Agenda and Ground Rules

- Agenda Review and Ground Rules
- Opening Polls
- Residential Network Overview, and Upcoming Call Schedule
- Featured Speakers:
  - Dr. Carl Marci, Chief Neuroscientist, Nielsen Consumer Neuroscience
  - Jennifer Tabanico, President and Owner, Action Research
  - Kat Donnelly, Ph.D., P.E., CEO of Azentive (Network Member)
- Closing Polls and Announcements

Ground Rules:

1. Sales of services and commercial messages are not appropriate during Peer Exchange Calls.
2. Calls are a safe place for discussion; please do not attribute information to individuals on the call.
Better Buildings Residential Network

Join the Network

Member Benefits:
- Recognition in media and publications
- Speaking opportunities
- Updates on latest trends
- Voluntary member initiatives
- Solution Center guided tours

Commitment:
- Members only need to provide one number: their organization’s number of residential energy upgrades per year

Upcoming calls:
- February 1: Achieving Results in the Multifamily Sector: Strategies that Hit Home
- February 8: Going for Gold: Medal-Worthy Approaches to Energy Efficiency from Around the Globe
- February 22: Kick the Cold: The Intersection of Healthy Homes and Energy Efficiency

Peer Exchange Call summaries are posted on the Better Buildings website a few weeks after the call.

For more information or to join, for no cost, email bbresidentialnetwork@ee.doe.gov, or go to energy.gov/eere/bbrn & click Join.
Dr. Carl Marci
Chief Neuroscientist
Nielsen Consumer Neuroscience
HOW CONSUMERS MAKE DECISIONS:
Demystifying Consumers to Drive Behavior Change

January 25th, 2018
DOE Peer Exchange Conference Call
CONTENTS:

1. What is Consumer Neuroscience?
2. How Do Consumers Make Decisions?
3. Barriers to Changing Brains
4. Engagement Matters: Attention, Emotion, Memory
5. Conclusions
WHAT IS CONSUMER NEUROSCIENCE?
THE HUMAN BRAIN

- Cingulum
- Corpus Callosum
- Fornix
- Hippocampus
- Thalamus
- Hypothalamus
- Amygdala
THINKING

Based on D. Kahneman, "Thinking, Fast and Slow" 2011
CONSUMER NEUROSCIENCE

“Application of neuroscience knowledge and techniques applied to market and media research questions for a deeper understanding of consumer attitudes and behaviors.”
COMPREHENSIVE VIEW OF ENGAGEMENT

**EEG**
32 sensors collect data 500 times every second to fully capture activity across all brain regions.

**BIOMETRICS**
Overall level of emotional engagement, the most and least engaging moments.

**FACIAL CODING**
Discrete facially expressed emotions, such as surprise, confusion, joy and sadness.

**EYE TRACKING**
Pinpoint visual attention to content, including specific areas that attract the most and least attention.

**SELF-REPORT**
What consumers say they think, do or plan to do.
HOW DO CONSUMERS MAKE DECISIONS?
TROLLEY CAR EXPERIMENT
MOTIVATION THEORY BETS ON THE DEVIL
APPROACH AND FRONTAL EEG ASYMMETRY: APPLICATIONS TO SHOPPER MARKETING

- Pack Design
- Shelf Assortments
- Aisle Design
- End Caps
- Merchandising Displays
- POS Signage
- Online Shopping
BARRIERS TO CHANGING BRAINS
ENGAGING IN THE AGE OF DISTRACTION
OVERALL MEDIA USAGE IS INCREASING
Weekly Time Spent Based on the Total US Population – Based on Qtr 2, P18+

Source: Nielsen Total Audience Report and Audience Insights Analysis
VIEWING BEHAVIOR WITH 2ND SCREEN
Sample Individual Participants During Natural Viewing Behavior

Source: Council of Research Excellence Report, September 2016
ENGAGEMENT MATTERS: ATTENTION, EMOTION AND MEMORY IN MARKETING
If this is true, our goal is to *persuade*.

If this is true, our goal is to *engage & persuade*.
HOW ADVERTISING CREATIVE CAN BUILD BRAND SUCCESS

1. Engage
   Captivate, emotionally attract, and deliver associations and brand-relevant imagery

2. Message
   Deliver and/or reinforce relevant associations and messages

3. Brand
   Link imagery and associations distinctively to your brand
WHEN EMOTION REALLY MATTERS

**Rational** appeals are more effective with heavy category buyers

**Emotional** appeals are better with new category buyers

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**Emotional vs Rational By Category Spend**

- Rational
- Emotional

Heavy Category Buyer | Medium Category Buyer | Light Category Buyer | New Category Buyer
CONCLUSIONS
NEUROSCIENCE HELPS CRACK THE NUT OF CONSUMERS
Presentation Highlights: Nielsen Consumer Neuroscience (1 of 2)

- From rational to emotional marketing:
  - Past marketing focused on authoritative, rational, and persuasive messages.
  - These days consumers want to feel they are making the decision to move forward. They need authentic messages that engage them first on an emotional level.

