning the heat down, keeping the doors and windows closed, shutting the damper off in the fireplace at night, or not driving your car as much. The one-shot decision to buy an energy saving car is good for several years, but the decision not to drive as much is something that has to take place repeatedly. Now these are very different and have to be approached quite differently. With energy appliance labeling both are present, the purchase and the correct utilization of the energy-saving appliance.

The same can be said with regard to reversibility in some activities such as buying a house, the situation is relatively irreversible as with the adoption of solar energy, or a very expensive appliance. With others like the habit of lowering the thermostat or shutting the damper off in the fireplace at night, these can be dropped immediately and, in some cases, can even be reversed, such as the conspicuous waste of gasoline or heating fuel (this occasionally happens when people are very angry at the government, or at some other agency, and engage in both other-defeating, and self-defeating behavior.

This is frequently reflected in driving habits.) Another area of reversibility would be the decision to buy a big car, trading in the small car.

Cost/Benefit of Behavior Change

All of the people that were approached about stopping smoking knew that they had to stop smoking, and that they should. So what's keeping them from stopping smoking? They don't know how to get out of it, and they have attitudes which are blocked, and these attitudes are the price of quitting smoking, which is too high. "I won't be able to work. I'll spend all my life thinking of being deprived of cigarettes." "You can't live that way." "I'll gain weight." "I can quit for a while, but I'll go back." Maccoby notes that you have to be able to persuade people that if they tried and had partial success that's not a failure -- that's a success. Imagine how well you could do with a little bit of help. He noted that there would be a decrease in the need for a cigarette after a long period. "So, if someone says, look, I have quit for a year and a half and I still want a cigarette, you can say 'Compare how you want that cigarette with how you wanted it when you were just quitting.' 'How often do you want one now?' 'How much of the time are you feeling the urge?' Thus, you can see that the price you pay is simple and lower."

Skills that Improve Cost/Benefit of Behavior Change

Maccoby and Margolin began analyzing the nature of the decisionmaking process in psychological terms. Maccoby suggested that the traditional theory of "trickle down" has been tried out and that they are not using it anymore. Now, there are skills to be learned. "It's not just a case of exhortation. It isn't enough to tell people to stop smoking or use less energy. That's not enough. They don't know how. They have got to know how to do so in ways that are relatively easy for them to do and which are not self-defeating in terms of being self-punishing.

The mention of skill training above arises in conjunction with the fact that to achieve behavior change Maccoby notes improved skills are necessary. It is not simple to stop smoking or change one's diet. Rather it is necessary to have certain skills with regard to how to handle the external pressure to smoke, the internal compulsion to smoke, the tensions that are associated with it, the fear of overeating after stopping smoking, the inability to know what to do with one's hands, etc. These require some skill training which can be achieved either through the intervention of another party, as in schools for smoking curtailment, or conceivably through the mass media. Margolin has observed that there are very definite skills required in accomplishing the behavior change of becoming involved in ridesharing. These skills range from getting through the maze of how to meet potential fellow ridesharers to handling the ridesharing experience to learning cooperative values, tension management, communication and a host of the capabilities that make ridesharing more satisfying and likely to continue.

It was agreed that properly constructed and orchestrated, such programs can succeed.

Message Consistency

Margolin introduced the problem of consistency of message noting that decision-making may be changed by a process of shifting from one energy source to another a number of times during the program.

Maccoby noted that people don't know what is going on with respect to energy. There is a credibility problem.

Motivation

Motivation, Maccoby commented, is what should be stressed. There is a lot of conflicting literature on the effects of fear arousal. Maccoby pointed to

the example of a student of his who had noted that there were three aspects to the problem:

- a) the direness of the threat
- b) the immediacy of the threat
- c) the effectiveness of the proposed remedy.

If you combine these things in various ways, you can get different predictions. For example, the damage that is going to be done is going to happen right away, and if the proposed course of action will surely stop that damage, then the stronger the fear arousal threat you can use the better. If the threat is something that, while very strong, is going to happen a long time later or the proposed remedy is one that might or might not work, then you better not go for the strong fear.

Maccoby's student demonstrated that this was true -- telling people when they are fifteen or thirty that they are not going to live as long because they smoke is ridiculous. Young people say "Who cares?" To the person of 25, it has little value to say you will get lung cancer at 60 instead of 70, or you are going to die of a heart attack at 55. But suppose you tell them if you are smoking, you are going to lose all that wind, or if you quit smoking now, you are going to pick up some wind that you have lost, and you are going to run, play football, play tennis, whatever you are doing, that you will get a lot more wind right now, that you will feel it in a week. And you begin to smell things like flowers, you begin to taste food again, and you can kiss your loved ones without your mouth feeling dirty like an ashtray. These are powerful appeals. They take place now and the proposed course of remedy really works. Everything improves within a week. These are much better appeals.

Maccoby noted that when he gave everyone a risk rating, at the outset we lopped off the top twenty-five percent and said "You are a high risk, okay?" And then we divided the sub-sample in half and engaged in face-to-face small group intensive instruction with one group, and not with the other. They

received the mass media like everyone else. That was the Watsonville control. It would appear that the program restricted to mass media worked with the high risk people in achieving behavior change. The quality of the message and the dynamics of its presentation were sufficient to overcome the weaknesses of the "media alone" method. This is Maccoby's position.

Approach to Behavior Change -- What Attitudes Get in the Way?

Maccoby notes that you must think of attitudes in relation to behavior itself not in relation to some abstract notion of what you want to get done. What is the attitude that is most closely linked in behavior? Go backwards. Instead of asking what the people need to know and hoping this affects behavior, one must ask what is the behavior you are trying to change and what are the attitudinal stumbling blocks, if any, and deal with these. This is an entirely different picture of your trickle down method. It goes the other way.

Maccoby cites Mike Milburn's work (doctorate at Harvard). He did his dissertation using the three community data showing relationships between attitude and behavior. Maccoby notes that Milburn did a kind of directed factor analysis with the work of the three communities which actually had not been planned, and did not have the correct messages for the right questions. But he did find very close relationships between complexes or clusters of attitudes and behavior when he took the approach of doing something about stumbling blocks toward behavior change. (The algebra is not clear in this case.)

Integrated Progress -- Length of Exposure, Focus on Disaggregated Population

Maccoby described the campaign that they used in two of the communities. This was an orchestrated national media campaign, not a television spot campaign. It had newspaper columns, radio, billboards, booklets, all integrated. Secondly, they kept at it for a long time and if one examines the results, they will see that at the end of the first year the amount of effect via mass media only in

the community was smaller than the amount of effect we had with mass media plus face-to-face instructions in this subsample of people in that area. It's a small subsample but it shouldn't reflect itself too much on the whole community. But at the end of the second year, the mass media worked just as well in terms of total risk. Apparently, the mass media program gained.

Margolin raised the question of context for the program wondering whether there was any data on unemployment rate or inflation rate or other factors. Maccoby noted that there had not been any. "We didn't concentrate on that." He notes the thesis by Anthony Meyer which has to do with tracing intensive influence on individuals by individuals.

Madison Avenue-Advertising-The Use of the Mass Media-How To Make It Work

Maccoby notes that we tend to defer to Madison Avenue on how to use the mass media. The advertising industry is not interested in skill training through the mass media. They are interested in getting two percent more of their audience share. Maccoby suggested that this is two more than the client's current share of the products used, but Margolin is skeptical and, it doesn't even obtain more market share, it simply has more people listening. It is that ineffective. Maccoby concurred.

It was noted that most of the things sold on television are a question of market share, but the decision to buy a given product has already been made, e.g., toothpaste, or a television set, and the areas that we are working in involve a total change of behavior, something quite different.

REVIEW ON AMOS TVERSKY'S WORK ON DECISION-MAKING

Tversky's work on heuristic or intuitive thinking discusses the development of biases and other potential fallacies even in sophisticated and trained individuals. He observes that despite long experience with scientific processes, few people discover or use the principles that underly the science. Neither do they incorporate them into their daily thinking processes. This is assumed to be because it is not natural to group events by their judged probability, people do not discover the level of success of their statements of probability.

"Subjective probability" is a powerful source of decision-making. It is defined by the set of 'bets' about a given event that a person is willing to accept. Internal consistency among these 'bets' yields a consistent or coherent subjective probability. The importance lies in the finding that despite the pressure of difficult probabilities, the same event by different individuals, that the overall process can be seen as embedded in a general theory of rational decision making. This matrix includes rational external consistency and compatibility with the entire web of beliefs held by the individual. While it may not always succeed, the rational individual will strive for internal consistency and compatibility.

Tversky's thinking with regard to heuristics has strong elements of Heider's theory of cognitive stability. Applied to the energy conservation issue, one would expect that conserving behavior for the nation must be associated with conserving behavior for the individual. However, the situation is more complex than meets the eye. It is very likely that the "national benefit" may no longer be associated with individual benefit or with individual conservation, e.g., what is good for the Internal Revenue service is not necessarily good for the individual and when the government is unreliable, the benefit to the individual may concomitantly be unreliable. The association may fit in areas of health

when the credibility of the agencies such as NIH is high and may not operate in the case of the Postal Service where the track record has not been portrayed as an effective one in terms of benefiting the individual. The heuristics approach employed by Tversky must be analyzed in terms of many contextual factors.

It must be noted, of course, that reliance on heuristics in Tversky's terms is quite different from reliance on or the consideration of motivational or incentive processes as in behavioral or motivational psychology. In his work the decision making process is associated with the representativeness of the one factor for another or the availability of a choice and does not depend heavily on rewards or motivations to the individual.

It is conceivable that a set of binomial or quadratic equations might be established that would serve to apply these principles to the energy situation.

Tversky also notes that it is generally not the practice of people to judge on the basis of the examination of the data whether the event that they predict as happening will actually take place. Thus, in the absence of a tie by the individual, it is not natural to group events by their judged probability. In the absence of such grouping, it is impossible also for an individual to discover for example that only 50% of the predictions to which he has assigned a probability of .9 or higher actually come true.

The relationship to Heider's principle derives also from Tversky's statement that for judged probabilities to be considered adequate or rational, external consistencies are not enough. Judgements must be compatible with the entire web of beliefs held by the individual. Unfortunately, there can be no simple formal procedure for asking the compatibility of a set of probability judgements with the judges system of compatibility even though internal consistencies are more easily achieved and assessed. In particular, he will attempt to make probability judgements compatible with his knowledge of the subject."

DECISION-MAKING -- CONSULTANT STUDY -- PRINCIPLES

Herbert Simon -- Carnegie Mellon University

Conclusions:

- 1) Most decisions are not rational despite decision-makers efforts to be so.
- 2) Factors that influence decision-making beyond the fundamental economic merits of the situation include:
 - a. group pressures -- family, subculture, organization;
 - b. individual commitment or action;
 - c. individual self-image;
 - d. the absence of sound basis for decision, but pressure to produce decision leads to "acceptable" solutions; that is called "satisficing" by Simon.

Solutions are often:

- 1) the familiar solution that one has experienced before;
- 2) something that has worked before;
- 3) solutions that appear to be rationally suited;
- 4) solutions that appear well-endorsed by authorities.

Where authority is divided, it is necessary to compromise or bribe fellow decision-makers to achieve consensus - "side payment." Solution: determine overall cost of the side payments.

The need for certainty frequently lends a "possibly invoked" note of authority to a decision by individual or group that may not be tenable.

Solutions: solutions should be checked.

Closely related is the need to "have a policy," e.g., buy the "big brand name" or "maintain one's privacy and/or flexibility." These policies may save making new decisions but they may be less applicable to new conditions, e.g., for energy conservation today. In this case, innovation creativity and adaptability are sacrificed and new problems are not confronted. Solution: test policy against current conditions. Ask questions. Is carpooling more realistic today? Does energy efficiency need to be examined in light of new utility costs?

We find security in the status quo. Is it a valid security? Can it be used constructively?

Possible Application: Simon formulates and evaluates several methods commonly employed to satisfy the pressure to make a decision that one can accept himself and that achieves an optimal level of social acceptance

He notes that these frequently involve:

1. including the pressure of a number of subjective personal factors;
2. social pressures that require compromise or some "trade off" with others;
3. estimating "acceptable" decisions;
4. falling back on "precedent" or known principles even if inappropriate;
5. relying on the endorsement of authority.

While none of these is a satisfactory substitute for full information and careful consideration and decision making they are nonetheless familiar and employed by large numbers of people. They may, therefore, be useable as an "opening wedge" in any program that attempts to influence the decision process. However, since the results of the inadequately derived decision can be counter-productive to the individual, it is advisable to foster a sound program leading to real benefits for the individual or group. Thus, avoids possible "backlash" and may lead to the development of improved styles of decision making.

Simon's work provides a fertile basis for application and improvisation (as above) and should be required reading in Policy and Engineering programs.

SUMMARY OF REPORT

Dr. R. B. CIALDINI, ARIZONA STATE UNIVERSITY

Cialdini's materials fall into five basic categories. One is reciprocation, in which the individual wants a degree of security and desires evidence of the positive approach or relationship of the other party. Thus, the behavior or attitude changer will profer a gift which requires reciprocation. The recipient is under greater pressure to reciprocate.

Cognitive Stability: This will operate if certain psychological premises can be operative. In short, there has to be credibility (trust in expertise) and there has to be the assumption of cognitive stability that the individual who is seeking to change someone's attitude or behavior is beneficial or benign toward them and is authoritative as well. Thus, it is important that policy considerations be observed carefully if there is desire for conservation. It may be necessary to alter policies to appear to have the government, or whomever the change agency is going to be, appear to be in a positive alignment with the person to be changed.

The Commitment and the foot in the door approaches are closely related. In this approach, small conserving acts would be sought until the individual begins to identify himself as a conserver and then will continue to behave in this manner (this has many overlaps with cognitive stability and image consistency). The danger lies in disillusionment on the basis of making the commitment and finding that the behavior change agent has not been behaving at least in a manner that is consistent with the expectations with the changes.

Reference Group Behavior: This involves conformity with peers or with the slightly higher-powered "reference group." It involves achieving a degree of consensus with others about what proper behavior should be. This sometimes resembles what is known as a "bandwagon effect" and it also involves the development of a favorable self-image since one is now approved of by

those that he holds to be important. The approval may only be his behavior is consistent with theirs; there need not be direct approval. Cialdini describes a closely related process as social comparison and cites Festinger's theory to the extent that others are performing it." We would formulate that "valued others" are stronger validators.

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MAJOR PRINCIPLES INFLUENCING THE DECISION TO COMPLY
WITH REQUESTS IN NATURAL CONTEXTS

Robert B. Cialdini
Arizona State University
(underscored by editors)

Orientation

My home discipline, experimental social psychology, has as its domain the study of everyday human behavior. The area of such behavior that has most interested me over the years is compliance. Just what are the factors that cause a person to say, "Yes" to another person's request? And which are the techniques that are most effective in using these factors to bring about increased compliance? Probably, my interest in this particular aspect of behavior stems from my long-standing status as sucker. For as long as I can recall, I have been susceptible to pitchmen, fundraisers, and operators of one sort or another. Only some of these people have had dishonorable motives. Others, representatives of certain charity agencies for instance, have been highly intentioned. No matter. With personally disquieting frequency, I have always found myself in costly possession of unwanted magazine subscription or tickets to the Annual Sanitation Workers Ball.

So, I began to do experiments into the psychology of compliance. The intent was to find out which social psychological principles influence the tendency to comply with a request. At the present time, social psychologists have learned quite a bit about these principles, what they are and how they function. In the course of my research into compliance action, though, I began to realize that while I might know a lot about how these principles worked, I did not know which of them were powerful enough to produce compliance outside of the antiseptic and artificial experimental environments in which I had studied them. I also realized that the people who did know about the relative impact of these principles in natural settings were precisely the ones who had been using the principles on me all my life.

It became clear that if I were to understand fully the psychology of compliance, I would need to broaden my scope of investigation. I would need to find out what the compliance practitioners were doing. For the past two years then I have combined my experimental studies with a decidedly more entertaining program of systematic observation into the world of compliance professionals -- sales organizations, fund raisers, con artists, advertisers, etc. That program of observation has sometimes taken the form of interviews with the practitioners themselves or with the natural enemies (e.g., police bunko squad officers, consumer action agencies) of certain of these practitioners. Sometimes it has involved an intensive examination of the written materials by which compliance techniques are passed down from generation to generation, sales manuals and the like. Most frequently, though, it has taken the form of participant observation, an approach that placed me in the situation of interest as a full-fledged participant whose genuine identity and purpose were unknown to others in the situation.

The remainder of the paper will present a list of factors that this program of systematic observation has suggested to me are the psychological principles most frequently and effectively employed by compliance professionals. As far as I can tell, these principles are at the base of the majority of the tactics used in the natural compliance settings that I observed. Because my charge was to present a brief report, the descriptions and illustrations of these principles will necessarily be abbreviated.

1) Reciprocation: There is a well-documented social psychological effect that a person who receives a favor from an individual will then be more likely to provide a favor to that individual in the future (e.g., Regan, 1971). This phenomenon is said to occur because of the existence of a rule in the society for reciprocation, that is, there is a social norm that states, "You should give benefits to those who give you benefits." (Gouldner, 1960). The mediating

mechanism of the reciprocity rule is a sense of obligation that motivates us to do something in return for anyone who has done something for us initially. So common is it in our culture for the receipt of a gift or favor to be associated with a feeling of obligation that the term "much obliged" had become a synonym of "thank you."

A variety of compliance techniques make use of the pressure to reciprocate. For example, in a sales context, the salesperson will often give something to the potential customer at the start of their interaction, thereby causing the customer to be more likely to give something in return. Of course, the "something in return" is what the salesperson had in mind from the beginning. Land sales operators are masters of the use of the concept of reciprocation in getting customers to buy. The prospective customer is given "a free trip, a free dinner, or free tickets" to an event by the land promoter. Then when the promoter asks the prospect to purchase some land, the prospect must resist the strong influence of the reciprocity rule in order to say "No." The pressure to reciprocate a gift or favor is employed in other contexts as well. The Hare Krishna Society, for instance, has mounted an extraordinarily effective fund raising program based on this technique. Their members approach strangers in public places with much pedestrian traffic (airports are a favorite) and provide an unasked-for gift--usually a flower that is pinned on to one's lapel. Even if the gift recipient protests, under no circumstances will the Krishna member take the gift back, saying "No, it is our gift to you." Only then is the request for a donation to the Society made. This benefactor-before-beggar tactic has proven quite advantageous for the Krishnas, funding the growth of the Society in 108 centers throughout the world. A similar strategy is used in the mass-mailing campaigns of many charity organizations (e.g., disabled veterans and missionary societies) which send, unsolicited, a small gift -- a ballpoint pen, a set of greeting cards, some

personalized address labels, etc. -- along with their request for a contribution. These organizations count on the fact that most people will not go to the trouble of returning the gift but will feel uncomfortable about keeping it without reciprocating in some way. And, of course, the organizations provide a ready means for reciprocation in the form of a donation envelope.

