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Notes from Advisors' Perspectives
Behavior, Energy & Climate Change
Advisory Summit
May 31, 2007

In May 2007, the California Institute for Energy and Environment (CIEE) convened a group of fifty senior advisors at the Behavior, Energy and Climate Change Summit meeting in Sacramento, CA. At the BECC Summit, advisors from state legislature, energy and environmental agencies, private and public utilities, academic researchers, and private sector representatives met to discuss common interests, concerns and information needs in this area. There was broad agreement of the importance of behavior and choice in understanding and affecting climate change, and a willingness to continue the conversation. The Summit resulted in a wish list of topics for research, suggested strategies and topics for the Behavior, Energy and Climate Change Conference, November 7-9 in Sacramento, CA.

I. Wish List: What We Need to Learn and Do

TECHNOLOGY AND BEHAVIOR
- Integrate social science research in technology research and development
- Better understand how technology is actually used by individuals and organizations
- Determine how to expedite technology diffusion
- Increase feedback: How can we design technology to reinforce positive behaviors?
- Understand end users: Consumer choice is critical to success of technology and energy efficiency
- Identify effective commercialization strategies to accelerate technology adoption
- Who are the early adopters of climate positive technology? Why are they buying? (Example: Prius research)
- Improve technology targeting: Which groups – which technologies?
- Determine the interrelationships of social systems and technology: How do technologies options structure energy use?
- Improve understanding of efficiency gains
- Understand how appliances are designed and sold in the "real world"
- Refine energy forecasting: We need to know more about <u>why</u> and how people/organizations are using energy technology/equipment and how use patterns are changing

POLICY, LAW AND GOVERNMENT
- How can policy more effectively promote voluntary action?
- How can climate change cause and effect be made more tangible?
- Improve understanding of customers' reactions to proposed policies (likely voter support for proposed policies)
- What are the most effective policies to reduce bad choices in the market.
- Research on regulations that work and don't work and why
- Does behavior change require underpinnings in the law?
- How can legislation encourage behavioral change?
- What created the actions in CA in the last 5 years and is it replicable elsewhere?
- How can insights from research in other fields (public health, product advertising, product design) improve policy design?
- How can we build political will to pass full costs on to consumers/business?
- Will addressing adaptation to climate change in policy focus thinking and encourage mitigation behavior
- How can we sustain long-term policies to allow stability for industry
- How do we motivate collective action? (Climate is a collective problem)
- What are the ideological barriers to behavior change?
- How do we come up with mutually beneficial options - clean air, increased exercise --- to make motivating climate change behaviors easier for individuals or policy makers
- Can we borrow from the lessons learned in the anti-smoking campaigns: individual action, legal action, pressure on industry action, social pressure to change energy behavior, legislation to limit impacts?
- Better understand institutional impediments to energy efficiency in all policy venues
- How can we overcome rivalries and silos in government that make it extremely difficult to collaborate?

- Incentives for policy makers with short appointments/terms?

PROGRAMS
- Many behavior strategies can't be easily measured using current evaluation approaches but they still produce benefits. How can we support and reward utility actions which change markets or create decisions and actions that are not measurable under current protocols?
- Catalogue energy efficiency efforts – including what has NOT worked and why
- Beyond economic incentives, how can we use behavior strategies to get more out of current programs?
- How do we translate information into actions most effectively?
- Information to increase targeting in programs: customer segment focus and different needs/behaviors within segments
- What have we learned in 30 years of process evaluation?
- What are the best practices? Identify insights and approaches that are effective: baseline studies, targeting audience, segmentation of population studies, message design and delivery to target audiences
- How to make efficient programs more effective: the impact of programs can go well beyond apparent economic benefits through understanding how different stakeholders and decision makers can define "benefits"

CONSUMERS
- Different values types are motivated by different messages: what can learn from segmentation research? Are households with young people more likely to take climate positive action?
- Are people more receptive to changes in home temperature (e.g. 72-68) when adjusted abruptly or gradually over time (~2 years)?
- How do we get consumers to DEMAND conservation and efficiency so that we don't have to pay incentives
- How do we increase consumer demand for energy efficient products?
- How do we translate attitudes into action?
- Increase understanding of "take-back:" Sometimes when people buy efficient items, their actual energy use increases, cancelling the technological efficiency. How to counter that?
- Message: How do we translate efficiency gains into benefits for the end-user?
- Message: How do we create messages that make GHG reduction actions attractive and the benefits more immediate and tangible?
- Message: What are the "7" messages that will appeal to the greatest % of the population?
- Motivation: In cases of long-term investments, what facilitates motivation? (Retirement, home ownership, infrastructure, college savings)
- Motivation: What are individual behavior motivators? Convenience, altruism, guilt?
- Understand the relationship between economic benefits and green marketing.
- Social marketing: What lessons have been learned from anti-smoking, recycling, water conservation? What's different about energy and climate change?
- Targeting: We need to understand differences better. There is no "average" customer. People do the same things for different reasons.
- Can information on individual carbon footprints lead to action to <u>change</u> footprint?
- What are the top 4 consumer behavioral changes we should shoot for that could spur a domino/multiplier effect (case studies)?