- Neuroscience research suggests using a three-part strategy to effectively engage and trigger behavior change:
  - **Feel:** First, catch residents’ attention with emotionally-relevant content.
  - **Do:** Second, communicate in ways that are relevant and meaningful in order to sustain their attention and motivate them to act.
  - **Think:** Third, include more rational messages that strengthen and reinforce behavior change attitudes.
Rational vs. emotional communication:

- Heavy category “consumers” (e.g., already into energy efficiency, having completed deep energy upgrades) are more likely to listen to rational messages.
- Light category “consumers” (e.g., self-conscious about energy efficiency like switching off lights, but not fully aware of all energy efficiency measures) will be persuaded by emotional messages.

Cost can be a barrier, even when messages are engaging:
Communicating the long-term benefits of home energy upgrades (e.g., energy and cost savings, health benefits) can help overcome this challenge.

Messages that are perceived as inauthentic or manipulative most likely have crossed some line, and are not presented in a way that engage consumers.
Jennifer Tabanico  
President and Owner  
Action Research
Beyond Hunches:
Using Science to Drive Behavior Change

DOE Peer Exchange Call
January 25, 2018
Presented by: Jennifer J. Tabanico, MA
President and Owner
Science and Behavior Change

- Behavior Matters
- Behavior Can Change
- Social Science Can Help
Community-Based Social Marketing

1. Select Behavior
2. Barriers & Benefits
3. Develop Strategy
4. Pilot Test
5. Implement Broadly & Evaluate
Strategies Grounded in Social Science

Tools from Social Sciences

Remove Barriers

Behavior Change

Enhance Motivation
Social Science Tools

- Commitments
- Social Norms
- Prompts
- Feedback
- Incentives
- Cognitive Dissonance
- Social Diffusion
- Goal Setting
Commitments

- Self-Perception Theory

- Use for Audience that is Motivated but Not yet Engaged

- Most Effective When
  - Written
  - Public
  - Durable

Urban Sustainability Directors Network – 2013
Municipal Employee CBSM Pilot
Social Norms

- Normative Social Influence

- Use for Audience that is not Motivated

- Most Effective When
  - Highlight desired behaviors
  - Close referent group
Social Norms

Ask Your Neighbors

Results from a recent survey in your neighborhood found that:

- **Over 1/2** of your neighbors say they are using all or mostly **cold water** for their laundry.

- Those who wash in cold water feel strongly that it:
  - **is better for the environment**
  - **saves energy**
  - **makes clothes last longer**
  - **saves money**

"I have always washed with cold water, even my two boys' clothes, and our clothes have been clean, and last much longer. Stains are also easier to remove in cold water. I would tell all my neighbors to forget the idea that whites need to be washed in hot water, since no one has ever commented that our whites weren't so white." —Gretchen Lewis, Asheville

"I've been washing our laundry in cold water for over 10 years. We save energy and have lower utility bills without sacrificing anything, since we never noticed any problems with our clothes. You can lower your costs, and be good stewards of the environment at the same time." —Grace Curry, Asheville

USDN: https://www.usdn.org/public/page/31/Energy
Prompts

- Visual or Auditory Reminder

- Use for Audience Already Motivated but that Forgets

- Most Effective When
  - Repetitive Behavior
  - Close in Space
  - Close in Time
  - Emphasize Correct Action

Urban Sustainability Directors Network – 2013
Residential Energy CBSM Pilot
Computer & Monitor Shutdown Rates at Post Test

- **Control**
  - Computers Off (Post): 64%
  - Monitors Off (Post): 23%

- **Treatment**
  - Computers Off (Post): 72%
  - Monitors Off (Post): 53%

USDN: https://www.usdn.org/public/page/31/Energy
Incentives

- **Extrinsic Motivation**
  - Reward for desirable action
  - Avoid consequence for undesirable action

- **Use for Audience at any Level of Motivation**
  - Several limitations

- **Most Effective When**
  - One-Time Behavior
  - Cost is a Barrier

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CBSM Resources

- **Websites**
  - www.cbsm.com
  - www.toolsofchange.com

- **Discussion Forums/List Serves**
  - Fostering Sustainable Behavior (www.cbsm.com)
  - Social Marketing Association of North America (SMANA)

- **Books/Guides**
  - Fostering Sustainable Behavior
  - Social Marketing to Protect the Environment
  - Social Marketing (Lee & Kotler)
Social science tools are context-specific and are most effective when used for appropriate barriers and motivations.