2) Consistency

A number of social psychologists have theorized that there is a strong pressure for people to be or appear to be consistent in their words and actions (e.g., Heider, 1958; Tedeschi, Schlenker, & Bonoma, 1971). Salesmen and solicitors take advantage of this desire for consistency in numerous ways. One of the most common is the technique of building four walls. The technique is often used by door-to-door encyclopedia salesmen. Its primary purpose for such salesmen is to get the customer to allow them into the house to make their presentation which often involves a variety of other psychological pressures. However, the four walls procedure itself works to gain the customer's agreement to listen to what the salesman has to say about encyclopedias. The four walls procedure consists of asking four questions to which the customer will be likely to say "Yes." And in order to be consistent with his previous answers, the customer must say "Yes" to the final question "Wouldn't you like to hear about the encyclopedia I have then?" The technique proceeds as follows: First wall -- Do you have children? Yes. Second wall: Do you feel that education is important to your children? Yes. Third wall: Do you feel that a child who does a good job on homework will get a better education? Yes. Fourth wall: Do you feel that good reference books like a dictionary and an encyclopedia would help a child with his homework? Yes. At this point, in order to be consistent, the customer should answer affirmatively to the final question "Wouldn't you like to hear about the encyclopedia I have then?"

Another technique that employs the strain for consistency in order to get people to comply with a request is one that is called the foot-in-the-door technique (Freedman & Fraser, 1966). Someone using this technique first asks for a very small favor, one that will almost certainly be granted. Then a larger-but-related favor is asked. It has been repeatedly found that people who have agreed to the initial small favor are more willing to do the larger favor than are people who have not been first asked to do the small one. This is supposedly so because those who have done the smaller favor do the larger one in order to be consistent with their initial actions. For example, one experiment (Pliner, et al., 1974) had solicitors go from door to door seeking donations for the American Cancer Society. Half of the people contacted were simply asked for a contribution; 46% of them gave. The other half were first asked if they would be willing to wear a lapel pin that advertised the fund-raising drive; all of these people agreed to wear the pin. The solicitor then asked them for a donation; 74% of them gave. It seems, then, that the second group felt a greater pressure to donate because of a desire to be consistent with their earlier decision to do something for the American Cancer Society.

3) Commitment

Highly related to the factor of consistency is that of commitment. Without an appropriate commitment there would be nothing to be consistent with. Thus, one frequently employed compliance strategy involves the attempt to get the target person to behave in a way that commits him to the requester's product, service, or issue. There are various commitment inducing devices used in natural compliance situation. One that has already been mentioned in the context of the foot-in-the-door technique is to arrange for the target person to perform an initial small favor prior to the request for the related, more substantial favor. Other such devices for producing commitment include the use of political bumper

stickers and lapel buttons, petition-signing campaigns, and 25-words-or-less type contests that require public endorsement of a commercial product. In each instance it is assumed that the initial commitment will lead to increased favorability. The social psychological literature (e.g., Janis & King, 1954; Jellison & Mills, 1969) offers support for that assumption.

Another commitment generation technique is called the "bait and switch." The Sears Company has recently been indicted for employing the bait and switch tactic to get customers to make an initial commitment to buying a Sears appliance. By advertising an appliance at a very low price, customers are brought into the Sears store appliance section. Once there they may find that the advertised model is "sold out" or is of very poor quality. However, since they have already made a decisional commitment to shop for an appliance--and a Sears appliance at that--they are more likely to listen to the salesperson's pitch and, consequently, to examine and buy a higher priced Sears model. A somewhat similar procedure called "throwing the low-ball" is used by new car dealers.

4) Credibility

There is little doubt that the more credible a communicator is the more persuasive he or she will be (e.g., Aronson, Turner & Carlsmith, 1963). Credibility has traditionally been characterized as embodying two components--expertise and trustworthiness. Compliance agents constantly try to enhance their status on these two dimensions in the eyes of their intended targets. The perception of expertise is usually attempted by providing the target with evidence of one's relevant experience and knowledge in the field. The perception of trustworthiness is more difficult to attain because it requires that the target believe one is providing honest information. This is often accomplished by admitting to some (minor) drawbacks of one's own position or product ("Oh, the disadvantages of Benson & Hedges." "Avis: We're #2"). A similar effect can be had by seeming to argue against one's self-interest (e.g., Walster, Aronson & Abrahams, 1966).

One technique used by waiters at fairly expensive restaurants simultaneously enhances the perception of expertise and trustworthiness leading to greater profits for the restaurant owner and the waiter. The technique proceeds as follows: At the table of a large dinner group, the waiter will begin to take orders. But very early in the course of this process, let's say with the second person to to order, he will recommend against whatever that person chooses saying in a hushed conspiratorial voice "No, that's not good tonight." He will then recommend something else that is slightly less expensive. He will have accomplished two things from that simple maneuver. First, he will have gained the gratitude of everyone at the table for his seeming honesty and this will be reflected in his tips. Second, he will have established himself as a credible communicator who is both expert and trustworthy concerning the stores of the house. Now, when it comes time to order the wine, he will ask if he might select some appropriate vintages. Because, via his earlier tactic, he will be seen as both knowledgeable and benign, the customers usually are happy to accede. At this point, he will order some very good, but very expensive wines the price of which will substantially affect the size of the total bill on which his tip is then figured.

5) Social Comparison

It appears that one way that people decide how to behave in a situation is to look at how other people are behaving in that situation. Festinger's Social Comparison Theory (1954) explains this phenomenon in terms of the validating information provided by the actions of others: Behavior is correct to the extent that others are performing it. Much of the social psychological literature on conformity and modeling influences appears to support this notion.

Any of a number of advertising and compliance procedures take advantage of the validating function of social comparison information. A few of the most obvious are:

- a) Claims that a product is the "largest selling" or "fastest growing" do not say that the product is good directly but that others are buying it. Therefore, buying it must be the correct thing to do.
- b) Many TV ads show crowds of people moving for a product or many hands reaching for it.
- c) Endorsements from average, everyday people represent one of the most successful advertising techniques today.
- d) Telethons employ the incessant reading of the pledges of numerous others as a way to generate further pledges.
- e) Despite their onerous character for many of us, TV laugh tracks are consistently used because research has shown that the average viewer finds material more funny when it is accompanied by the recorded sound of others laughing than when it is not.
- f) The technique of "salting" is often used to stimulate more and larger-sized contributions. Bartenders, for instance, will "salt" their tip jars at the beginning of their shift with two or three dollar bills in an attempt to make customers believe that other customers have given tips of this size. Similar salting procedures are used by charity solicitors. And even the church collection basket is regularly salted in some places.

The above five principles represent in my experience at least the most frequently and effectively used compliance-related factors in natural settings. However, they are by no means the only ones employed. Other, less popular but nonetheless regularly utilized principles include:

Need/Dependency,

Liking for the Requester,

Competition/Scarcity, and

Conditioning/Association.

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DECISION-MAKING WITHIN THE HOUSEHOLD

H.L. Davis

Davis states that emphasis of others has been on "which individual decides under what influence." (Journal of Consumer Research, 2 (March 1976).

He considers:

1. involvement of family members in economic decisions,
2. the process of family decision making
3. differing family structures and decision-making styles.

Transportation and energy are jointly consumed by family members. This is based on either actual, or by expressed opinion, or desire to please or serve by individual members.

He believes (1976) real group decision study has been ignored.

"Life" Study (64-65) by Nowland and Company concludes that preselling of both husband and wife has an 8 to 5 advantage over selling to wife alone. (Includes consumerables and desirable items, including transportation.)

Learner (1978) concludes that wife-mother is generally aware of family likes and dislikes. (JBM terminology -- she is the "repository of family group attitudes and values." Part of the decision making is internalized interaction between these values, her own and external pressures.)

Travel decisions or larger decisions are invariably more mutual or shared (see durable goods).

Durable goods purchases are more complex, because more steps and people are involved. Hierarchy of importance: housing, automobile, major appliances. (Caveat: People frequently establish preferences to satisfy the interviewer.)

Davis (1976): Automobile purchases as of '76 leaned to male dominance, housing selection to women. Margolin believes that these may have moved toward a central (unisex) position. The implications for labeling suggest a trend to more collaborative decision making and for auto style purchase to more collaboration or individual feminine decision making.

A major area, not well-explored, in budget making or decision making involves cross-product evaluations. A choice must be made between purchases. This has not been studied adequately because of emphasis by market research on one or two categories.

The Research Gaps:

- ° Study of trade-offs for transportation is needed, i.e., comparison with other purchase or saving modalities.
- ° Study of margin between fuel efficient choice in appliance and other modality, e.g., recreation, transportation, housing requires study.
- ° Women are more active in information seeking as opposed to initiating the search.
- ° Decision-making process has multiple, complex stages in which several family members take part. How this takes place is little known.
- ° Segmentation factors: Decision style is frequently a function of differences of socioeconomic level, availability of resources, geographical location, shared life experienced. The aggregation error has precluded systematic research.
- ° Motivation of member to exert influence depends on immediate and long term importance to the individual, saliency of signal, balance of forces within the individual, subjective gain, importance of hierarchical position are all factors requiring study.
- ° Other considerations: Family size, age of children, stage of life; child-rearing style, maturity and income contribution of each.
- ° It is important to determine what the decision unit is. It can be husband, wife or both. It can include or exclude children, parents, significant others (employer, peers, siblings).
- ° Methodology: A five-point Lickert scale was employed ranging from 'husband decided-wife decided' to "divide ten points to show husband-wife share of decision."
- ° Several Decision Types Were Suggested:
 - consensual
 - accomodative (bargaining)
 - problem-solving
 - steady state (based on custom)
- ° Discussion and Research Gaps: A more dynamic theory is in order with a series of interacting controls by key role-players, e.g., husband concern re safety, cost; wife's influence on esthetics, utility, etc.,

(much of this is not in awareness). Little research has been done to understand these interactive processes. This represents a significant gap in research.

The stage in the marriage is significant. Cox (1975) suggests a curvilinear relationship; low agreement early and late in marriage, highest in middle years.

The context of decision-making setting is often critical. Communication opportunity, amount of rest, amount of time available, distractions, etc., are probably factors in the decision process. With enough effort family types might be isolated but then utility in such theory is uncertain.

Some principles emerge:

- ° Family maintenance needs. Threats to stability of family may minimize or delay conflict or resolution, e.g., threat to marriage may delay consideration of the decision to caprol, buy a small car, etc.
- ° Unambiguous problems are solved first. It will be necessary to present the case for conservation as unambiguously as possible.
- ° Identifiability. The energy issues must be identifiable to each decision (overlaps with "saliency" for other scientists.)
- ° Once the problem is identified, consensus on issues to be decided must be agreed upon by the decision unit.
- ° Priorities in family are significant determinants of eventual behavior.
- ° Decision expeditors. Role structure. One individual may become the expert for family. It is likely he will incorporate family values.
- ° A number of other family decision issues are described and require further study:

Budgets - Effects of Limitation
 Problem Solving Practices
 Avoidant Practices
 Persuasion Strategies, e.g., getting "other" to come along
 Coercion and Coalition
 Bargaining
 Procrastinating

As noted above, a family typology would be a valuable instrument for students of the decision-making process if it could demonstrate various dynamic processes rather than become a straight-jacket for research.

THE DEVELOPMENT OF THE DECISION PROCESS

How Children Learn to Buy*

WARD, WACKMAN AND WARTELLA

(The project staff has selected this volume for analysis because children will play a significant role in energy conservation.)

In this volume, Ward, Wackman and Wartella formulate an information processing model for a specific purchasing decision. They consider four levels in the process:

- 1) The environment which is composed of the family and certain external forces such as television and advertising;
- 2) the initial processing of information, which may include information search, the focusing of attention and information selection;
- 3) central processing in which there is interpretation and comprehension, the structuring of the information, its evaluation and the use of the information;
- 4) these in turn lead to a purchasing decision.

The model, while interesting and exceedingly systematic, does not directly provide for the complex series of processes and influences that are less than conscious. These are perhaps touched on by such activities as focusing attention. Far more significant, however, is the overall area of motivational factors; what impels the child or discourages the child from making this particular decision. Indeed, a number of considerations would go into the selection of a toy, which was used as the example in this volume, and might be equally true of adult decision making. Thus, some early association may make the individual like or dislike the product or service to be decided upon or the action to be taken. Similarly, the effect of having, doing, or not having, the product or action involved may have an effect upon the individual's image of himself or the image that he perceives others as having of him. The importance however of the cognitive or Piagetian approach to development of the individual which

*Scott Ward, Daniel B. Wackman, Ellen Wartella, How Children Learn to Buy, Beverly Hills-London, Sage Publications, (1978).

these authors discuss cannot be minimized. It provides some understanding of how we come to know the world and ourselves.

The model provided by Ward, Wackman and Wartella does not include other environmental influences such as peers, education, reference group behavior, and other cultural forces such as the belief that Santa Claus will provide things for children. The authors believe that family and media are the primary forces. Margolin and Misch hesitate to accept so salient a role for the media. They also suggest that peer influences are second only to family factors. Both family and peers probably mediate the impact of television through their compliance or their approval of both the television programs watched and the conclusions that the individual draws from them. It should also be noted, the authors state, "We stress that our intention is not to test this model in the formal sense, but to elaborate it." Thus, either the media or peer groups may serve in the formulation of childhood decision-making, subject to eventual investigation.

There is some considerable disagreement as to whether Piagetian, Freudian and or Learning Theory approaches provide an adequate conceptual basis for

FIGURE 1-1

An Information-Processing Model of a Specific Purchasing Decision

Child's Information Processing			
<i>Environment</i>	<i>Initial Processing</i>	<i>Central Processing</i>	
Family	<ul style="list-style-type: none"> • Information Search • Attention 	<ul style="list-style-type: none"> • Interpretation and Comprehension • Structuring of information 	Purchasing Decision
Television Advertising	<ul style="list-style-type: none"> • Information Selection 	<ul style="list-style-type: none"> • Evaluation • Use of information 	

(From Ward, et al, How Children Learn To Buy). A general model for the processing of decision making by children. This is basically a Piagetian approach. - Ed.

research in how children learn decision making. It is maintained by Piagetians that Freudian a

ing the behavior of c

primarily the same findings.

No matter which of the theories is employed, it is likely that the child will be learning from a specific type of situation in which there is learning from or modeling on parental (usually mother) models. A great deal of distinction without much difference has been developed by orthodox theoreticians of many points of view. However, as described above, it would appear that given certain developmental differences, the primary mentors are the family plus peer forces as the child grows older as well as media influences to which the child is exposed for lengthy periods of time or in intense situations.²

Implications for New Ways of Viewing the Buying Decision

The seed of new theoretical development exists in the sense that not only is the child learning from the parental model but also from the parental feedback of approval or disapproval. In addition, Margolin and Misch note that there is another feedback situation within the family in which the parent seeking to provide a better example to the child may alter his own consumer behavior

1. Hoffman and Lippit, "The Measurement of Family Life Variables," in Handbook and Research Methods in Child Development, ed. by Paul H. Mussen, New York, Wiley, 1960.

2. The Interested reader might want to consult the following references for further discussion of age differentials:

Baldwin, A.L., "Cognitive Theory of Socialization" in Handbook of Socialization Theory and Research, ed. by D. Goslin, Chicago, Rand, McNally & Co., (1969) pp. 325-245.

Crandall and Orleans, S., Preston, A., and Rabson, "Development of Social Compliance in Young Children" in Young Children in Child Development, 29 (1958) pp. 429-443.

Kagan, Jerome K., and Moss, H., Birth To Maturity, New York, Reilly, 1960.

in the presence of the child. This is lacking in Figure 1-2 (below) and in the Ward, Wackman and Wartella study. This may be an upper-middle class phenomenon, but it is probably increasingly present in the population as a whole.

Thus, the decision-making process and the model for it becomes a complex feedback situation rather than a simple copying or modeling. It is more complex to analyze, but the analysis will prove to be more accurate and effective guide to sound program planning.

(FIGURE 1-2)

Research Model: Children's Consumer Socialization

Independent Variables	Child's Information Processing		Behaviors
	Initial Processing	Central Processing	
Cognitive Development			
Family context			
• Parent's own consumer behavior	Information search	Interpretation and comprehension	Money use
• Parent-Child Interaction	Attention	Structuring of information	Spending
• Children's independent consumer opportunities	Information selection	evaluation	Saving
		Use of information	Purchase requests
Television Advertising			

(From Ward, et al, How Children Learn To Buy)

As was noted above, the independent variables would necessarily include peer group influences by virtue of both Piagetian and psychoanalytic theory as well as reinforcement theory.

The initial processing operation would include (probably under the information selection rubric) both conscious and unconscious processes.

Things which are highly positively valent to the individual would attract attention and be high selection probabilities.

Stimuli that are traumatic or negatively associated for the individual would either be selected at a high level because of their saliency or would be eliminated through a process of repression. It is also probably that the

information search would take place in children, in thought areas that the child finds most pleasant or stimulating for him.

It is in the central processing area that the least has been done and understood and the greatest probability for payoff resides. Thus, in the area of interpretation and comprehension (which probably should read comprehension and interpretation) the child is likely to be governed both by Piagetian developmental factors and by interpretations and meanings that provide him with the greatest pleasure in the modality in which he is currently active whether it is "obtaining" or "possessing." He will interpret things in a manner that minimize the pain or trauma to him and will maximize his association with past pleasant experiences. His structuring of information and his evaluation of it will be governed by comparable criteria. Furthermore, his use of information will be governed by similar factors designed to consciously or unconsciously optimize the rewarding of those stimuli which are associated with pleasant experiences in the past and avoiding those which are associated with negative ones.

Margolin and Misch note that an equally important factor in the selection process for the child, and probably for the adult, is the capacity of a given choice either interim or final that will allow the individual to work out a problem or a persistent irritant or difficulty in his life. For example, based on the Zeigarnik principle (the persistence of the incompleting task), the individual will probably select or make choices that will allow him to complete certain tasks whether they be as general as learning how to socialize with his peers better, or specific like fulfilling the need to ride on a big shiny red fire truck.

Purchase Requests -- How They Develop

There are many illustrations from the studies of psychopathology and

normal behavior that would indicate that purchase requests may be associated with the desire to obtain evidence of the parents' love which the child is unsure of. Specific requests may indeed be a solicitation by the child of a demonstration of the parents' willingness to sacrifice. We are confronted in this case with the indirect or unconscious economy of obtaining love rather than a product. This is later converted into a desire for the product. This is an important aspect of the developmental process of many children and cannot be regarded as either pathological or unusual. It more likely to govern the child's choice behavior than most other factors.

Hoarding Behavior

The decision to acquire things that are not needed is frequent in this culture. It develops often in childhood as a means of reassuring various anxieties. For example, the decision to consume by eating is responsible for the obesity of many youngsters who are anxious about their ability to obtain and keep love. A representative object such as food has become a symbolic one.