BUSINESS AND INSTITUTIONS
- What are the important sources of behavior constraints for businesses and utilities?
- Understand the "social environment" of business so that "benefits" beyond easy ($) definition can be generated for company
- How do organizational cultures and organizational structures affect technology adoption in the commercial and industrial sectors?
- How is consumer "demand" communicated to producers and sellers?
- How to change behavior of car companies. Is it feasible to send "consumer signals" by purchasing behaviors or are there company decisions that really dictate product options so that consumers only have the choice of what is on the market
- How to change behavior of real estate developers. Is it feasible to send "consumer signals" by purchasing behaviors or are there company decisions that really dictate product options so that consumers only have the choice of what is on the market.
- Institutional levers for energy efficiency: What institutions can be engaged to promote efficiency? Trade associations? Political parties? Religious organizations? Inter-governmental organizations, NGO?
- How can manufacturers be engaged? -- they have a great deal of research that can help

MEDIA
- Understand how media covers energy/climate and why
- Implications of media ownership
- Understand who are the key messengers for different segments
- How does interest in celebrities' lives impact individual action?

COMMUNITIES
- Can we develop models for community-wide change? What are the current examples?
- What are the most effective Interventions at local level
- How to organize local competitions that are effective in reducing transportation emissions
- Funding to model change in several different types of communities – community-wide change
- What is the correct discount rate?
- Who controls the media? How do we get messages out there?

II. Key Strategic Opportunities
- We need to develop a plan where we 1) first consider a list of all behaviors – a list of the footprint of each behavior and how hard the behavior will be to change, 2) select the top impact/footprint behaviors and most feasible to change, 3) apply behavior change strategies
- We need to know more about baseline motivation in all sectors
- What social conventions can be developed and encourage (recycling, small=good, etc.)?
- Adaptation – we need to focus on anticipating and communicating the adaptation necessary
- Do MORE of what we do well: energy efficiency, renewables, distributed generation – and use behavior research to make more effective
- Multiple policies and programs - EE, RE, CC, DR, DG – Impact on Behavior – What to Do? >> Behavior Research
- Leverage National Research Council panel on behavior issues
- Timing: Mandates set in the future can help accelerate earlier action. Plan strategic ramp up with early incentive programs that fade out
- Vision: Overarching Framework
- "Top Down" - Do It All! Do What Works! >> Standards, Prices, Research, Incentives, Technical Assistance, Education,
- "Bottom up" - Community and Local Government > Collective Action: 1) minimize footprint 1st, 2) partnerships with other communities, 3) offsets
- We need a behavior think tank to help policy makers and utilities
- We should set up forums to discuss behavior in the context of real issues and concrete challenges
- What works: Need to use all approaches: volunteerism, regulation, financial incentives for reducing CO2 emissions.
- Where/how do we create a central list of focused projects for people to work on?
- Many groups should be involved: Government (state and local), utilities, manufacturers, retailers, schools/educators, others
- Add behavior sessions to technology conferences
- Get behavior perspectives included in other meetings: Emerging Technology conference should have session on behavior
- Constructive local competitions
- Long term: Massive change in technology: Low/zero carbon technology.
- Not everyone listens when we talk – people are different. We need more sophisticated segmentation strategies
- Personal feedback is very important – we need to integrate it systematically into all our strategies (Example of Prius' little voice saying you've done a good job.)
- Document utility efficiency programs as case studies in the creation of effective local partnerships and in general mobilization of third parties
- Climate is not just an emissions issue but concentration issue and requires different thinking/communications
- Important to learn from evaluations and loop back to program implementers at all levels
- Price Signals can change behavior: Look at car market. It takes an act of political courage to let market catch up
- Religion: Climate is a millennia challenge: the only social structures that have lasted that long are organized religions

Funding
- We need to expand investment in behavior research
- Behavior issues are cross-cutting and should be funded as part of all climate strategies
- Where will the funding come from for behavior research?

III. Suggested Topics for BECC Conference

- AB32 compliance: How do you motivate altruism? How do you justify expenditures to constituents? How an we quantify input, value, persistence and reliability of behavioral change to allow for investment in AB32 compliance (Table 4 manifesto)
- Business behavior and climate change
- Developing an overarching framework to accomplish goals.
- Effective Strategies to transfer information to ACTION
- Knowledge Gaps: Identify, Secondary Research, Primary Research
- Laws, Regulations and Reality: Acceptance and compliance in the real world
- Topics: What makes legislation acceptable and then successful? How can the willingness to accept legislation be affected?
- Making multi-disciplinarity work.
- One issue: send out three teams to work on the issue before the conference
- Opportunity to dialogue with other disciplines to work on a specific issue: break-out groups
- Panels not papers
- Session on process evaluation to help inform people what has been done
- Maintaining sustainable message to change behavior over the long run without being a fad or crisis driven
- To know more about the connection between individual change and institutional change
- What initiatives need research support?

IV. Thank You!

- To BECC Advisors for generously providing information, insights and advice
- To SMUD for providing the conference facility for the BECC Advisory Summit
- To Southern California Edison for generous contributions for the Summit food