Commitments work best when people have some level of motivation, but have not yet been involved in that action.
- For example, a multi-city pilot achieved energy savings by encouraging municipal employees to shut down their computers and monitors at the end of the workday through a pledge card attached to each computer.

Prompts should be used for an audience that’s already motivated to act, but needs a reminder.
- For example, in an energy efficiency campaign, prompts were posted on washing machines reminding residents to switch to cold water.
Social norms are mostly effective when people are not already motivated. People mirror other people’s behavior.

- For example, communicate how people are doing in terms of residential energy savings compared to their peers.
- Avoid the “magnetic middle,” when people are aware of the average behavior of others and tend to lean towards it.
- Focus on injunctive norms for the higher achievers: For example, give them a “smiley face” without information on how their energy savings compare to others.

Incentives tend to be effective when cost is a barrier for people to act, but are expensive to maintain for a long time.
Kat Donnelly
Ph.D., P.E., CEO
Azentive (Network Member)
Social Science Basics

• Our decisions are ruled by social, cultural, and emotional factors

• When a program or initiative works with human nature, it can take root faster and make a bigger impact
We are social creatures

• We respond to the influence of peers and trusted advisors
• We do what other people do
People need a reason

• Core values and emotional ties influence decision-making
• Find the why
A Typical Residential Energy Efficiency Journey

#1 Sign Up / Learn About

#2 Easy Behaviors / One-Time Actions

#3 Home Energy Audit

#4 Home Upgrades / Electrical Vehicle

#5 Install Solar / PV

Based on: the Connecticut Neighbor to Neighbor Energy Challenge, a DOE Better Buildings Neighborhood Program (2010 to 2013)
Case Study: Step Up and Power Down

- Partnership between cities, PG&E, and Empower Efficiency (now AZENTIVE)
- Community-Based Social Marketing approach
  - Encourage conservation behaviors
  - Increase engagement in efficiency programs
  - Support local Climate Action Plans
- Initiated the journey to energy audits and home upgrades
Making the Pitch

- Behavior science gives us tools and techniques to make energy efficient behaviors desirable
Psychology of the Pitch

- Social Pressure
- Loss Aversion
- Reciprocity
- F.A.C.S. & Mimicry
Pitch Perfection

<table>
<thead>
<tr>
<th>Pitch A</th>
<th>Pitch B (stronger)</th>
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<tbody>
<tr>
<td>We want to educate and empower you about your energy use and help you save money.</td>
<td>We want to help you stop energy waste in your home. Let’s make your energy work for you!</td>
</tr>
<tr>
<td>Do you know about Woodland, Step Up and Power Down?</td>
<td>Have your friends told you about Woodland, Step Up and Power Down?</td>
</tr>
<tr>
<td>LED light bulbs will last for more than 11 years.</td>
<td>If you install LEDs you won’t replace another bulb until your kid turns 25!</td>
</tr>
<tr>
<td>Running a second refrigerator may be wasting energy in your home.</td>
<td>If you take your old fridge to the dump, they will charge you $10; if you have PG&amp;E recycle it for you, they will PAY YOU $50!</td>
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</table>
Tips for “Perfecting” the Pitch

1. Assess the person before you engage
2. Develop a social or emotional connection
3. Break down barriers and boost motivation
4. Get them to take a first step on the spot
• Promoting Widespread Involvement through CBSM (Based on Doug McKenzie-Mohr)

• Putting individual and group triggers into action
  • Motivates, Enables, and Engages (continuously)

• Targeted at people who
  • Have a reason to care and
  • Are ready for change

• Change works on the installment plan by
  • Goal setting and commitment
  • Comparisons to social groups
  • Engaging people in small, actionable steps
THANK YOU

Kat A. Donnelly

January 24, 2018

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Having a pitch for every step in the energy efficiency journey is key in ensuring residents remain motivated and any of their concerns along the way are being addressed.

People need a reason: Understand and tap into their intrinsic motivation to trigger behavior change.