The abstract use of such terms as "skills" or "level of development" require that some understanding be available of the way in which the skills are shaped by developmental and experiential factors as well as the immediate environment of the child. It is valuable to know the way in which the stages of development have been patterned in the individual on the basis of his or her experience with parents, peers and society. Many of these patterns such as tendency to obtain love, etc., are characteristic of given population segments either because the individuals within this segment share a common life experience (e.g., people within certain age ranges shared the experience of the Depression, its impact upon their parents and subsequently upon themselves leading to the need for security and saving).

This is only one illustration of a sub-segment of the population. Others may derive from the absence of large numbers of fathers during World War II or the "one-parent family" of the 1960's and 1970's.

Careful examination of these factors and their impacts on attitude and behavior of population segments will yield a harvest of information and formulation useful in effective energy program development.

Part II: INVESTIGATORS REPORT ON DECISION THEORY

A. SOME BASIC PRINCIPLES

The first stage of the Study of Decision Making included an extensive examination of the literature past and present. This provided perspective on the "state of the art" in Decision-Making Theory.

From the review of behavioral work on Decision Making, a number of principles seemed to emerge. Some clustered readily into families of concepts with the potential for theory development. Others were made free-standing and required further reconciliation with other principles if a systematic body of knowledge is to emerge. The following are some of the principles that are likely to be more useful to work in energy and more specifically in the consumer-centered area of acceptance of appliance labeling.

The following is a list of basic principles and groups of principles that can be applied to the development of programs in conservation and other aspects of energy utilization. There is considerable overlap among these principles although they were derived from different theoreticians. This demonstrates their intrinsic validity.

1) Cognitive Stability -- Dissonance. This is a family of principles, originally derived from Heider's principle of cognitive stability and built upon by Leon Festinger, Morton Deutch, Joseph Margolin, and others in social and clinical psychology. It overlaps with several of the principles below because it is fundamental to the maintenance of consistent attitudes or behavior. It contributes to the stability of individual and group attitudes over time. (See section below on Cognitive Dissonance, Conformity and Innovation).

2) Closely related is the process of reciprocation as outlined by Cialdini, in which when a person has something done for people, they are more likely to be prepared to do something in return. It is necessary to do or give something valued to the recipient of the message. In the case of energy, this may be something tangible or useful information or access.

3) Credibility. There must be a valid offer or proposal by a reliable individual who has not shouted "wolf" too often or a program or suggestion will not be considered seriously.

4) Consistency of the Decision with Self-Image. Decisions concerning behavior are related to the individuals's perception of proper behavior. The example may be provided by his reference group, a peer group, or to some degree, media suggested group conformity. A second aspect of self-image will derive from the image of him that the viewer perceives the message sender as conveying. The image should be positive or heroic, e.g., a beautiful, free-spirited woman, "Charlie" (Revlon) or a sports hero "Joe DiMaggio" (Mr. Coffee).

Credibility or security are often effective, e.g., Robert Young, formerly Dr. Marcus Welby, for Sanka brand coffee.

In some advertising today the recipient of the message has too often been perceived, and deliberately so, as a fool, clown, or innocent "mark." One need only cite the Hawaiian Punch commercial. This may attract the attention of the viewer, which is what the agency is paid for, but it is unlikely to change behavior. In more effective advertising the viewer (potential actor) is presented as attractive or decisive or intelligent.

5) There are a series of "threshold principles" that are critical. these suggest that the individual will go along with a message until a threshold is exceeded, thus he will abide by a request to control his

consumption or to in some way modify his need satisfaction until his threshold is exceeded. Then he will proceed to behave in either a contrary or in an unexpected manner (this is more fully outlined in the work on Catastrophe Theory). The basic principle that must be observed from this is that linear projections of behavior frequently do not operate despite the impression to that effect that is provided by many pollsters and surveyors today. (See Appendix A)

6) Respect for and recognition of the position and existence of the "changee." When alternative behavioral options are presented prior to delivery of the message, those whose positions have been recognized even if they are different from the basic message to be delivered, are more likely to be convinced than those who are ignored or whose positions have been ignored. They are also more likely to maintain the new position adopted if they are recognized or their views are recognized than if they have been ignored (this latter concept is described as "innoculation" by Cialdini).

7) Consensual Validation. This is self-explanatory. It has been developed above.

8) Ash -- Social Influence and Social Context Principles. The principles deriving from Ash's and his students' work demonstrate that perception and behavior can be influenced by social forces immediately applied and, in some cases, applied over a long period of time. People can be convinced that a twenty-five cent piece is a five-cent piece or vice versa. Consensual validation operates in these principles, but is only part of the association decision process. Influence must be exerted or supported by an in-group or a reference group to be effective and have sufficient leverage.

9) Catastrophe Theory. The behavior of continuous processes can be understood and presented by using calculus. There has not, until now, been an effective mathematics for explaining and predicting the behavior of discontinuous phenomena and yet we are frequently faced with such non-linear processes. Rene Thom has promoted the development of a theory with the needed capability.

Thom's work, an outgrowth of topological mathematics, is called "catastrophe theory" because it describes phenomena (not necessarily disasters) that jump abruptly from one form of behavior to a radically differently one.

This is a geometry, a visual (pictorial) process which allows the mind to apprehend the problem as a whole rather than in units as with numerical mathematics. Thus, surprising processes such as the behavior of the stock market, of a sales promotion, or of a change in mood of the voting public can be presented with all its characteristics.

Extremes of social influence have a unique capacity for producing backlash and "ausdemfeldgehen" (the desire to leave the field and not participate at all) when limits are exceeded. People can accommodate to insult or an ingratiating message until their limits are reached. Similarly, people will accept compliments or favorable comparisons until mistrust arises in the listener's mind. The net effect of such a threshold or satiation point is likely to be a reversal of attitude or behavior or a loss of interest. Some current advertisements, government and private sector, demonstrate this property.

10) Skill Learning. Maccoby suggests that a major approach to decision making derives from whether people have or learn related skills.

His theory suggests that when we wish to convince people to learn to behave in ways that are different from their present lifestyles, what is required is the learning and utilization of new skills. Without them they cannot follow through. The skills, in this case, are in the service of what people "know" is "good for them," and what they are fundamentally motivated to achieve; e.g., staying healthy, saving. This includes what is satisfying to them to perform. Maccoby's work was associated with smoking and the learning of how to stop smoking (health). These may be more salient, within the individual's personal economy, than saving energy. It is less of a strain to save energy than to stop smoking. The task will be to make it important enough to people to save energy to promote skill learning. When, as we will observe below, people use the skills, they are more likely to be committed to the importance of energy-saving.

11) Thus, changes in behavior patterns tend to supplement attitude and cognitive structure changes. Such changes enhance further learning of new habits and would assist basic behavior changes required for energy conservation programs. The three California community studies of Maccoby and others in California employed two principles:

- (1) Bandura's behavior modification, modelling, and reinforcement program, and
- (2) The development of self-reinforcing practices to achieve changes in behavior patterns which in turn strengthen desirable knowledge and attitudes.

(12) Assure that the individual is offered the opportunity to follow up on his new attitude or desire for action. Convincing someone to donate blood where no opportunity to do so is readily available is counter-productive (Maccoby). It may produce negative attitudes if repeated (Margolin). This can be described as the "cry wolf" phenomenon.

Behavior may be altered in order to maintain cognitive stability, e.g., once one has done something publicly, he is inclined to it to maintain his consistency (use of public transportation, solar energy, etc.) The process is closely related to commitment.

13) Focus on or associate with a highly valued role, e.g., that of the parent or model. Serving as a positive model for children will be better than eliciting a guilty response for a transgression such as wasting money or energy. Generating guilt usually backfires and produces a counter-productive effect.

14) Commitment. Commitment to a goal or to given behavior can achieve a combination of attitude and cognitive change. It is supported by consensual validation, and behavior change. Thus, it would be ideal to devise a program in which people would do things together. Where one's colleagues would expect them to cooperate with them in order to achieve the mutual objective, to conserve, e.g., a family ritual of putting down the thermostat at night or closing off sections of the home as a conservation effort. The family examination and discussion of label material together may be an effective illustration and both parent and child are likely to be more committed to conservation.

15) Information. Energy relevant information must be intraconsistent to be accepted and produce behavior change. The principle of consonance must be employed here as well. The information must be mutually supportive, thus one body of information provided by the government and industry to the public suggests the need for energy efficiency. Other parts from other sources within the government and private industry suggest that certain products may be unsafe, carcinogenic, polluting or expensive.

In the most recent set of statements at the middle of July of 1979, immediately after the request for synthetic fuels, Dr. Barry Commoner suggested that synthetic fuels might be carcinogenic and others were critical along equally central areas of the existence of the individual. Thus, along with nuclear energy, coal, etc., a dissonant situation was set up in which the individual had conflict within his belief system with any of the competing areas of belief being more central than energy conservation, (e.g., health and the danger of cancer).

An important principle associated with the use of information has to do with the importance of providing adequate information to the information gatekeepers and suppliers, to sales personnel and other intermediate individuals about the areas in which behavior change is sought. If they lack sufficient information to suit their own perception of themselves as being adequately informed, they will probably refrain from providing information or from providing it in a convincing manner about the topic area of concern. In a sense, the information delivery system is as strong as its weakest link as with other kinds of delivery systems. Where people are ill-informed, they will either refrain from making fools of themselves or may even, in extreme cases, oppose or discourage something that they do not know enough about. The dynamics would suggest that being put at risk as being ill-informed makes the topic area (e.g., appliance labeling) an enemy and harmful to the individual, and therefore, it is either ignored or opposed.

17. Availability of Units to Satisfy the Decision to Buy. The availability of stock or supplies of the materials or appliances required to satisfy a conservation may be a critical, however, it may produce different response in different populations.

In some populations it will produce a greater urgency to obtain the appliance which is listed as desirable and seen in short supply. This would be true of refrigerators, automobiles and other limited stock items. A shortage almost invariably increases the demand. However, this is limited to that portion of the population that can maintain a delay of gratification or that can do without for the period required to wait.

Thus, a short supply of certain efficient appliances or automobiles, etc., may produce a shift to an alternative product and consequent loss of benefit. Whether the individuals in this population move on to the second choice is an important question. In some cases, they may say that they have tried and having failed at achieving the criteria for efficiency, they can now move on to something with another desirable basis for selection. In this case, the blame rests with anything from the government to the retailer. This would be true for reasons deriving from a short tolerance of delay to an immediate need for the product.

THEORETICAL PRINCIPLES

B. COGNITIVE DISSONANCE, CONFORMITY AND INNOVATION

A very large portion of the general population is conforming. Other population segments that are diametrically opposite in that, as initiators, pioneers, innovators: they seek to be if not different, then leaders and "the first on the block". The motivation of the latter group (innovation) may be related to the need to be correct but not conventional. Thus, they seek to be ahead of the pack rather than different from it, and hope to be proven correct when everyone catches up.

It is the former group, however, the conformist, avoidant of attracting attention or being special and eventually wrong or different or "crazy" that interferes with the acceptance of innovation or its initiation. We can develop further the implications of this conforming need as a method of achieving acceptance for ridesharing, energy saving processes or programs.

The behavior of the conforming, approval-seeking segments of the population may be explained by the introduction of the theories of cognitive consistency and dissonance. The persons desire to conform may arise from the need for consistent cognition and behavior. In short, if his perception of himself, what he does, and what is right, is derived from others and from outside, then it is vital that his behavior be consistent with the behavior prescribed by the messages or standards set by others (the outside).

If we may assume this then much of the theory of cognitive consistency can be employed in dealing with the messages addressed to those who are conforming and validation seeking. Indeed, Heider's theory is based on a simple pattern in which "P" (a person) develops a given relationship with

individual "A" (he values him, believes in him or some other perception). He then judges individual "B" by what he observes about the relationship between individual "A" and individual "B". Thus, if he believes that individual "A" has the right idea about the acceptance of solar energy or about conservation or about the government's energy program, then he will evaluate individual "B" by his agreement or disagreement with individual "A".

Thus, if the group or the reference group or the gatekeeper for "P" in our hypothetical case believes that the government energy program is a fraud because of the "conspiracy between government and big business," if the government or some other agent for a conservation program presents such a program to "P", it is likely to be perceived in error or even part of the "conspiracy." If it departs measurably from the message contained in the relationship between "P" and individual "A" (his gatekeeper or reference group), "P" will be unable to reconcile the acceptance of the conservation method with his externally derived belief that the government is conspiring to "rip him off."

The role of individual "A" (the person with whom "P" identifies) is also significant. Individual "A" is frequently either an idealized hero, an important authority figure, a close friend with whom one identifies, the "reference person" who "P" seeks to emulate, or a kind of gatekeeper who controls "P's" avenue to self-regard, the respect of his community, etc. The leader of a teenage gang may serve in this role to the members of the gang since he allots privilege and status within the group to each individual. Conserving behavior in the face of the statement by the gang leader that conservation is a "rip off" would be unlikely.

The application of such a theoretically formulation would send the researcher in the direction of determining what kind of individual "P" is.

Is he externally determined or is he internally determined? If he derives most of his values from outsiders (and most people do) it is important to seek the sources of his opinions in given areas. These are not always monolithic for the individual. Thus, the person whose guidance or example he would follow in economic matters is not necessarily the individual "P" would follow in judging the performance or selection of an automobile or behavior on a camping trip.

In other cases there are key individuals who do provide a kind of monolithic reference point for the attitudes and values of the individual and whose beliefs cannot be excessively departed from if "P" is to perceive his consistency and integrity. Thus, a boyfriend or girlfriend during courtship may be a heavy determinant of one's values. This is because of the risk of losing that individual due to inconsistency between "P" and individual "A". On the other hand, as is very frequently noted, after the courtship, the wedding and the honeymoon is over and a degree of security (less risk) about the other person (individual "A") has been achieved, "P" is then more likely to disagree, make other judgments, or agree with other persons or positions that are at odds with the position of individual "A" because the risk of loss has been reduced.

It is interesting to note, however, that after the relationship between "P" and individual "A" has been cemented, there are definite areas in which the two will identify even more closely and achieve a corporate set of beliefs. These are the beliefs that are necessary to support the mutual vested position of the individuals to whom they are linked. Thus, the home may be the criterion for attractiveness, their child may be the criterion for beauty or intelligence, their automobile may be the right choice, etc.

On the other hand, it is possible that role prescriptions and divisions within a marriage or other corporate relationships may produce differences of opinion. As an example, in a recent study of thermal energy storage the wife who is responsible for clothes washing, childrens' bathing, dishwashing, etc., found the limitations derived from the use of off-peak power to be a problem. The use of off-peak power strait-jacketed her behavior. The husband, on the other hand, who was responsible for the economics of the family and who was frequently not at home during the day, did not believe that there was any significant inconvenience and felt that this was overridingly beneficial because of the dollar savings involved.

Thus, it is necessary for the researcher to examine the areas to be studied to determine whether they represent an area of convergence for the members of the family in their role behavior, or whether they represent divergence and sometimes conflict. In short, cognitive consistency-dissonance and Heider's theory - can be exceedingly valuable in providing a theoretical base for conforming behavior if the contextual and dynamic factors are carefully considered to assure that the proper circumstances operate.

This theoretical network can also be employed to explain nonconforming or innovative behavior even creative behavior. It would be necessary to hypothesize that the individual who behaves in a non-conforming, innovative, or creative behavior as opposed to the conformist has a different relationship with his individual "A". This would be the case for those who are externally determined. Thus, they are behaving in a negativistic or distancing or self-differentiating way from the people around them. It is also possible that "P" in this case is internally determined, and there would, therefore, be no individual "A" for him to refer to. Thus, unless there were preconceptions in his own mind which again are subject to the rules of cognitive-dissonance

theory, he is free to consider new formulations to undertake their creation himself and to behave on the basis of their acceptance if in this judgement they are satisfactory.

C. THE SOCIAL PSYCHOLOGY OF ENERGY UTILIZATION AND MOTIVATION TO CONSERVE

There are a number of social psychological factors that affect the conservation and energy utilization levels of individuals and groups. Among these are cooperation and competition and other factors affecting the relationship between 1) the consumer and those who sell either energy or energy-using appliances or equipment, 2) consumers and their governments at several levels, and 3) consumers and consumers.

We will begin with a discussion of cooperation and competition and the behavior of consumers. A considerable amount of work has been devoted to studies of positive and negative attitudes associated with cooperation and competition. As might be expected, more positive attitudes are associated with cooperative relationships; more negative with competitive ones. The factors that require further research have to do with the extent to which certain economic or self-serving behavior on the part of the individual is negatively affected by the development of competitive or negative relationships with those who represent certain policies and in turn positive behavior is associated with positive attitudes toward individuals or agencies associated with the same policy areas. In illustration, people angry at the Department of Energy, the utilities industry, or the automobile or petroleum industries may behave in a less conserving manner. This behavior will stop short only at the point where perceived significant economic harm would result.

Lest this appear to be an academic discussion of negative relationships between government or utilities and the consumer, there are more positive examples of collaboration between utilities and consumers that have produced constructive economically self-benefitting, as well as community-serving, behavior on the part of consumers. One such illustration would

be the thermal energy storage experiments currently underway in several parts of the country.

The Vermont Experiment -- TES

In these studies the relatively small numbers of consumers engaged in the study have nevertheless demonstrated a constructive creative approach to the utilization of energy and the management of their utilities bills. In cooperation with the Central Vermont Power Service and the Green Mountain Power Company, about 400 of these consumers are currently engaged in the utilization of a thermal energy storage system or systems (there are three basic types of storage units) that employ off-peak electric sales by the utilities to consumers owning storage systems. These sales are dramatically lower, frequently involving in the vicinity of 1 1/2 cents per kilowatt hour for off-peak service. The service provides them with heating and hot water which usually lasts the necessary period until off-peak rates can again be employed. There is an override system which prevents the consumer from having any inconvenience as a result of lack of power. He simply buys what additional power he needs at conventional rates if they are taken off the main during peak hours.

The net effect which requires additional study has been a group of consumers who are pleased with their relationship with the utility, who are quite satisfied with the very considerable savings for their "all-electric homes" (these homes have suffered very badly throughout the country). The consumers are very useful observers of the experiment; they make constructive suggestions to the utilities; they collaborate with the utilities in developing new techniques for both monitoring and utilization of the system; they have insulated more thoroughly than

others in order to assure the effectiveness of this system and a variety of other possible benefits can be defined.

In Lewinian terms, the situation that has been constructed is one in which the cooperative relationship and the structure of the arrangement between utility and consumer is one in which they share common goals; in this case, the success of the thermal energy storage system. If the utility succeeds and the system succeeds, the consumer is benefitted by having very low rates, frequently as low as \$150 to \$200 a season in a state in which the temperature in the winter is frequently as low as 25 below zero.

Problems and Questions for Further Research

While these arrangements are contractual, they are also experimental and dependent upon the need for the company to achieve some kind of level load in the utilization of its equipment. Thus, there exists a level of uncertainty and perhaps risk for the consumers that the situation will not be continued or that rates for the off-peak service will be raised when the utility no longer benefits from this situation. There is a built-in need for load leveling; as a result the risk is not a very great one; however, the change in rates may increase the cost to the consumer. This may be balanced by improved insulation and the development of more effective instrumentation and equipment. Currently, all equipment is brought in from Germany where the systems have been in use over a long period of time and are monopolized by two firms called AEG and Siemens. Thus, a number of factors may operate to continue the benefit to both the consumer and utility; however, these are not yet sure for the consumer and the net effect is a certain amount of anxiety and edginess with the utility whenever there is a hint or threat of some modification of the utilities contract.

Another factor relates to a change in the status of the participants in this cooperative relationship; thus, when a research program involving the "ripple technique" is suggested, a level of anxiety and anger is produced in the consumer. The "ripple method" involves, among other things, the capability of the utility to cut off the power to a given consumer from a remote point thereby depriving him of control over his own equipment and invading his privacy electronically. It is interesting to note that when the utilities company indicates that it does not desire to infringe the privacy or control of the consumer and is anxious to work out a method of avoiding this, that the cooperative relationship and positive affective relationship between the participants is restored.

The most important point to be highlighted is that as a result of this relationship, the conserving behavior of the consumer is increased both within his own home and in the relationship with the utility and with regard to the common welfare. The consumers and the utilities, however, share some antagonism to state and national groups that do not give them proper credit or ignore their joint venture. The effects of this process remain to be evaluated.

This is one of several social psychological phenomena that offer new opportunities for increased conservation behavior on the part of individuals and institutions within our society.

Another social psychological process involves the need to "have segments of sufficient size to be self-supporting." This derives both the need for consensual validation and the need for enough individuals to support the process logistically, e.g., provide carpooling or vanpooling members or to provide a market for energy efficient appliances of a given characteristic.

Further developments having to do with cognitive stability, reference group behavior, gatekeeper methods, and some aspects of social perception can be defined by this approach to the behavioral aspects of energy.

D. SOME PRACTICAL APPLICATIONS

Attitudes affecting behavior may be associated with basic unconscious processes, e.g., "I waste" is converted into "others manipulate" leading to the need to project blame on others. Blame-avoidance attitudes may also derive from more obvious motivational sources. Thus, unwillingness to accept the reality of the fuel crisis may derive from "hard" evidence or from the fact that if the crisis is accepted an undesirable behavior change (i.e., self-denial) would have to be undertaken. The person may not care about the crisis, but responds instead to the more salient personal concern about availability of fuel to himself.

On the other hand, energy-relevant behavior is not only a product of attitudes toward the shortage but also the actual perception of availability of fuel. Thus, the individual may not have enough valid information about whether there is a shortage. He may not know what options he has concerning energy use or he has incorrect information about government or industry policy.

Darley,** et al, reports that "residential energy use was not found to be affected in any important way by whether residents were optimistic about a technological solution to the energy crisis, whether they think individual efforts can have an impact, the state of family finances as perceived by husband or wife or the monetary savings they think can be achieved by daily conservation practices. (N.B., These were direct responses to survey -- they may mask secondary effects).

These researchers did report one "common sense" relationship between attitudes and residential energy use (behavior) supported by the data, that is the "resident's attitudes about thermal comfort." The more

** Psychological Strategies to Reduce Energy Consumption by Becker, Siligman and Kelsey 6/79.

consumers stated that comfort "depends on a warm (or cool) house" in the appropriate season, the more energy was used. They state that this suggests energy programs consistent with people's comfort needs will be more effective. Rather than exhortation to sacrifice, the suggestion of ways to save energy and be comfortable are likely to succeed.

The George Washington University Decision Analysis studies support this finding for some specific segments of the population, e.g., those who feel that they have already "done enough to conserve energy" or those who feel victimized in some way, are more likely to respond to the "comfort criterion." Others may be more responsive to appeals or approaches that seek an energy conserving effort. Appeals to status, an effective and rewarding model, or the satisfaction of mastering, or meeting the challenge of rising costs will also be effective incentives. The critical final path, suggested by Darley's research, however, is important. The behavior produced by the incentive must lead to perceived comfort in the dwelling. Media presentations of high sacrifice by families are not productive at this time.

The message or incentive cannot be a monolithic or simple communication to an isolated individual type within the social context that suggests or validates his behavior.

Each of the following sub-principles is necessary, but not sufficient, to achieve our energy objectives:

- 1) an influential family or group member must be reached.
- 2) the implementation of a decision to conserve may be the result of a one-shot effort, by that influential member, e.g., an automatic set-back thermostat that does not require continuing effort by other family members. This will save energy but have less spread of effect to other members' activities, e.g., closing doors, using less hot water.

3) the implementation must receive the approval, tacit or active, of other members of the family which will represent a commitment and is likely to increase conservation. Group dynamic pressures are likely to modify the effect. The "conscious effect" is less likely in the family that lives together or the group that works together.

4) the message and motivation or the reward for energy saving behavior must operate over an extended period of time.

5) energy saving must be:

a) salient (it is usually not) and must be provided if the method requires continuing effort. Darley, et al, suggests that budget payments that smooth the impact of the coldest and warmest months on bills, may be counterproductive. Even when the energy used during the period is presented on the bill, it is usually understood less well than the actual cost and the "pain" of writing a check to pay for that high cost.

b) non-intrusive in the sense that it disturbs existing practices minimally; if they require continuous behavior this may be a problem unless the behavior is directly rewarding.

The basic principle is that energy conserving programs must be perceived by the program planners as a continuing activity over time. However, they are likely to be ineffective if the consumer is asked to dedicate his time and attention to the program.

Darley, et al, suggests that feedback is essential to the continuation of energy-saving behavior. This feedback must have quite specific characteristics:

1) There must be initial commitment to energy conservation behavior (Margolin suggests that the activity need not be seen as purely energy conserving or "defensive", but may even be the more general process of

of motivation to "win the game" by having a good score, i.e., low fuel bill. Americans may have an easier time "winning" than "being prudent.")

2) The feedback must be understood. People must be able to evaluate how well they are doing. (They must know the score during the game.)

3) The feedback must be credible. It must reveal the relationship between their efforts and the result.

Inadequate knowledge or information presented in a manner that blunts or obscures the fullest implications of the feedback (e.g., budget payment plan) is a serious problem in energy programs.

Full information is far more effective than sugar coating, external exhortation or guilt inducement.

The consumer can be involved in the solution of his problem. Stated succinctly, people more often endorse and carry out their own ideas.

A systematic approach to solving his own problem in his unique manner when supplemented by options, tools, and information about their cost and benefit is more likely to produce an effective program than exhortation or guilt. Whether it is to be solar hot water, energy-conserving appliance, better travel planning or an insulation program, each social or economic unit can, if given the tools and motivation, do a job that will best suit their style of life and is therefore more likely to endure.

A full, problem solving presentation of the cost benefit of energy-saving behavior or improvements can be very useful in achieving closure.

All too often people are informed about conservation methods or such equipment as solar hot water heaters or set-back thermostats without information about the benefit in their cases. These energy-saving behaviors are often perceived (Darley) as expensive, or difficult. It is necessary that they know that they will be effective and initiative prompted to take the first step.

A program presented in a way that implies, or leaves unanswered, the belief in that many energy conserving steps have prohibitive initial cost or an overlong payback period will not be effective. (An 8-10 year payback for people who move on the average of every five years is not seen as practical.)

E. APPLIED DECISION MAKING:

THE RELATIONSHIP OF PROGRAM POLICY MAKER AND INDIVIDUAL CONSUMER DECISION

The decision-making process is not limited to that of the policy maker, politician or program director. Each does, indeed, make decisions with regard to various elements of energy programs. On the other hand, the achievements of the objectives to which the decisions are addressed, requires supporting decision making on the part of the individual consumer and the large number of intervening public and private individuals and institutions. It is the interface and interaction of these several decisions by consumer, policy maker and others that determines whether a program will be effective.

Perhaps the simplest and clearest of the differences between policy maker and consumer is the concern of the policy maker -- program director with the multitudinous decisions of the population as a whole -- the "macro" situation. On the other hand, the decision of the individual consumer is the "micro" decision. The accumulation of the large number of individual decisions or heavily influences is the "macro effect."

Time: The time perspective and deadlines of the decision maker is a critical consideration. Government, corporate or individual, the decision makers are influenced by whether the behavior must take place in short, intermediate or long term, or whether it must take place at all.

There is also a "goal gradient" in which the saliency of a decision or a behavior increases as the time for it approaches. This gradient is not unlike gravitation in that it seems to increase at a geometric rate as one approaches the goal area.

In work with consumers, time and the goal gradient may also play strange tricks. Interest in new cars may increase or decrease after the

car is introduced. Gift purchases are usually anticipatory, reversing their trend after holidays. On the other hand, insulation and conservation may accelerate only when the stimulus of winter or fuel shortage actually is felt. The one thing we can be certain of is that not all energy use systems operate in a linear manner forever and each must be considered individually and in the context of others over time. Catastrophe theory (discussed in an earlier section) may explain some of these phenomena.

Risk: Risk and uncertainty are even more significant when the issue of the acceptance of a new technology arises or the introduction of a new process such as government sponsorship of appliance labeling for conservation purposes. Resistance to change and level of risk operate with both the industrial and government policy maker and the consumer to limit his movement. However, it is in the role of consumer that the acceptance of the new technology poses the greatest risk to the style or quality of life of the individual.

There are other examples in which different kinds of levels of risk are confronted by the decision maker and the consumer. Thus, the policy maker can accept the introduction of a computerized carpool matching system with some equanimity and perhaps even pride in knowing that he is employing the "most advanced techniques" in achieving a necessary match. The potential ridesharer knows only that if he should attempt to take advantage of this computerized opportunity to rideshare by phoning a potential other carpooler, he will have to confront a stranger and overcome social barriers and "chancey" new relationships. Having overcome these barriers, he still risks being late to work if he depends on unknown carpool mates. One risks in the abstract, the other confronts an interpersonal danger.

The decision-making process is further complicated for both policy maker and consumer by the multiplicity of factors that now govern the decision-making process in energy. Basically, energy utilization and policies related thereto would be governed by the need to provide heating, motor power, or the accomplishment of other tasks requiring energy. These would include moving from place to place, mowing a lawn, etc. However, other issues have now entered the decision making field, these may include:

- 1) the need to stimulate the economy,
- 2) social welfare issues, e.g., equality of access to energy,
- 3) conservation,
- 4) the need to preserve the environment, and
- 5) safety.

Not all are directly involved in achieving the primary goal of the energy use, however, all effect the decision making process. In many cases, the factors considered in the decision making process by the legislator or administrator are not congruent with those considered by the consumer. This may be particularly true in the area of energy utilization. It is important to determine whether an objective like conservation is or can be made reasonably consistent with such consumer needs as mobility, productivity, safety, keeping warm, etc.

Individual decision making with regard to conservation programs, for example, requires consideration of variables, such as:

- 1) comfort,
- 2) safety,
- 3) speed,
- 4) status,
- 5) being on time.

AN ILLUSTRATION OF BEHAVIORAL BARRIERS

THE COMBINATION OF MACRO AND MICRO DECISIONS MAY BE ILLUSTRATED BY THE EXAMINATION OF BEHAVIORAL BARRIERS TO THE IMPLEMENTATION OF ENERGY CONSERVING TECHNOLOGY IN THE HOUSING INDUSTRY*

This report on barriers to conserving behavior will deal with two types of conservation:

- 1) Avoidance of energy waste (e.g., insulation, passive solar)
- 2) The use of renewable energy systems (e.g., active solar, wind, etc.)

The barriers are listed according to the several elements in the housing network: a key industry in its significance for conservation.

consumers	manufacturers
rental building managers	distributors
real estate sales	sources of money (banks)
builders	contractors
labor	building code inspectors.

Several types of barriers will be discussed:

- A. Disbelief in the need for action,
- B. Information,
- C. Supply,
- D. Perceived cost/benefit,
- E. Risk,
- F. Standardization and inspection,
- G. Role of utilities,
- H. Miscellaneous.

I. Residential energy users constitute the most obvious subjects for consideration in terms of a) their purchase and utilization of energy using

* This paper by the principal investigator has been included because factors affecting conservation in the housing industry will effect a very large part of of appliance labeling decisions. The applicability for the energy appliance program was confirmed by the Decision Analysis studies conducted by the author.

and conserving technology or materials, and b) their actual conserving practices.

A. Disbelief in the need for action.

A fundamental barrier to conserving behavior is the prevalent doubt about the existence of a "real energy crisis." A credibility gap exists for the following reasons:

1. The willingness of the energy industry to produce fuel when prices reach the "right" level. This was reinforced by the rapid availability of fuel as soon as prices were raised during the 1973-74 crisis and again in 1979 and 1980.

2. The extensive waste of energy by public and private agencies who engage in such visible practices as:

- a) scheduling competitive, half-empty airline flights to the same destination,
- b) failure to use conserving methods or renewable sources in public buildings,
- c) failure of Federal, state and local government to take active steps to mandate conservation and provide standards for more conserving construction. Some stated that "the government is timid, why should we rush?"

This "business as usual" attitude was repeatedly cited by consumers as the basis for their disbelief about the existence or urgency of the energy crisis.

B. Information

Consumers complained consistently of the unavailability of information about newer methods of insulation and the more exotic renewable sources. The claims for ureaform foam and cellulose were unsupported or in doubt.

The potential buyer was unsure of safety and efficiency and had no measure of a fair price. They are more familiar with fiberglass, rock wool, etc., but were fearful that some "health hazard" might be discovered after they had committed themselves to the material. The hazard of some of this material has been confirmed.

The lack of information produced an even greater effect because there are few ways for the consumer to monitor or measure the effectiveness of the method short of investment and then calculating the effects on his fuel bill. This was generally unsatisfactory because several variables operate simultaneously, including

- changes in price and methods of calculating fuel bills,
- the use of several methods (e.g., insulation, storm windows, improved energy saving practices, etc.) made it difficult to access and allocate effect.

The consumer himself is not the only one lacking in information. Many housing sales personnel have very little information. They do "push" insulation but actually have little "hard data." They know little or nothing about the more exotic energy conservers and avoid suggesting them for fear of losing the sale.

This unavailability of information results in indecision, delay and procrastination by the buyer. It gives him a reasonable basis for putting off the decision until he has more or better advice.

The high cost of "information" is a barrier to the builder and sometimes to the rental building owner-manager. A well-designed system, original or retrofit, adds a considerable engineering and design cost to the conservation process. These may also involve expensive computer and

"governing" equipment. This addition to the assessment, planning and other "up front" costs have deterred builders.

Their appeal for an "off the shelf" system is responded to by the designers' claim that each building configuration is unique and that passive or active systems must be individually designed to be optimally effective.

Nevertheless, builders and designers agree that a vivid and well-monitored demonstration "near by" is needed to provide them with needed information.

C. Supply

The shortages of materials and labor among reputable insulation and renewable energy supply companies operates to hasten the decision of some buyers. In other cases, it is reportedly producing delays until supplies or new materials are available.

D. Perceived Cost/Benefit

The absence of information, monitoring capability and uncertainty about fuel price and supply have operated collectively to increase the consumers' doubts about the benefit of energy conserving activity and expenditure.

This is particularly true in the case of such renewables as solar, where the high up-front cost constitutes a powerful barrier to the purchase of an unknown and uncertain technology. $\frac{\text{High cost}}{\text{Uncertain benefit}} = \text{inaction}$

High up-front costs constitute a barrier in yet another way. It appears to be true that housing buyers begin shopping at the upper limits of their incomes (when they begin investigating the market.) The sales personnel try to move them higher. The net effect is that a high-priced and redundant system like solar energy saving appliances or even the addition of storm windows may prove an insuperable obstacle to the new home owner.

An interesting "family economics" phenomenon was encountered that may provide useful sociological insight. Younger home buyers (first home) would ask for assistance from more conservative parents or older relatives. The introduction of this factor frequently tips the balance away from the inclusion of renewable energy equipment. However, it may also increase the pressure to and facilitate conserving via insulation.

Barriers also exist to insulation and conserving behavior where "inconvenience" is the price that is paid. Especially in retrofit, it is common for insulation or conserving appliances to lose in the competition with more convenient kitchen equipment (i.e., ice cube makers) or furniture, where disturbance of the household will be an added cost.

Life cycle costing is a familiar word to some consumers; it is meaningless to most. However, the short occupancy period of most home owners (4 1/2 years) does tend to deter any significant investment because not only is he likely to relocate soon but he is not sure that he will retrieve the value of the investment in the resale price obtained. This is more true for the higher cost items (solar, wind) than it is for insulation. Even insulation, however, or conserving equipment are invisible assets, far less valuable in resale than an ice-making or frost-free refrigerator. Also, these can be "taken along" in a move, while insulation and solar hot water heaters cannot.

A further barrier to retrofit insulation or energy-saving heating and cooling equipment by low and middle income groups has been the high interest rates for financing such additions. Many consumers stated that 4-5 percent would be a more reasonable rate than the 9-18 percent charged at present.

Closely related and a major barrier to the utilization of the renewable energy sources in particular is the inability of appraisers, real estate dealers, or indeed anyone, to determine the "added value" of the equipment. The absence of a track record is a formidable barrier to the acceptance of these new technologies. It is a barrier to all elements in the TDS (Technology Delivery System) and will remain so until a critical mass of solar and/or other comparable equipment is put into operation.

Even then, appraisal may be difficult if the appraiser bases the value on the ability of the conserving expenditures to generate savings. In this case, fluctuations in the price of fossil fuels will determine the value of the residence that is equipped with redundant systems. Despite the fact that insulation can be valued in terms of the number of energy units conserved, this will fluctuate with the price of the fossil energy source with which it is compared.

E. Risk

The element of risk is a complex psycho-economic process not readily amenable to mathematical treatment. Varying segments of the population and elements in the TDS respond differentially to risk. This segmentation is only in part economic. Given a level of disposable capital, bankers, builders and rental building managers may on average be expected to be more conservative. Middle-year professional home buyers (35-55 years of age), scientists and professionals, architects and designers, may be expected to be more interested in and probably responsive to conserving activity of all types.

One factor contributing to such a differential is that of psychological or actual mastery of the situation. The builder is uncertain about the market for more conserving, higher cost structure. He is also threatened

by the high cost of construction loans. He has also been "burned" too often. The banker generally is governed by values limiting him to "prudent investment" on which he employs a statistical basis for prediction. The identity of the banker is usually conservative. The manager of rental buildings has little or no mastery over the behavior of his tenants. Where utilities are included in the rental, education and exhortation of tenants has generally been fruitless. In some cases, they have precipitated exaggerated use of energy by resentful or irrational occupants. The psychology of renter-owned relationships is a critical area for more intensive study that has thus far frustrated the best efforts of some management. Installing individual meters is costly and may place the owner under public utility regulations if he collects the utilities charge. The ultimate response of some management has been hoarding fuel rather than conservation.

The middle-years professional or scientist has greater experience and confidence in his ability to understand and use the conserving materials and equipment. He frequently has an expanding income that constitutes further protection against risk. Architects and designers additionally add to their status and professional stature by demonstrating their mastery of construction materials or equipment.

In many early users, the risk is overcome by one or more of the following: "the first on the block phenomenon" which may reflect a range of psychological characteristics from status seeking and exhibitionism to the demonstration of their leadership in the community or greater concern with public issues.

Even the superior mastery or skill of the scientist-engineer does not eliminate one barrier to the acceptance of the conserving technologies

that is characteristic of individuals with high mastery needs. It is generally perceived that neither insulation nor solar lets you do anything "active" to lower the temperature. In either case, a barrier to passive conserving materials (e.g., insulation, energy efficient appliances) is lack of visibility. This has been a deterrent to the final commitment of many such individuals. Some method for making it more evident would probably be helpful.

Other factors increasing risk for all elements in the TDS and the consumer is the fear of obsolescence. There is considerable validity to the concern. However, its impact is enhanced by the sometimes well-intentioned interest of the media, in proclaiming the future benefits to be derived from exotic "natural energy" systems not yet on the market, or even within the state of the art. Some perspective with regard to time frame for the industry is required.

Both consumer confidence and the development of the industry may have been affected by the failure of one or more large companies to take leadership positions. (E.g., thus far only Grumman has made a major commitment in solar.) This absence of large producers increases consumer sense of risk and interferes (oddly enough) with the orderly development of the industry. Large, well capitalized companies in an industry usually result in the paced introduction of new methods and an economically sound relationship between innovation and profitability. One leading investment analyst of the Solar industry believes that a major barrier is the absence of a reliable entrant into the field of solar. He stated, "I think the consumer will be looking for a reliable performer favoring large recognized firms like General Electric." This can be overcome in the appliance labeling program.

Risk has affected the behavior of many manufacturers and distributors of renewable energy equipment. A complex of:

- a) fear of obsolescence,
- b) the entry of larger competitors,
- c) the absence of purchasers and consequently of market confidence,
- d) the unavailability of trained work force,
- e) uncertainty about the costs of competing fossil fuels, and
- f) the level of government subsidy or support have joined to delay either their entry into the market or extensive capital or advertising expenditures.

To "break even," a manufacturer of collectors must have sales of 2.5 million dollars. Even then he has little margin for R & D and large-scale advertising. Only four companies are achieving even this modest requirement.

As a business decision, this assessment may be quite valid; as a result, it has delayed the development of the industry and increased the hesitance of sources of capital to invest in the industry. It is to be hoped that the entry into the energy conserving appliance field will not be deterred by comparable barriers.

The opinion expressed by many avant-garde architects and engineers that the future is not in solar HVAC but in passive systems or photovoltaics, has contributed to the refusal to accept risk by manufacturers, distributors and buyers. In the case of energy conserving appliances, the gatekeepers, i.e., builders, designers, financing institutions, must be helped to promote the kind of risk and innovation.

F. Standardization and Inspection

A primary barrier to many builders providing more energy conserving houses has been the fear of being "hassled" by building inspectors. Archaic

local standards and rigidity by inspectors is a frequent reason for delay in approving a house for sale. Many of the more innovative conservation methods run afoul of these standards resulting in either greater expense to builder and buyer or long and tedious argument. In addition, it interferes with experimentation and innovation. Builders, contractors and buyers repeatedly expressed the urgency of local, state and even Federal action to remedy this situation.

G. The Role of Utilities

This has been discussed intensively by several ERDA contractors. The significance of the utilities to the consumer is a study in contradictions. The utility is regarded as a reliable "rip off." It is regulated. It is not "fly by night" and it is responsible. On the other hand, it is regarded by many consumers as likely to take unfair advantage of a dominant position in the field of insulation or solar. While the utility might reduce risk by being responsible, available at all hours and financially sound, the consumer also fears the monopoly inherent in the institution will be exploitative. They prefer Sears or Montgomery Ward. Lastly, there is a growing need for "energy independence" that is offered by the emerging natural energy industry. By and large, this means independence of the utility. Thus, there is considerable ambivalence and disagreement about the role of the utility.

In New England, two groups have experimented with solar and the result supports the consumers' ambivalence. New England Electric conducted an experiment that knowledgeable consumers and experts adjudged to be a "put down" of a potential competition by solar. However, the New England Fuel Institute (NEFI-heating oil) is currently engaged in a research and demonstration effort that appears to be a serious effort to evaluate its role in the new industry.

Consumers also cite the tendency of some utilities to engage in conservation campaigns and then to request rate increases to maintain their profitability. Thus, energy is conserved but not the consumers' dollar. Since, as one consumer put it, "conservation begins at home," it is clear that patriotism needs to be reinforced by financial savings, especially if the utilities continue to profit from the consumers' effort. This does not increase the affection or trust of the consumer.

Whether the utility will become a barrier or a facilitator of conserving behavior is yet to be determined.

A number of additional psychological factors may prove to be barriers to conserving behavior:

1. Many consumers resist all but proven methods. They will not experiment with their own dollars.

2. Closely related is the complex of comfort and credibility. Many consumers complain that turning down one's thermostat or increasing insulation does not produce a significant level of saving. This absence of a JND (just noticeable difference) of benefit can only be overcome by a long period of measurement, if then. The unconscious desire to maintain comfort and mastery coupled with delay of gratification may underlie much of this resistance.

Other factors that have emerged include:

3. Aesthetic Factors.

- a) When tree removal or trimming is required, considerable resistance develops.

- b) The solar house or windmill are regarded by some potential home buyers as "aesthetic monstrosities." Insulation, on the other hand, is not regarded as unsightly unless major rebuilding is necessary.

4. Fear of being cheated by charlatans. In the absence of information, regulation, and other safeguards, and in response to many horror stories, many home owners delay insulating because they are not sure of the reliability or honesty or safety of the vander/installer or the safety of the materials and methods. This should not operate in appliance labeling.

5. Priorities. In the face of low credibility concerning the energy crisis, and many of the other factors described above, a sizeable number of consumers give a higher priority to expenditures for more attractive and convenient, rather than energy-conserving, kitchens, cars, children's clothing and education, and household repairs.

Even investments sometimes have a higher priority. As one sophisticated home owner pointed out, "Investment in an 8 1/2 percent bond gives me a definite, visible gain; investment in conservation or solar energy is hard to measure and certainly does not give me the satisfaction that I get from receiving a check. Furthermore, if I have to finance the improvement, I am paying out more than 8 1/2 percent so either way it is better not to conserve or invest in solar."

TASK B

**RESEARCH AND CONCEPTUAL BASE FOR INFORMATION PROGRAM:
THE DECISION ANALYSIS STUDY**

TASK B

Research Base and Conceptual Framework for Public Information Marketing Program to Facilitate Energy Conservation and Acceptance of Solar Energy Application.

FOCUS ON ENERGY ATTITUDES IN GENERAL AND ENERGY COST LABELLING OF HOUSE APPLIANCES

(The nature of effort and product for this phase was altered by the needs of the Energy Appliance Labeling Program. While findings will reflect the topics listed in the contract, a major part of the effort was devoted to the development and evaluation of the appliance labelling marketing programs.)

The first element Part A presented in fulfillment of Task B describes the empirical data gathered by Decision Analysis Panels in four sites sampling national attitudes and decision dynamics.

The second element Part B presents a summary of the findings of the Decision Panels and interviews with industry as well as the monitoring of FTC hearings including statements by industry and consumer groups. It is responsive to the outline of critical issues and problems set forth in Task B Phase I (page 5) of the contract.

PART A

DECISION ANALYSIS PANEL STUDIES

ENERGY DECISION DYNAMICS AND ATTITUDES TOWARD APPLIANCE LABELS

The following is a report of the findings of the Decision Analysis Panel studies in Atlanta, Georgia; Fresno, California; Pawtucket, Rhode Island; and the District of Columbia.

It includes:

1. A discussion of the study,
2. a description of the Decision Analysis Technique (from D.O.T. paper);
3. a report of findings from the several regions and occupation groups and economic roles;
4. discussion of principles derived;
5. recommendations.

SUMMARY OF DECISION ANALYSIS PANEL PHASE
CONSERVATION AND APPLIANCE LABEL STUDY

A national sampling of several strata of the population was obtained. Information about attitudes and probable behavior concerning energy policy, conservation and appliance labeling was obtained. The Decision Analysis Panel technique was employed. Panels were assembled in Fresno, California, Pawtucket, Rhode Island, The Greater Washington Area and Atlanta, Georgia. Blue collar, white collar and managerial-professional persons and several income levels were selected. Social populations of gatekeepers were assembled including builders, manufacturers' representatives, dealers, etc.

The findings, while not quantified, represent an in-depth and valid representation of their energy-relevant attitudes and probable behavior of the population segments sampled. While the data is more than a year old, more recent interviews suggest that the findings still have merit.

Attitudes ranging from responsibility and desire to behave in an economic and in a rational fashion, serving the national welfare, were coupled with attitudes of anger and loss of credibility with regard to government or manufacturers. This led to rejection of the value of the program and projection of responsibility to the next generation.

The report will convey the behavior readiness of specific subgroups. However, several almost universal findings can be offered. One is that it is unlikely that the populations investigated will respond easily to conservation behavior as such. Many did not believe that there is an energy shortage at this time (Fall, 1978) and they have a high degree of uncertainty as to whether there will be a long term shortage. A part of the population is sure that eventually we will run out of fossil fuel.

However, most are sure that a technological fix can be achieved. Short term they fear panic buying or use "by others" rather than a real shortage as a nation.

It is very unlikely that the population will be responsive to a call to their patriotism or to reprimands for their misbehavior as "wasters of energy." This seems to be because 1) they do not, in the first case, believe deeply that there is a long term shortage, 2) they do believe, however, that they are the victims of a "rip-off" designed to drive energy costs and other product costs higher so as to extract greater profits from the public. Therefore, they cannot be made to feel guilty, nor can they be made to assume responsibility for more than their own economic condition.

However, the latter may offer significant clues to conservation programming. They are interested in saving money. However, the saving of money, even on the basis of this small sample, must be in an amount large enough to trade off or compensate for any inconvenience or "doing without" that may be suffered as a result of their economic behavior. Thus, a significant saving in fuel costs, as a result of energy labeling, would have to be assured before the population would be willing to give up the conveniences associated with many of their appliances. This constitutes a $\frac{\text{savings}}{\text{hassle}}$ ratio.

It must also be noted that immediate (up front) costs are a geometrically greater detriment to energy associated costs of conservation than are costs that are spread out over time and are below the level of a ND (noticeable difference).

The personal stake need not be an economic one. A more psychological grievance such as outrage at the "rip off" or anger at a foreign energy source or an oil company could produce some level of "withheld consumption" which would be the equivalent of conservation.

DESCRIPTION OF THE DECISION ANALYSIS TECHNIQUE

The primary data gathering method employed was that of Decision Analysis Panels. These are described briefly below. A total of twenty-one panels were held in four regions of the country: the Northeast, Middle Atlantic, Southeast and Far West. They included manufacturers of appliances, distributors, builders and real estate sales personnel, government and utility energy officials, and two types of consumer: the private homeowner and the commercial building owner and manager. Since not every program delivery system or consumer segment could be interviewed in each part of the country, regional information was increased by individual telephone interviews and literature search. No attempt has been made to characterize the entire national situation. The effort was made to understand the nature of a few geographical areas and of the system subsegments and consumers operating in those areas, and to underscore similarities and analysis as well as by qualitative observation of the intensity with which views are expressed and supported.

Decision Analysis Panels: These are small group meetings (6 to 10 members) with homogeneous groups representative of the market segment to be studied or with heterogeneous groups representing related elements in the TDS. Stratification is balanced on a regional basis. Attendance is on a voluntary basis. A panel meets one time for an intensive two-hour session, although many have exceeded this period considerably because of the enthusiasm of the participants. The session is begun by completing a brief questionnaire. This provides a demographic profile of each group, focuses attention immediately on the discussion topic, and also is designed to reflect relevant attitudes of the participants before they can be influenced by group discussion.

The panel members' susceptibility to change of attitude is a significant indicator of the strength of conviction, and members remain anonymous so that discussion can flow freely. Meetings are conducted by experienced leaders skilled in the use of group dynamics to elicit information concerning attitudes, current behavioral intentions, and likely behavior, but also to provide information concerning the dynamic process of decision making: what forces and processes operate to change or confirm attitudes and behavior, responses to energy utilization in general and to specific characteristics of conservation and appliance labeling.

These groups are an effective mechanism for identifying and exploring attitudinal factors that have previously been neglected, and for motivational processes affecting the acceptance of understanding energy conservation that had not been considered previously. Decision Analysis Panels differ radically from "focus groups" in current wide use in industry, which present predetermined issues for consideration.

The Panels are conducted by senior professionals in psychology or sociology with extensive training and experience in group dynamics and motivation and decision theory. This assures maximum comprehension and utilization of the information obtained in the meetings.

DECISION ANALYSIS PANELS: ATLANTA, GEORGIA

In all of the groups, the manufacturer was regarded as primary beneficiary of any program whether it is to label appliances and thereby conserve energy or to continue things as they are. It was believed that the manufacturers are the ones that will make the big profits on the appliance labeling process. This is because they are organized and in a position to control price, quality and the testing of the appliance.

The government is also perceived as a obstacle to successful conservation. The efficiency of the government in implementing was not highly regarded.

Economic factors and particularly a style of home purchase was noted by both builders and low-income consumers. The buyer has a limited number of dollars to spend on a new home, and he usually begins his search at the top of his possible buying range. Thus, when the time to consider additional costs for better appliances or greater energy conservation, the consumer is not in a position to participate. Furthermore, the payback period on the more expensive appliances is too long for this highly mobile (moves every five years on average) population to feel that there is a real benefit.

On a more subjective level, the builder and the consumer alike are averse to regulations, requirements or conditions which result in hassles, arguments, delays and further fuss. Thus, most groups looked forward to the appliance labeling program as a source of hassle and controversy and decision making.

In the lower class group, the fifteen to twenty-five dollar difference may become more significant however. He is less likely to afford the additional thousand dollar cost that may be required for the energy efficient

equipment. And he is loathe to give up the quality of the house to purchase it. In this group, at this time, they feel that the cost of utilities would be sixth on a scale of seven. However, it may be becoming more significant as time passes.

They believe as do the more affluent groups that the labeling process will produce a hassle and a great deal of confusion in home buying. It constitutes another set of variables for the buyer to consider.

They do feel that the manufacturer should be forced to make things more efficient and that minimum standards should be set. In this way, all home sellers will start from an equal position whether than some being willing to undercut by using cheaper appliances and thereby competing unfairly.

They noted that in their experience, people do not know the best brands or care about them. Big name prestige is far more important, such as General Electric. They also note that people can pay for energy efficient appliances without benefiting because they may use them in an inefficient manner.

It was noted that people care more about "keeping up with the Jones" than they do about expending money and that this may be a key to the marketing of appliance labeling if it is used properly.

The groups agreed that word of mouth is the final best aid in decision making. The credibility of the government remains a significant issue if the government is to be the source of such information. The level of credibility of the source must be improved. They agreed to the attention getting quality of television, but thought that radio might be as good a means of communicating at lower cost.

The groups stressed that the most important message is that something can be done about higher prices and inflation. This seemed more salient than conservation in a time of uncertainty concerning the reality of the energy crisis and its duration.

This last finding would seem to support the constraint-release or stress-release themes that have been suggested in the report on energy appliance labeling.

All of the groups were particularly attracted to and positive toward the image of the decisive, attractive woman as the model saver of energy. There is also no reason to believe that this involves much "keeping up with the Jones." However, they feel that overall energy efficiency is hard to sell; that it is not a highly impacting message. The passage of a year and a half may have tempered this conclusion. However, it is likely that the overall thrust of the findings remains pretty much the same.

Summary - Decision Analysis Panels - Disaggregated Occupational Groups

ATLANTA - 1: Builders

As in all of the groups the manufacturer was regarded as the malefactor. Builders, apartment owners, and home owners, all believed that the manufacturers were the ones that would make the big profits on the appliance-labeling process. That they were organized and in a position to control both price quality and testing.

This group described their decisions as being based on supplying the lowest cost to the largest number of buyers. They felt that this would give them the greatest return on invested capital. They set their profit level at the maximum point without an extreme profit that might drive some buyers out of the market. It is also important to them to minimize

the number of complaints and "hassle" that they get from buyers, because this cuts into both their profits and their mental health.

It was explained that the buyer has X number of dollars for a new house. He starts looking at the top of his range. This results in his having little money or credit to switch to buy additional niceties of which energy-savings may be considered a part.

The pay-back period on appliances (as well as on the entire energy efficient house, and on such things as solar and other alternative energy sources) provides too slow a pay-back for the highly mobile buyers of this region (four to five years average). On the other hand, while this statement is repeated several times it is noted that when these are included in the mortgage, they are less troublesome. However, it does push the buyer to exceed his credit limits and this poses the major problem. It is noted that the buyer is not impressed with a fifteen to twenty-five dollar saving on utilities and they stated that, as of the beginning of 1979, the only cost-saving that has actually reached the consumer is that on the microwave oven.

ATLANTA - 2: Consumers, one Consumer Activist, one Energy Specialist

After an initial outburst at the manufacturer, it was noted that the manufacturer is the one most likely to profit or succeed as a result of this effort on the part of the government.

They noted that the priority of energy in our mode of thinking may be increasing, but it is not yet significant.

This group was quite prepared to shift the burden to the next generation, explaining that education of children for energy economy was the most effective way and that therefore it should be used. It would produce

conservation in ten to fifteen years, but this is the way to make sure that it takes place.

They urged, as did all other groups, that the presentation be kept simple and that focus should be put on the salespeople who influence that final decision. They feel that education should concentrate on how to use the label and here again the salespeople can be critical.

The themes of the decisive women, keeping up with the Jones, tension release were quite satisfactory. They were concerned about how they would be presented and felt that prime television was better than late hour presentation. Once again print media was regarded as superior and word-of-mouth as the necessary validator.

ATLANTA 3: Consumers, with one Utilities Employee

It was noted that builders can't sell energy-efficient houses these days (January, 1979). It was also noted that landlords buying appliances for a home in middle- and low-cost apartments tend to buy the cheapest equipment and are not concerned with utilities prices. (Another group felt differently about this, the apartment renters.) People with all electric houses were regarded as being in trouble and would have to conserve.

While the group generally favored the energy-efficiency-labeling process, they were opposed to government regulation. However, they voted the manufacturer the most likely to benefit and succeed from such a program.

They noted, as have others, that resale time is short and pay-back is long.

Convenience was deemed to be more important to people than money, and life-style prevailed over all. While this is generally true, there are some areas in which token energy efficiency efforts are made.

They liked the themes that were presented to them, particularly the effective, decisive woman with the happy family.

The group was informed with regard to how materials should be presented. They felt that in television broadcasting that things were more credible. They felt that radios are effective when used in travel hours; that is, auto radios.

They felt that print media is more, much more, effective and constructive than the canned media and urged newspapers, and such magazines as Family Circle. They also noted that the Sunday supplement is an excellent advisor on most styles of life information and that people do tend to follow its leadership.

ATLANTA 4: Apartment Owners and Renters (who spoke as consumers as well).

The members said that the most important decision makers, and gaining in importance, are the lenders. These they regarded as "the key."

They noted that the builder-developer-investor needs more information on pay-back which is the key before the final profit.

As with the others, they mistrust the manufacturers and expect to be scalped by him.

They also note, however, that the ability to reduce utilities cost can make the difference between profit and loss for some organizations.

They noted that dollar ratings were probably meaningless. They are time-tied and locality-tied and will be confusing to a large part of the population.

They preferred advertising by private enterprise, although they felt that word-of-mouth is necessary to back this up. Generally, the injunction was kept the message short through short "spot" announcements.

They introduced the idea of an extension service which had not been mentioned heretofore. They did not consider that the lower income population had a significant role to play in the decision making in that most of the decision making with regard to new appliances is made by builders, developers, renters, etc.

DECISION ANALYSIS PANELS: RHODE ISLAND
(Pawtucket, R. I., and environs)

The population interviewed believes that the appliance labeling idea is basically a good idea. However, they have reservations about its implementation by the government. They feel that the Federal government has a tendency to over-regulate and they are suspicious that this pressure will be unproductive. There is considerable concealed hostility to the Federal government. And yet, there is considerable dependency on the government for protection. Thus like so many of the groups interviewed, they ask for protection but have reservation about the government's ability to provide it efficiently. The EPA experience was repeatedly described as having destroyed their confidence in the government in such matters. Indeed, the EPA numbers may have destroyed the credibility of the Appliance Labeling System.

The government has been relied upon for protection from industry which is regarded as seeking an advantage at all times. While they are in favor of free enterprise, they also want protection against the ravages of unbridled free enterprise directed against the consumer.

Perhaps the most sensitive feelings concerning industry in the northeastern part of the United States are reserved for the utilities. Here, it is noted that despite conservation efforts, utility bills continue to go up. Thus, consumers logic is not to blame the appliance, which is held constant, but rather the utility that is increasing its charges.

The more affluent members doubt the effect of a voluntary program.

The low- and middle-class group want freedom of choice, competition and oppose government involvement while asking for protection from some source.

All of the groups sampled are uncertain about when an appliance is operating efficiently. And, therefore, need some sort of reassurance which the Appliance Labeling Program may be able to provide.

Based on the comments and the pattern of response of the panel members, the most likely to accept the Appliance Labeling Programs and make use of them are the following order:

- 1) First-time purchasers
- 2) Housewives who tend to read Consumers' Union
- 3) Business who have larger volume of appliances in use, e.g., apartment house owners, retail store owners, etc.

More generally speaking, the affluent and the mechanically inclined may tend to rely on this program more than the lower-middle-class white and blue collar workers who have assumed a kind of hopeless and helpless response to any sort of conservation activities at this stage in the development of the problem.

It is anticipated that home owners with experience in purchasing appliances or using them will rely on their experience with both the availability and effectiveness of service and the efficiency of appliances as well as the "breakdown" rate.

There is a tendency to shift the responsibility to the next generation and expect the young will learn more about conservation because they will have to. Thus, they reveal a "no win" hopeless kind of attitude in which the utilities' rapacities and inflation will increase at a greater rate than their ability to conserve.

There is a feeling that the fuel bills are not revealing enough and both conceal the level to which they are exploited and the possible avenues for improvement for saving efforts.

As an overall target, the housewife is regarded as the best object for these programs. They like the efficient, attractive, young housewife and mother who handles her household affairs in a businesslike manner, and felt that this would be the best vehicle for furthering the labeling program.

The criteria to be desired of a label were described as:

visible

complete

information available on how to use it efficiently

dollar-price comparisons that determine long-run costs with no need to do calculations

certainty that information provided is locally adjusted and current

comparability between gas and electricity so that one can judge the best of the two alternatives

DECISION ANALYSIS PANELS: FRESNO, CALIFORNIA

The groups revealed considerable skepticism about industry's avarice and government competence.

They do not like slick presentations.

They want information for decision making and a choice given to the public.

They feel that the supplier (industry) should be controlled and minimum standards set for equipment. In this service, consistent government policy would be beneficial.

Cost is the major issue in the decision making, not energy conservation. They feel that the technology delivery system for appliances makes this problem. The use of elaborate formulae should be avoided (part of the "keep it simple" theme).

Closely related, they feel that there is excessive pressure on the consumer. He has been subjected to price pressure and shortage pressure. He is not receiving enough information and he is being blamed for the shortages which are blamed on his failure to conserve.

There is something of a government credibility crisis and they feel that the government must reassure that it is capable of doing an effective job in the energy area. That there is a need for a national energy plan, and that there is yet (1978) no sight of it.

Further, they would like to have trust in the government, in its administration of energy policy.

They feel that word-of-mouth information with regard to maintenance is probably the basis upon which selection is made. Consumer Reports and other journals help, but not as much as the friend's word-of-mouth communication.

Skepticism was revealed by the repeated statement that someone will make money from this labeling operation, and it is necessary to have a crisis to assure that things are straightened out.

There is a need for information and advertising and that this must be geared to the consumer's information and motivation rather than that which is perceived about his separate wants and needs.

Women seemed closer to the application of the appliance labeling process while the men in this group discussed it as a theoretical or national policy issue.

The more practical members of the groups were concerned with up-front cost and the further issue that, if one item is cheaper than another, why is that so?

They were interested in the cost of the labeling process. Will it be greater than the cost of the energy conserved (thus cost again emerged as the critical issue rather than the conservation of energy).

They were very concerned about the creation of a larger bureaucracy to administer such a program and felt that the taxpayers were not sure that there would be a net savings if this were true.

They feel that there it is necessary to provide motivation leading to greater personal involvement in the energy situation in general. They feel that people do not trust each other, consequently, there is little cooperation and little conservation.

They were concerned about the problem associated with ruling out certain kinds of appliances, feeling that things obtained greater value when they are proscribed. They feel that on this score an effective job of labeling may help to counterbalance the value that develops from something being denied.

The group felt there is a need to concentrate on youth. This was heavily emphasized and it was stated that teachers are the key people. They also stated that they doubt that the older generation can change, but that those from nine to fifteen may be able to modify their consumption patterns for the future. This has been encountered in most of the groups and would seem to represent a honest and realistic representation of the case as these people see it, but also a tendency to project the responsibility for conservation onto the next generation. This would state that they have no real intention of changing, but that the next generation can learn to live with less energy.

It was felt that while television is an effective way of reaching people, it will not change behavior alone. That what is needed is television, plus other media, and advertising as well as word-of-mouth support for it.

In keeping with the desire for simplicity in the labeling process, it was stated that numbers that provide evidence of efficiency and can be used to compare efficiencies are the most useful labeling information.

While they don't perceive the appliance labeling program as being a mandatory one, consumers and business people expressed strong concern about government programs that remove options. They repeatedly say that they do want to have freedom of choice on an educated basis. (This is the most objective, sometimes unrealistic, and certainly, most upper-middle-class attitude.)

Economic issues appear to be upmost. However closer examination reveals that it is not absolute price, but a number of modifying issues controlling the economic issues (e.g., uncertainty about fuel prices and about the cost/benefit of an energy efficient appliance) that have a greater impact on consumer decision making than the actual dollar price or up-front cost.

If people could be sure that this was the most efficient appliance and that fuel price increases were indeed proceeding in a linear manner or higher; if they could also be sure that they lost no reliability or convenience, they would be more likely to accept the energy-efficiency label. However, inconsistent economic behavior and lack of credibility by the several sections of industry, utilities, and government have created an uncertain situation that promotes skepticism and either caution or impulsive buying by the consumer. This is heightened by the rapidly spreading word that if you conserve rates are likely to go up and every group is able to offer illustrations of that prediction.

The prevailing opinion among builders and both upper- and lower-class groups interviewed has been that the focus of the problem is the manufacturer, that they have the power and the organization, that builders are disorganized and can do very little in a constructive way. All groups agree that the builders are the first line of complaint. The purchasers feel that this is justified. The builders, of course, reject it and place the blame on the manufacturer.

The builders feel that size, appearance and warranty are the effective determinate of whether people like the appliances or not. They really don't care about an energy-efficiency label and this is more likely to be true the lower one goes on the social-economic scale. They feel the low-income people will try to save dollars, especially initial cost, and that the higher-income purchasers will opt for convenience and operating economy in that order.

With regard to the issue of public education, they feel that prime-time television will be more effective than late evening public service announcements. They have a great skepticism of government-sponsored

programs and feel that if the government sets its standards, the private sector will educate. Overwhelming vote for "credible media" was offered. This means print generally, such as newspapers or magazines like Good Housekeeping or Family Circle.

Summary of the California Materials. This population seemed to favor the 'glamorous and decisive woman' theme. They were a little less certain about the constraint-release method and the lower-economic groups felt that it was manipulative. However, they then proceeded to respond effectively to constraint-release stimuli.

Two other themes were offered periodically by the groups and appeared with startling frequency. One had to do with "keeping up with the Jones" by conserving and saving. The second was based on "Do you want to beat the system?" This presentation has considerable promise since there is so much skepticism and so much feeling of being exploited by industry. Thus, mobilization of conservation as a way of beating the system may be fruitful.

The medium to be used in presenting the program was discussed. While prime-time television was seen as better than late, late show public service announcements, the general response was that the print media is more credible, more lasting to recall, and more convincing. It was noted, however, that the most reliable source for decision-relevant information was word-of-mouth from a friend, or an expert, or the best of all possible worlds, a friend who is an expert. Print in magazines of good repute such as Good Housekeeping, etc., is very highly rated as a source of decision-making information.

A general review of the delivery system for energy efficient appliances provides some potentially disturbing information. Negative

attitudes are widespread concerning the manufacturer, the distributor, the builder and the apartment owner. These groups feel that the government program will heap more blame on them. Home owners are skeptical about the effectiveness of the program because they feel that it will either be used by this delivery system to exploit them or that the delivery will find some way to circumvent the energy appliance program. They feel that the primary pressure should be put on industry to satisfy minimum standards. On the other hand, they want a maximum choice in the hands of the consumer. The nominate themes and conflict in the American public at this time may be represented in a blending of "please protect me, but don't fence me in."

The groups found the effective young woman and mother to be highly satisfying and effective medium for communicating about appliance labeling.

They found the constraint-release method (that is, building up tension and then providing an explanation that relieves them of tension and at the same time solves some aspect of the energy problem) to be effective as a practice, but when the process was explained to these groups (particularly, the lower socio-economic groups) they felt that there was some element of manipulation and were turned off by it.

Keeping up with the Jones was regarded as a universal way of convincing people to accept a program.

In this population "beating the system" was regarded as the best technique. They felt that if the system was exploiting the consumer, whether that consumer was an actual apartment dweller or new home owner, or was a builder or renter of apartment, that the idea of using conservation to beat the system would be the most effective way of communicating the program.

DECISION ANALYSIS PANELS: DISTRICT OF COLUMBIA

D.C. - 1:

Comments from the group. The number of times they are repeated or agreed to is indicated by number of asterisks in front of the statement.)

- *** Conservation doesn't help. Your rates and your bills go up anyhow.
- ** You are charged for more than you're using. It's a rip-off anyhow.
- * All bills tend to be alike whether you use much or little.
- ** Children are relatively uncontrollable in regards to conservation, and therefore, there's no hope. The utilities are an intangible piece of information to children.

In the face of the pressure of high utilities bills, however, the group listened, and any aid was welcomed, at least verbally.

- *** They don't trust the government. They are more crooked than we are. You need to defend yourself.
- ** Good labels could help, but the consumer might suffer from them as well. The EPA experience was a negative one. It was not realistic, and therefore, anything like it turns them off.
- ** Each feels that he will conserve, but others do not. This is a reason not to conserve yourself.
- ** Don't expect much from labeling.

It is expected, however, that the manufacturers may compete for good label ratings and thereby lower costs through improved technology.

Summary. Overall there was an interest in the labels and a sense that the labels themselves were a commendable idea, but they did not

expect the government to do the job well, and that they did not trust industry not to take advantage of the labels to rip them off further. Above all, there was the feeling that to conserve energy is useless, because if you use less energy which is the objective of the whole program, the utilities will get you anyhow.

*** They do not trust manufacturers or government. Or even the media. They feel that many of the commercials, public service and otherwise, are non-sensical or worse.

It's important to have local ratings to provide for local rates.

The commons problems extends to this group. They feel that no matter how hard they try, somebody else will get a free ride, and therefore, this justifies not really trying.

D.C. - 2 (A Middle-Class Group)

The efficient use of appliances is difficult. The utilities do not really want conservation, and children prevent it through their wasteful habits.

Uncertainty with regard to one's bills, both gas and electric, is a serious problem. They cannot build their expectations on their own personal use because the utilities have arbitrary control over the bill, and it is not possible to deal with them or challenge them.

The high costs are obscured by the budget plan, but they are very high.

The budget plan may relieve the stress required to make people conserve. Some people are abandoning the budget plan. They can see the effects of their efforts better when they do not use it. Those who have dropped the extended payment plan believe they are functioning more economically now.

District rates appear to be higher than nearby Maryland.

There is a sense of being "ripped off" by the utilities.

The utilities take advantage of their monopoly and are inefficient and careless, and much of the waste is attributable to this.

There is a pervasive sense that they are losing ground to the utilities bill. It may be inflation, and it may be the company.

Children are hard to control when it comes to using appliances efficiently. Basically, what is being said is that they do not want to cut their energy use or acceptance.

If the labels were accurate, they might work. But they've been made skeptical by EPA experience.

The group seems exceedingly well-informed. However, they are moving towards lower morale because they simply cannot "beat the system."

They feel that people won't change their habits, that "I will, others will not." This includes the members of their own family with whom there is a constant hassle. The net conclusion is why should I try.

They feel that labeling won't work. They need a war which would tend to unite people behind a common goal.

They feel that school programs have not influenced the children. That "these kids" need to wrestle with a budget themselves.

Nevertheless, they are unable to control or deprive their children because of their own guilt feelings.

The media. They themselves would prefer not to listen to fifteen minutes of science but they feel that spots and good commercials might do the job. They want these to be serious, not cute. They do not want to be treated like children. However, what it boils down to is that they "don't believe government or industry." They do believe such things as the morning show and its experts.

When describing the label, they urged that it needs to be comprehensible, and not screwed up as are many of the labels.

They are casual about the management of the thermostat. (This seems to represent conservation to many people.) In general, the thermostat is not well-intended, although they will try to make it sound as though it is.

When asked, most agree that they like comfort and further feel guilty about asking sacrifice from their young.

They repeat that labeling is a good idea, but they feel that they are without leadership. They didn't know that they could do things about the energy costs until they were told by a friend.

There is some reservation, or rejection, of the label from certain quarters in the group. The feeling was I will conserve through less use rather than more government bureaucracy. They doubt the competency of the raters and their ability to test the appliances. They have been burned about cars, and ripped off in several ways by government ratings. They doubt their effectiveness.

They also doubt that industry's warranty is any good. They feel that it may not be observed, or that it is misleading.

Many would prefer to do their own research, but most will not take the time, and thus, they go to friends, or to Consumers' Union.

"They do not trust the government." "They are more crooked than we are."

Thus, there is a totally cynical attitude with utilities seen as impersonal and not helpful, as well as ultimately avaricious.

SUMMARY REPORT: GROUPS IN THE DISTRICT OF COLUMBIA
DECISION ANALYSIS PANELS FOR ENERGY APPLIANCE LABELING

There is an overall sense among the groups and the individuals with whom we met that while they would like to have a labeling program that would provide them with additional information, that they are skeptical of the government's ability to provide the same as well as industry's willingness to provide the same.

They feel that conservation does not help. That there is no way to actually conserve fuel and reduce the ravages of inflation because the utilities, industry, and the government are conspiring to rip people off, and will not tolerate the reduction of expenditures that would ensue from real conservation of energy and dollars.

A great many obstacles are presented. Children must be controlled and educated to conservation. However, they observed that this is virtually impossible to do, and that neither the parents or the schools are doing a good job of it. Nevertheless, their own guilt with regard to depriving their children precludes the possibility of imposed conservation. Of course, this is coupled with the hassle of having to be after one's children all the time and the potential threat of losing the child's approval is added.

In addition to the failure to trust the government, industry and the utilities, there is a feeling that one must defend himself. It is unlikely to this group that there can be a general conservation effort.

They feel that while they themselves would conserve, that others will not, and therefore we have the effect of a "commons" situation in which they are stating flatly that if others do not conserve, they will not do so either. To do otherwise would be to be taken advantage of.

They see the television programming as the best way to call attention to such as programs. However, they find most of television experience to be juvenile and treating them like children. Further, they have the added defense of the fact that they do not trust the people who sponsor the programs anyhow, whether they be government or industry.

Also, they do not like longer programs and will insist upon entertainment as a way of achieving their objectives.

Lastly, confronted with the confusing hassle of their utilities bill, they puzzle over the way in which local ratings can be provided that will provide utility to them, and are generally skeptical that anything can be done to overcome the barriers to improved conservation.

PART B

RESPONSE TO CRITICAL ISSUES AFFECTING LABELING OF APPLIANCES

Awareness of Labeling.

Very little awareness at the time of decision analysis panels and little increase when question was raised during the 1979-80 energy research. More sophisticated participants are vaguely aware of plans but feel it fell through as with many early energy plans.

The differences on efficiency are known to consumers, some of whom feel it is important. Most do not believe that appliances other than heat-cooling, hot water and probably refrigerating make any difference. They also expect difficulty in using with government not caring.

Builders, building operators and appliance manufacturers are quite aware and resistant to it. They see it as a further regulation or control.

Credibility

Not much. The Environmental Protection Agency ratings remain a joke, despite efforts to explain that they are for comparison, most consumers feel they are invalid. They are delighted to catch the government agency in error and will not abandon the grievance.

Appliance labeling is further complicated by problems of local energy cost differences and potential difference of data presented. They have an image of government information as not enlightening or useful.

Lower socio-economic (SE) class users, and upper alike, do not rate the government as high in credibility although they do want the protection and have few places to turn to. A significant demonstration of government credibility would fall on fertile or hopeful grounds after it was proven.

Potential Utilization

Higher socio-economic (Ed) consumer groups will probably make use of it although they were very critical.

Lower socio-economic groups have less discretion in such matters. Either they rent or buy houses with no choices or do not have the initiative to demand choices.

Builders, operators, real estate sales people are likely to be more responsive to factors governing the market at the time, e.g., what the buyer wants, and what gives the builder, et al, the best cost/benefit in terms of sales during '78-'79. This was appearance and convenience. The builders et al, did not expect this to change as long as the manufacturer and the utilities dominated the situation.

Manufacturers were opportunistic. They opposed regulation yet clamored to welcome improved criteria and standards.

They preferred to let competitors operate alone. However, they did not suggest that they would be uncooperative--usually they had a variety of suggestions for the label, its location, size, color, information, etc. (This is available in FTC hearings.)

There was general agreement by all including retailers that the greatest gap in the delivery system for the label is the retail sales situation. This is an uncontrolled encounter between salesperson and buyer and many abuses can take place at this point, a well-informed consumer is the best defense in this setting.

Perception of Labeling Information (?)

A. Accuracy -- Federal government is not highly regarded. The Department of Energy is confused with the Environmental Protection Agency and while it does not get high grades for credibility, the EPA auto(?) rating is apparently discredited.

Here we note a critical discrepancy among statements of consumers.

They do not believe EPA ratings, but they use them in one of two ways:

- 1) If they have no other information on which to make a choice, they will consider EPA.
- 2) They group cars into three categories:
 - a) low mpg - luxury 10-17
 - b) medium mpg - 17-25 pg
 - c) high mileage, fugal cars - 30-50 mpg.

It agrees with other conclusions to support their preconceived decision.

B. Technical Reliability. While there was not extensive discussion of the government's technical reliability, some opinions were expressed by individuals who presented themselves as well-informed (engineers, scientists, etc.) These views were skeptical of the government (and industry, as well) tendency to have technical characteristics checked by private testing companies. These were regarded as inaccurate, sloppy and subject to influence. Greater confidence was expressed in in-house government work such as the Bureau of Standards.

And the source of concern about technical reliability was directed toward industry. The tendency of appliance manufacturers to put out modifice models during the year was brought up repeatedly. It was suggested that this was a rip-off, that inferior products were produced after the testing by Consumer Reports and laboratories.

C. Honesty -- The government is perceived differently by the several population segments. Higher income and technically or business oriented people did not question the honesty of the government agencies although they did question their contractors (testing companies) as noted in B above. They did question the ability of the government to manage the job.

Lower income and unskilled populations were far more cynical. While seeing the need for government protection of their interests, they felt that the government-industry-commercial combination, unwittingly or otherwise, worked to their disadvantage, and that they "could not win." With this population the "victimization" response occasionally approaches with a sense of conspiracy to rip-off the common people.

D. Consumer Protection - The public in general is ambivalent about the government's role as consumer protector. It is seen as the legal and legitimate function of government yet as noted above -- the upper middle class, informed population questions the effectiveness of the government -- the lower middle class, to semi-skilled workers, is unsure of the honesty or the competence of government.

Both groups want protection but without regulation which is seen as hobbling enterprise. The dissonance or inconsistency is resolved by suggesting that the market place will resolve the matter in form of the "better buy." However, there is agreement that consumers do not have enough information to judge their products and that technical information provided is either not understandable or of questionable validity.

Further, the efficiency of the market place is diminished by the perceived ability of "big advertising" to sell anything.

This latter conclusion by many in the public is borne out by the builders and renters' statement that "Big Name" products are preferred to "better" products. Thus, "reliability" is a subjective value. It appears to be based on the belief that "If you want redress for a poor product, you have to find the manufacturer first. The association of unknown components with "fly-by-night" is almost universal except among the well-informed.

Thus, consumer protection, while perceived as a function of the government generally resides in the consumer's estimate of the size and reputation of the manufacturer.

E. Transfer of Perceptions to Energy Labelling. -- We have noted alone that the government is perceived as an appropriate protector of public interest, however.

1) The significance of energy gains are questioned in view of the cost of the program in dollars and hassle.

2) The ability of the government to provide valid estimates for labels is in doubt, in large part because of the EPA's problems. However, the general disenchantment with regulation contributed to the doubts.

3) The overall ability of industry to take advantage of any program has been transferred to appliance labeling. "They will end up making more money on it."

4) Not necessarily in conflict with 3) is the belief that Industrial efficiency will be reduced despite the logic inherent in labeling as a promoter of competition, a large segment of the population (commercial and low income perceived any government regulation as "hobbling industry" and deregulation as promoting competition and efficiency. This mind-set must be dealt with where possible.

F. Consumers responded in much the manner anticipated by the builders, et al. Lower income groups were generally confused about costs of all but the largest appliances (heat, air conditioning and hot water). They did not expect to gain much financially from the process because they anticipated that any revenue reduction by the utility would be reclaimed through increased rates or adjustments. Higher income groups did not perceive at that time that savings would be a sufficient percentage of expenditure to merit giving

giving up convenience. The latter was sometimes a conscious decision more often subliminal.

Dryers were the only major appliance other than heating and cooling equipment to capture the attention of the consumer.

G. Differenced Between Attention to or Effect of Labelling among Appliance Groups. -- (At the time data was collected final decisions had not been made concerning which appliance would be labeled.)

Responses differed among several groups studies:

1) Builders, renters, and real estate sales people felt that the only significant energy saving could be achieved through space heating and cooling and hot water heating equipment. They felt however that refrigerators, washer, dryers, etc., would have the greatest effect on sales and on the resultant hassle. They stated that failure to meet the expectations produced by the label would result in a huge cost in dollars and time to business. This was a major objection to the program.

They also stated that energy saving would have less appeal to home buyers than appearance and convenience, that stressing energy conservation (at that time) would be counterproductive. Some still maintain that energy conservation is given lip service but that appearance and commerce determine the decision.

Characteristics of Labelling. - While some discussion of format and control of labels was indicated in the Decision Analysis Panels, to do so systematically would have undermined the other decision-oriented function of the panels.

It was possible to determine that most consumers and many others felt that the label should be "salesperson proof." This was necessary because they could be shown or hidden depending upon their utility to the salesperson's agenda and profit margins.

Builders, and real estate sales people, on the other hand, did not want it glued or permanently affixed in a position that would adversely impact on appearance of the appliance.

Information Desired .

Consumers were by a large majority interested in the cost of operation per billing time. They wanted to know "why their bills were going up?" and "what effect does each appliance have?" Many were interested in relative cost (i.e., how does this compare with other comparable appliances?) Life cycle costing was brought up more to indicate sophistication than because of real interest. When questioned, many did not expect to be using the appliance for the full "payback period." Others did not care. The major expression was about the escalating cost of energy as a "rip off" or an insult rather than a major economic loss.

Few were concerned about the amount of energy consumed or saved. Conservation by an individual or family was either economic in motivation or designed to show the skill or sophistication of the user.

More recently the loss of American prestige and power coupled with the Iranian crisis has produced a personalized "We have to show them" attitude among a growing number of consumers at all social and economic levels.

Factors Affecting Decision to Purchase.

How often appliances are purchased and how many are sold per year is of little consequence in the consumers decision to purchase. Indeed, the number sold per year would be of no value, and the duration of utility of an appliance is likely to be of only slightly greater concern since the average occupancy of the dwelling is about five years, which is less than the duration of utility of most of the appliances that will be labeled.

The amount of energy used by each does become an important datum to the consumer. They are aware of the fact that space heating and air conditioning and hot water are the greatest users of energy. However, it is unlikely that these will be labeled and the consumer does not on average feel in a position to make such a decision, therefore the next greatest amount of emphasis was on appliances such as the dryer, and the refrigerator.

Informing consumers about which appliances use the greatest amount of energy may be carrying coals to Newcastle to some, and may indeed be insulting to part of that group. However, it is probably necessary because a sizable portion of the less well educated population does not have accurate information about which appliances use the greatest amount of energy. This was notable, not only with regards to those appliances that are currently contemplated for labeling, but also smaller appliances which may use a sizable amounts of energy.

How Much Deliberation Goes Into the Purchase.

DAP findings revealed that the largest and most expensive appliance acquisitions reflecting the greatest energy use generally were the products of very low levels of deliberation. Where new homes are purchased, only

the most sophisticated buyers responded to the quality of the equipment. This reflected a very small percentage of the population in the highest economic brackets. Generally, the home was purchased as a package. Where comments were made, they generally reflected the style rather than the efficiency of the appliances and sometimes extended to the repair record. On the other hand, very little was done either to influence the seller to produce other appliances or to change the decision to buy on the basis of the available appliances. Within this situation, the equipment that was least controversial was the heating, cooling and hot water equipment. These were generally taken at face value as part of the package, and only very visible equipment such as refrigerators and dishwashers were deliberated on. As was indicated the deliberation rarely involved energy considerations.

There has been some trend to change this practice in the past six to eight months. Research performed for another study touched on the appliance choice process and revealed that economic considerations were beginning to intrude on the buyers deliberations concerning new homes, and the term energy-saving appliances have begun to be more than an unnoticed inclusion in the list of home characteristics.

For those consumers who are buying new major equipment such as hot water heaters and heating and cooling equipment, the decision is usually a very hurried one. The breakdown of space heating or cooling equipment already in place or a hot water heater already in place generally results in the calling of a plumber who will recommend equipment that he sells or perhaps give a choice of a regular or delux unit. The consumer's deliberation and decision process is quite limited in these cases.

Where a decision has been made to air condition a previously uncooled home or area, the deliberation process is extended quite measurably. At this

time deliberations involve going to the newspapers, in the case of the more sophisticated, going to consumer-oriented magazines, seeing what is on sale, or as is frequently the case, contacting a reliable prior source of home-oriented equipment, such as Sears, or Montgomery Ward, or J.C. Penney. The reliability of these merchandizers remains constant over a long period of time. Perhaps the most important source of information and validation however is discussion with friends and relatives, particularly if these are well-informed or have had experience with the purchase of such equipment recently. Only those people who are most isolated will not check any purchase out with a friend or relative before deciding on the final choice of a major unit such as an air conditioning unit. It is noteworthy that there is not perceived to be a large difference between hot water heaters and their efficiency. The major issue with water heaters is their size and their recovery time. However, air conditioners and space heaters are seen as major users of electricity and large differences between companies and models are expected by those who are making independent purchases.

How does the decision process take place for major categories of appliances?

As was noted above, the major decision was made by builders or apartment owners, or the management of real property. Frequently in consultation with marketing or sales personnel which reflect to these decision makers the opinions and decision process anticipated from the potential buyers. These decisions are made in large part on economic and marketing bases. A ratio of cost to ability to influence the buyer is calculated either objectively or subjectively. However, the weight of the ability to influence the buyers has generally been in the direction of appearance and convenience rather than energy conservation. The description of equipment as energy conserving is a shibboleth which may be true or not true and relatively unmeasurable and therefore it is used indiscriminately in most sales presentations.

We have noted above the decision factors for those private single family purchasers of appliances. A relatively small portion, perhaps twenty to thirty percent will seek information from consumer-oriented journals. They then compare price, service, reliability of the seller, length of warranty, and speed of installation. The energy-efficiency of the equipment is noted but probably has lagged the above considerations until very recently. It is increasingly becoming a factor. However, at this date, summer of 1980, the cost to the consumer of repairs or delay in service and the length of service remain more important convenience and economic factors than the amount of energy conserved.

Factors Involved in the Decision Process.

A.) What is the sequence of events leading to decision making? As we have noted, the main deliberation of consequence takes place in the replacement market. Only rarely is the introduction of a new major appliance such as an air conditioner or a dryer a new purchase. Since we are dealing with replacement, the first question usually entertained by the consumer is 'can the old appliance be repaired?' Thus, he is likely to call upon either a merchandiser, service department or repairman who services the particular brand currently owned. This is very likely to produce a repurchase of the same equipment, or a similar product of the same company. If the equipment cannot be repaired, since service call time is expensive, the consumer generally finds himself hurried into such a decision and only the most steadfast have the opportunity to "shop around" or check out a decision with significant and respected others. Even when changes in the product purchased have appeared they have frequently been revealed to be recommendations made by the repairman who has changed his opinion, or who is marketing a new line of products. Thus, it would appear that in the emergency replacement situation the repairman is the key agent

air conditioning ad and the consumer generally recalls two or three major manufacturers. More immediate factors include the recent daily newspaper which may direct him to a given merchandiser, either a retail change or a discount house. It is at this point however that the sales personnel becomes the principle factor in the decision by recommending, directing, actively pointing out positive and negative characteristics of the several choices, and in general, being able to target the particular needs and characteristics of the potential purchaser in a more effective manner than the media are able to do.

Despite the advantageous position of the sales personnel, a very large part of the population are suspicious of non-technically oriented appliance salesmen. They believe that these people are seeking the highest possible commission, and doubt their statements. Thus, the appliance label may be most influential as an alternative source of information to sales personnel. It is also possible though for the sales personnel to use the label information to his advantage or for him to discount its effectiveness. This will remain a major problem for the equipment-labelling program.

A very small part of the population is relatively passive and will accept advice and guidance from anyone as long as they do not have to make the decision themselves. This portion of the population is likely to be guided and then complain about the sales person's dishonestly.

The Decision Panels suggest that the individual purchaser, shopping alone, is most susceptible to influence, but is simultaneously more suspicious. The better informed will make a more personal decision after weighing available information. A very large part of the population will check back with a respected relative or friend, and a small part of the population will be guided by the sales person alone as noted above.

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TASK C

INVESTIGATION OF INDIVIDUAL AND SMALL-GROUP DATA QUANTIFICATION TECHNIQUES

TASK C

Investigation of Individual and Small-Group Data Quantification Techniques

I. The goal was to investigate what methodological work has been done with A) quantitative data gathering techniques applied to individuals and small groups which might B) provide reliable and valid market data C) through small scale studies which could be carried out quickly, at low cost, and D) possibly without the need for highly trained research personnel.

II. Results. The investigators could find no techniques in use or under development which meet all of the criteria listed. (Consultations were held with the University of Michigan Social Science Research staff, the George Washington University Department of Theoretical and Applied Statistics, the University Department of Psychology (industrial, social and clinical), and with the former Bio-Statistics Director of the National Institutes of Health. This selection was made to obtain the most knowledgeable advice possible from organizations with expertise in theoretical methodological issues combined with active programs in applied research.)

A. Qualitative techniques, of course, exist. These include individual and small-group interviews (from unstructured through standardized), Interviewing and Decision Analysis Panels were used in this study. These qualitative techniques demand a high level of training in administering the technique, as well as in content and thematic analyses. Reliability and validity are best assured by the tandem work of at least two investigators (inter-judge input to the data analysis). They can also be quantified.

B. The totally quantitative techniques all suffer from validity problems due to poor level of resolution and small-sample generalization problems.

1. Q-sorts, for example, have passed out of use in industrial, social and clinical psychology research because their quantitative use demands gross levels of classification. These, in turn, are analysable only with correlative (i.e., superficial) measures. In addition, obtaining enough data for quantification requires as lengthy a Q-sort as possible. This is excessively burdensome for most respondents who will not always tolerate the procedure.

2. Focus groups are extremely popular at the present time among marketing corporations. Their strength is that the same list of issues and associated rating scale is administered to each of several (or many) discussion groups, after the discussion of predetermined issues has focused their attention, and given them the opportunity to consider factors brought up by others. Their weakness is that the items rated are predetermined, and do not reflect many issues arising in the discussion. Data are limited to issues which are on the investigator's mind, rather than those of significance to the respondents. The restriction in range can severely affect validity unless group leaders are competent, sensitive and flexible.

3) Short surveys suffer from the same problems as focus groups. In addition, since the respondents are only confronted with the questionnaire, the context is weaker. Responses tend to be affected inordinately by exact item wording, by desires to please--or get rid of--the interviewer, by lack of concentration, etc. These problems tend to bedevil all surveys, short or long, but they are lessened by in-person interviewing, highly-skilled questionnaire construction, medium or long questionnaires, and

sophisticated analysis based on debriefing interviewers, as well as on the responses collected. However, these requirements remove surveys completely from the realm of small scale, quick and low cost, studies.

TASK D

MONITORING OF ONGOING ENERGY-RELEVANT CONSUMER/PURCHASER SURVEYS

TASK D

Monitoring of Ongoing Energy-Relevant Consumer/Purchaser Surveys

Following the expenditure of a sizeable block of senior staff time and effort to obtain such data, it was concluded in consultation with the Project Monitor, that the task was not feasible.

Yankelovitch, Skelly and White, the Survey Research Center at the University of Michigan, Harris, Gallup and other major pollsters were approached, as were a number of smaller organizations. Either they did not have the data required, or were treating it as proprietary material, not to be shared. An effort to retain one of the above as a consultant was not approved by the directors of the firm.

Material that had been published by these organizations were incomplete, for the purposes of this task, and not amenable to comparison with each other: i.e., data bases were not published. Differences in assumptions, terminology, statistical methods and sampling also would have reduced the comparability of the material.

Longitudinal study of the data would have faced even greater problems.

The small amount of remaining time and effort was transferred to other tasks.

TASK E

**COST AND EFFECTIVENESS OF SELECTED PUBLIC AND PRIVATE
SECTOR INFORMATION, MARKETING AND EDUCATION PROGRAMS**

SAUL BARRY WAX

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ORIENTATION TO COST BENEFIT STUDY

While unable to obtain adequate data to determine cost effectiveness, the consultant who performed the basic task did obtain a composite and in some cases a consensus of good policy and procedures in the development of a public information service.

A systematic approach is presented which offers a model for program planning. There is little evidence however that the methods employed in many of these programs are capable of achieving changes in motivation and behavior.

The methodology employed provides an (a singular) example of the products of a nonbehaviorally oriented systems approach. It is crisp, and appears to be thorough and efficient.

By its nature, it is devoted primarily to program elements, in the abstract sense, than with human attitudes and behavior. The findings from this study will be integrated with the behavioral-economic studies and interpreted in the light of the theoretical framework provided in Part 1.

EXECUTIVE SUMMARY

The study examines the costs and, where possible, the effectiveness of selected public and private sector information, marketing and education programs (IME). Eight public sector programs were examined; half as many private sector programs were considered. The public sector programs covered a range of activities carried on by the federal government: preventive health care, food and nutrition and safe-driving habits. The private sector programs were more explicitly related to energy-use behavior by consumers (items which use energy).

The study revealed that while program components and individual advertisements cannot usually be judged more or less cost-effective, the data indicates that some programs and certain program operations are more likely to be cost-effective than others. Some program components have been identified without which IME programs could not easily lay claim to be cost-effective. Further, it has been possible to construct a tentative composite picture of a comprehensive cost-effective program.

The eight public sector programs evidenced a wide range of activities, organizations and expectations. Only a few of the public sector programs had developed a broad conceptual overview which included specifiable operations at all anticipated outcome levels (awareness, attitudes and behavior). Even fewer programs attempt to determine the effectiveness of their respective efforts. A synthesis and distillation of the public sector efforts reveals components which have been individually effective, but which have not been coalesced into a single program. Hence, cost determinations are fragmented and infrequently concomitant with program effectiveness.

To better describe and schematicize the public sector IME programs, three matrices were developed; they are applied to each program and may be found at the conclusion of the public sector part of the report. In all cases, the programs are described in terms of their focus levels: awareness, attitudes/knowledge and behavior. The matrices describe (a) actual advertisements; (b) program components; and, (c) channels and methods, each as they relate to the focus levels. The matrices provide succinct program descriptions and explicit points of similarity and dissimilarity at each focus level. For example, a review of the matrices reveals that only one public sector program expends substantial resources supporting the routine production of radio announcements aimed at awareness and attitude/knowledge levels, while two programs have developed arguably cost-effective evaluation plans, also at the attitude/knowledge level. The data from the private sector program was judged not detailed or specific enough to permit the meaningful application of the matrices.

The private sector programs provided some cost and effectiveness data, but the internal descriptive information about their programs was considered proprietary and thus not made available. The cost and effectiveness data are either approximations based on general figures made available from the companies, or extrapolations from information representing a number of sources. The basis for the figures may be found in Appendix 4.

The private sector IME programs did reveal a substantial amount of information about the structure of the program and methods of approaching the public. Some of the information, especially that regarding the establishment and support of dealer networks coincides neatly with similar data from public sector efforts. Such information is particularly on point as the Department of Energy decides how to structure cost-effective IME programs.

The report contains nine-phase composite cost-effective IME program model for public sector efforts. The program consists of components which evidence indicated were successful in realizing specific objectives and which could be judged cost-effective.

The final section of the report specifies twelve (12) general principles for developing public sector IME programs. The principles represent the underlying assumptions which seem to govern the operation of strong public sector IME programs in other branches of the federal government. The principles are specific rules of operation which could be of use to the Department of Energy as it develops an IME program, building upon the experience of other government agencies.

Introduction

This report represents an effort to examine and analyze the cost and effectiveness of selected public and private sector Information, Marketing and Education Programs (IME). Based upon the analysis, some general operating rules, procedures and principles will be extracted. Such information may be appropriate for use in a consumer Information, Marketing and Education Program at the Department of Energy. The aim of the program would be to encourage energy conservation behavior.

This study is predicated on the assumption that there is experience and information currently available from other public and private sector programs which may be used by the Department of Energy in establishing and operating a comprehensive IME program. The report takes into consideration the fact that IME programs may be undertaken at various levels of effort with objectives which necessarily vary. It is apparent that some federal agencies and obviously some programs in the private sector, expend substantial resources to promote and to market information to consumers. It is equally clear that some programs in both sectors are able to get their message across and impact public with a substantially smaller allocation of resources.

For purposes of this study, level of effort will refer to increasing awareness, changing attitudes, or changing behavior. The point is that there are various levels of effort at which the Department of Energy may choose to support the marketing of energy conservation relevant information to consumers. There are, therefore, various levels of cost-effectiveness depending on the objectives of the program. It is these levels of effort, as well as the program objectives which particular suggestions, drawn from other programs, may be made.

The programs examined in this study were selected to determine their cost and effectiveness and draw lessons from that determination. It became readily apparent, however, that there are two primary limitations to arriving at clear impressions of cost-effectiveness in both public and private sector programs. The first, and major constraint is the absolute lack of information upon which to judge cost-effectiveness. Information which could address the issue of what is a cost-effective IME campaign or cost-effective program--that is, a clear notion of what a program costs, as well as its effectiveness with respect to awareness, attitudes or and/or behavior--was not commonly or directly available. It is safe to say that a determination of the cost-effectiveness of public sector IME Programs has been an ephemeral and not widely shared goal. 1/ A second limitation is the very concept and measurement of cost-effectiveness. Cost-effectiveness will mean different things to different agencies, given that the agencies will have different objectives, as well as different approaches. Thus, there is little measurement similarity or shared conceptual framework across the agencies in the public sector. Some public sector agencies, for example, may judge a program to be

effective and therefore to be cost-effective if it succeeds in getting information out to the public. As often as not, there is no measurement of how many people received the message, what kind of impact it had on their attitudes, much less on their behavior.

Thus, in many public sector programs the very dissemination of the information itself, becomes by definition, a measure of the effectiveness of the program. In other cases, measures of effectiveness, regardless of the level, are still being developed. 2/

In private sector programs, there was a great reluctance to provide any information which would be considered proprietary. Such information as to cost of the advertising programs, as well as the effect on the market-place, was considered proprietary information.

However, in the case of the private sector programs, we were able to arrive at some figures which will give us an impression of the cost-effectiveness of parts of some programs. It is worth noting that the difficulty for determining cost-effectiveness is a common problem; even in a relatively controlled Department of Energy study 3/, information as to the effectiveness of the advertising programs proved to be fairly elusive.

An understanding of the cost and effectiveness of individual public and private sector programs, based upon a common framework and common measures, is the initial goal of the study. A secondary goal was determined after the paucity of information across programs became apparent. The secondary goal is to extract program components from various programs and to construct an overall program framework which, reflecting the activities of the public and private sector programs under study here, may be described as "a generalized cost-effective IME Program." These program components and therefore the cost-effectiveness of programs and of various aspects of programs will depend upon the effort and objectives of the program.

In the body of this report, it will be possible to lay out the program components which are judged to comprise a cost and effective IME Program. This will be in addition to a description of the cost and effectiveness of individual programs. The components of the overall IME Program will be drawn from the experiences of other public and private sector efforts and will be so identified.

This report consists of seven sections. The first section outlines the objectives of the study. The second section specifies the scope of the study, identifies the extent of the effort and the data bases which were used. The third section establishes a conceptual framework within which the concept of cost-effectiveness may be understood and appreciated, especially with relevance to federal programs. The fourth section of the report details the information provided by each of the federal programs, while the fifth part of this study does the same for private sector programs. The sixth section of the report identifies, discusses and sets in a framework the elements of an overall cost-effective consumer Information, Marketing and Education Program. The last section of the

report includes the recommendations. The recommendations take the form of general principles (overall IME Program) regarding the operation of public sector IME programs, particularly noting the relevance of those general principles to a DOE energy conservation program.

The report closes with four appendices, the first providing bibliographic sources and references, the second, which includes a selection of public sector ads, the third includes a selection of private sector ads and the fourth is a compilation of supplemental information for the report.

I. Objectives of the Study

The objective of the study is to provide the Department of Energy, Office of Conservation and Solar Applications, with sufficient information with which to understand the cost and effectiveness of consumer IME Programs. A subsidiary objective, along with the understanding, is to equip the Department of Energy with the ability to construct an experimentally based, cost-effective IME Program. Another subsidiary objective is to provide the Department of Energy with cost and effectiveness information which may be used as a base line for making decisions and resource allocation judgments.

It is assumed that the experience and operations of other public and private sector programs will provide relevant information to the Department of Energy. This information may then be used to assist policy considerations in the Department of Energy.

The study will address the derivation of some general principles and recommendations according to which a public information program for energy awareness in conservation behavior can be constructed. In sum, the intent is to find out what works and why and how that information can be usefully applied to the needs of the Department of Energy, Office of Conservation and Solar Applications.

II. Scope of the Study

The information described in this report was gathered between October, 1978 and February, 1979. The information was gleaned from the IME programs of eight federal agencies. The agencies include the Clinical Center at the National Institutes of Health; the National Cancer Institute and the National Heart, Lung and Blood Institute; the Food and Drug Administration within the Department of Health, Education and Welfare; the U.S. Department of Agriculture, Assistant Secretary for Marketing and Consumer Services; the National Highway Traffic and Safety Administration within the U.S. Department of Transportation; the Federal Trade Commission and the National Bureau of Standards.

Information was collected from several private sector efforts. The private sector programs cover the sale of cars and heating control devices.

The federal agencies were selected on the basis of their programs being illustrative of what the federal government has been involved in, as well as indicative of programs which aim to influence consumer behavior. This last element, that of changing consumer behavior, is essential because it is that point on which the Department of Energy is most interested and can most reasonably hope to construct a program which will have effects on consumer behavior in the marketplace. The federal programs that were examined have provided a wide range of IME information to consumers; the information provided has covered the areas of health, safety, and product purchasing.

The private sector efforts selected are those which may in substantive respects be closest to what the Department of Energy is dealing with in its own energy/conservation domain. That is, one of the elements in selling the automobiles was gas mileage and energy conservation. Similarly, the selling points for the heating control appliances were energy conservation and dollar savings. These substantive points were used to select the private sector programs from which information was extracted. A secondary consideration was the selection of programs about which information could be gathered. Some of the programs in the private sector were more willing than others to provide information. Naturally, this problem constrained and forced the selection of some programs' products over others.

While different in approach than the public sector programs, these private sector efforts are more on point substantively with the energy concerns of the Department of Energy.

Both the private and public sector programs reported on herein and which serve as a data base for the ensuing analysis and recommendations, are illustrative of similar and unsurveyed public and private sector efforts.

III. The Conceptual Bases of a Determination of Cost and Effectiveness.

As noted before, the concept of cost-effectiveness can have a variety of meanings as well as a variety of measures. The intent of this section is to identify some of the constraints and some of the varying ways of arriving at an understanding of the cost-effectiveness of IME programs. The final segment of this section will be to specify how cost-effectiveness will be used in the context of this report.

To identify a program or an advertising campaign as cost-effective means that at least two pieces of information are clearly available. The first is a specification of the costs of running the program. The second is a specification of how effective the program is or was with respect to its objective. In reality this means that the direct, as well as the indirect, costs which a program incurs will be figured into all the costs on the cost side of the equation. It also means that on the effectiveness side, one will be able to factor out all the "noise" which exists in the environment and extraneous variables and attach to the program and to what the program did, specific behavioral, attitudinal or awareness consequences.

In reality, however, cost information and more significantly, effectiveness information, is simply not clearly available. With respect to the public sector, although it is possible and information exists within this report to describe the costs of an entire program, only in rare cases is such cost information clearly broken out into the costs of a particular effort or a particular campaign. A case in point is the National Cancer Institute's Asbestos Awareness Program. The reasons such precise information exists is because the program was funded with the HEW Secretary's discretionary funds in the amount of \$700,000. Thus it is possible to put a price tag on that particular campaign.

Most campaigns and most IME efforts lack such cost clarity. Consequently, what generally exists on the cost side of the equation is an aggregate figure on the total cost of a program. What may exist, however, is a more refined breakdown with respect to money spent on advertising, research and on program development. The more refined the breakdown, the more possible it is to determine whether a particular program was effective, given the cost involved.

This problem is magnified when considering the information from the private sector. While public sector programs may aggregate the amount of money they spend in their programs and not provide a clear picture of how money is allocated, private sector programs which are examined in this report would not often reveal the costs of their campaigns.

The figures made available, except in one instance, were calculated based on general industry-wide amounts allocated to IME programs. The companies considered this kind of cost information proprietary and would not release it.

While cost information, though sometimes available, is in aggregate form and unclear with respect to its allocation, effectiveness data is much less easy to come by. The first problem with respect to public sector programs is that there is no general effort to measure and to determine the effectiveness of a program. The dissemination of information, the providing of information to mass publics, is considered to be the best understanding of how a program works. Except in rare instances, such as the programs at the National Cancer Institute and the National Heart, Lung and Blood Institute, a clear sense of what the program accomplishes and its effectiveness is not generally sought. A determination of the effectiveness of the programs is simply unavailable because the data is not collected nor is there an intent to collect such information.

Even where the information does exist, it is in such a form where the agencies themselves admit they cannot attach (even a loose) a cause and effect relationship between what their program does and the effect on consumers' answers, attitudes or behavior in the marketplace.

This particular problem was voiced by personnel at the Department of Transportation. They have information available, cited in this report, which specifies certain attitudinal changes which occurred over the course of the program and which were directly related to some of the program elements. Though gross measures, they do seem to indicate some kind of effectiveness of the program with respect to impact on consumers. But the officials hasten to add that a causal relationship cannot be determined because they don't have under their control or in their grasp all the elements that were affecting in the marketplace at that time and hence cannot say with absolute confidence that their program produced the measured changes in consumers.

For purposes of this paper, cost-effectiveness will be looked at at three different levels. The first level is whether or not the program is able to affect the awareness of consumers. The second level is whether the program or elements of the program was able to affect the attitudes and knowledge of consumers. And the third level is whether the program was able to alter consumer behavior. On each of these levels, available cost information will be matched with the effectiveness projected. This way, the costs and the effectiveness of the programs can be identified and discussed.

Given the fact that there is very little information on any level for most programs, a surrogate measure for awareness will be simply the distribution and mailing of information materials. The assumption here is that by distributing information and by making it available to people, at the very least, their awareness level will be affected. It should be emphasized that this measure is a surrogate for information which is not, by and large, available.

On the other two levels, attitude and knowledge and more importantly, behavior, only direct measures as they are available will be used to judge the effectiveness of a program. They will include surveys, focus group studies and other documents made available by the programs.

The information will be presented in the following way. For programs like the ones instituted at the National Cancer Institute, a description of the program, its "awareness effect," that is, how many publications distributed, as well as cost for that distribution. Cells of a matrix which describes a program or program elements as well as its costs will be left blank or otherwise so identified when there is no information.

With respect to private sector programs, where there is calculable information, which may be used to determine cost and effectiveness, such information will be presented. Where there are measures of effectiveness, that is, sales information, that information, too, will be presented and discussed.

IV. Elements of an overall cost - Effective Informatal, Marketing and Educational Program

Introduction. What follows is a specification of the proposed program components of a cost-effective public sector consumer education and marketing program. The program components were extracted from the experiences and activities of federal programs and the private sector advertising efforts of several private firms selling consumer products. Each item is listed below, described and explained.

Phase I. Problem Identification and Research

Presumption of a Problem. Consumers lack information or have inaccurate information necessary to make more reasoned judgements in the marketplace.

1.1 Conduct field surveys to determine the extent or lack of consumers' awareness, attitudes and/or behavior with respect to the issue in question, e.g., health information.

Once the presumption has been empirically satisfied at a general level, then more refined research is necessary.

1.2 Conduct focus groups or decision analysis panels to ascertain the structure, focus and direction of consumers' knowledge, beliefs and behaviors.

1.3 With this more refined knowledge, return to the field and determine audience segmentation with respect to levels of understanding, interest and proposed effect. Survey research may be used, but more focus panels or decision analysis panels would be less costly and provide more detailed and richer information.

1.4 Identify the intended objectives of the program, e.g., altering attitudes, increasing awareness, etc. for each audience segment.

1.5 For each program objective and audience segment, determine (based on the research conducted in 1.1 and 1.2), message channels and approaches.

1.5.1 If the level of consumer information about the issue is negligible or the behavior is at variance with "informed decision making" then the effort shall establish timelines with reasonably specific goals. Assuming a "square one" approach, the program should first target increasing awareness, then changing attitudes and finally at altering behavior. If the data so warrant, the program may be initiated at either of the other two levels.

Phase II. Develop Program Material and Refine Approaches - 1st Stage

2.1 Within available budget limits, determine what material may be developed, e.g. videotapes, story boards, brochures.

2.2 Develop general prototypes program material, insuring that it is region, audience and objective specific.

3.3.1 Assign target audiences for local groups, e.g., Visiting Nurses Association will deliver health information to nurses.

3.3.2 Develop specific area-unique messages or formats for implementation by local groups/agencies, e.g., cancer rates in different areas of the country or energy savings made-region specific (due to climate).

3.3.3 Identify commercial organizations which can be used to "piggy-back" messages to consumers or opinion leaders, e.g., pharmaceutical companies provide information to pharmacists, heating companies provide information to HVAC dealers.

3.3.4 Establish delivery system "councils" to bring together members of local delivery systems for consultation and planning. The councils may be within a locality or organized according to subject concerns encompassing several localities.

3.4 Establish relationship with state energy office as the local prime marketers of information, with the local regional DOE office as the initial backup source.

3.5 Establish and operate a national toll-free 800 number to answer questions about energy conservation. Market extensively through local delivery systems the availability of the number and its use.

Phase IV. Determine Needs and Preferences of Media Channels.

4.1 Survey media sources in selected locales and determine what kind of material, how often and in what form they want the marketed information. For example, it would be useful to know if radio stations wanted 20 or 30 second spots or just copy (so they could make their own spots).

4.2 Establish (if demand warrants it) a routine production of radio spot.

4.3 Establish a consulting group of local media personnel to provide direction and guidance on how to best focus DOE material. Two groups may be established, if warranted; one consisting of print media professionals, the other of broadcast personnel.

Phase V. Finalize Program Material and Operations

5.1 Based upon information derived from phases II, III and IV, the program material should be finalized.

5.2 Specific target audiences, locales and media channels should be selected and program operations finalized.

5.3 Initiate the consumer education/marketing program as dictated by prior steps.

Phase III. Establish Local Level Delivery Systems and Networks in conjunction with Phase II.)

3.1 Identify personnel/agencies/organizations in communities which directly interact with intended audiences, e.g., drug firms which sell/provide prescription drugs to physicians.

3.2 Build local networks into the implementation of the federally sponsored campaign.

Phase VI. Market Test Programs in Selected Locales

6.1 Select areas which are particularly vulnerable and invulnerable to the program intents.

6.1.1 Build in an extensive evaluation and feedback effort to provide base-level information on the program's problems and operations.

6.1.2 Allow sufficient time for the program objectives (at whatever level) to be met. Insufficient time to impact the selected audiences will program the effort for failure from the very beginning.

6.2 Develop refinements from the evaluation package to improve and refine program.

Phase VII. Finalize the National Program

7.1 Based on the previous program phases, the effort will be improved and retooled where appropriate.

7.2 The national program will be initiated at the specified focus levels.

Phase VIII. Evaluation of the National Program

8.1 The national program will be evaluated with an eye toward improvement and refinements; changes will be made as appropriate.

8.1.1 Surveys will be used to determine the range and scope of the program among the population writ large.

8.1.2 Focus groups or decision analysis panels will be used to plumb the actual dimensions of consumer decision making, awareness and attitudes; this data will be substantially richer than the survey base.

Phase IX. Refine National Effort

9.1 Based on the evaluation (Phase VIII), the program will be discontinued, altered or supported without change.

V. Recommendations/General Principles

The general principles relate to the operation of a public sector information, Marketing and Education Program (IME). They have been extracted from the experiences of other public sector programs (Section V) and from segments of relevant private sector efforts (Section VI).

- General Principle (GP) #1 -- Cost-effective efforts are those which plan a campaign based upon a clear identification of objective and intent.
- General Principle #2 -- Effective programs must approach consumers from a variety of vantage points, i.e., media channels.
- General Principle #3 -- Effective IME programs must target their information to specific locales.
- General Principle #4 -- Programs which can identify costs and effectiveness are those which include evaluation components as part of the basic program design.
- General Principle #5 -- Effective programs are those which have local outreach/information offices located around the country.
- General Principle #6 -- Effective programs must be maintained over an extended period of time to show an impact on consumer awareness/attitudes/behavior.
- General Principle #7 -- Effective information programs disseminate information through multiple sources, utilizing the commercial sector where appropriate.
- General Principle #8 -- Information from effective programs must be consistent with a general theme; all specific messages must reflect the general theme and not either ignore it or contradict it.
- General Principle #9 -- Effective programs exercise strong coordinating roles among interested parties/agencies.
- General Principle #10 -- Effective programs tend to make substantial use of professional advertising agencies.

General Principle #11

- Effective programs must generally be satisfied with incremental changes in the short run, especially with respect to behavior and attitudes.

General Principle #12

- Effective Programs initiate their efforts with information aimed at awareness, then move on to impacting attitudes, and finally aim at changing behavior.

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