Communicating through trusted, local sources can help gain the community’s trust and increase interest in the program.
- For example, a home energy upgrade tour held by a local politician that was promoted through various media channels led to increased awareness around residential energy efficiency in that specific community.

To avoid fatigue when engaging your audience, allow some time for behaviors to settle in between outreach periods.
Additional resources

- **DOE Community-Based Social Marketing Toolkit** provides practical guidance and examples for applying community-based social marketing to increase the number of homes that are energy efficient.

- **Neuropsychoanalysis Association** (NPSA), an international network of non-profit organizations that support a dialogue between the neurosciences and psychoanalysis.

- **Consumer Neuroscience** (MIT press): This book, which includes Dr. Carl Marci as a contributor, describes how consumers develop implicit associations with a brand, perceptions of pricing, and how consumer neuroscience can encourage healthy behaviors.

- **Fostering Sustainable Behavior** by Doug McKenzie-Mohr. This book provides a comprehensive overview of the five steps of community-based social marketing, and how the method is being applied throughout the world to foster sustainable behavior.
Now is the time to start planning energy efficiency messaging!

April 11
National Pet Day

April 22
Earth Day

Direct Energy Blog Post
Utilitywise Poster
Explore the Residential Program Solution Center

Resources to help improve your program and reach energy efficiency targets:

- **Handbooks** - explain *why* and *how* to implement specific stages of a program.
- **Quick Answers** - provide answers and resources for common questions.
- **Proven Practices** posts - include lessons learned, examples, and helpful tips from successful programs.
- **Technology Solutions** NEW! - present resources on advanced technologies, HVAC & Heat Pump Water Heaters, including installation guidance, marketing strategies, & potential savings.

https://rpsc.energy.gov
Addenda: Attendee Information and Poll Results
Call Attendee Locations
Call Attendees: Network Members (1 of 2)

- Alaska Housing Finance Corporation
- American Council for an Energy-Efficient Economy
- AppleBlossom Energy Inc.
- Azentive (formerly known as Empower Efficiency)
- Bridging The Gap
- Build It Green
- Center for Energy and Environment
- Center for Sustainable Energy
- City of Berkeley (CA)
- City of Fort Collins (CO)
- City of Fremont (CA)
- City of Kansas City (MO)
- City of Providence (RI)
- CLEAResult
- Cleveland Public Power
- Cold Climate Housing Research Center
- Connecticut Green Bank
- Cool Choices
- Earth Advantage Institute
- Efficiency Maine
- Emerald Cities Seattle
- Energize New York
Call Attendees: Network Members (2 of 2)

- Energy Smart Colorado - Walking Mountains Science Center
- Erase40.org
- Focus on Energy
- Fort Collins Utilities
- GoodCents
- Group14 Engineering Inc.
- High Country Conservation Center
- Honeywell International, Inc.
- International Center for Appropriate and Sustainable Technology (ICAST)
- Local Energy Alliance Program
- New York State Energy Research & Development Authority (NYSERDA)
- Research Into Action, Inc.
- The E2e Project
- The Environmental Center
- TRC Energy Services
- Vermont Energy Investment Corporation (VEIC)
- Wisconsin Energy Conservation Corporation
Call Attendees: Non-Members (1 of 5)

- ABCD Action for Boston Community Development
- Action Research
- AECOM
- Appalachian State University
- Arizona State University
- BAE Systems
- Ballarat Consulting
- Bank of Montreal
- Better Climate.info
- BRANZ
- Bright HF Limited
- Cadmus Group
- California Public Utilities Commission
- Cann Geothermal Plus
- CenterPoint Energy
- City of Ann Arbor (MI)
- City of Boulder (CO)
- City of Longmont (CO)
- City of San Jose (CA)
- Climate Smart Missoula
- CoilPod LLC
- Cormack Construction Management
- CURENT (University of Tennessee)
Call Attendees: Non-Members (2 of 5)

- Eco'Diagnostic Consulting
- Enbridge Gas Distribution
- Energy Outreach Colorado
- Energy Performers
- Energy Solutions Professionals
- Energy Wise Alliance
- ETHZurich
- Frederick County Government
- Frontier Energy
- Green Compass Sustainability
- Green Spaces Chattanooga
- Habitat Studio & Workshop Ltd.
- Home Energy Analytics (HEA)
- Home Office Training & Technology
- ICF
- Idaho Power
- Johnson Controls
- L’Image Home Products (LHP)
- Lafayette College
- Local Government Commission
- Lockheed Martin
Call Attendees: Non-Members (3 of 5)

- Los Alamos National Laboratory
- Los Angeles Department of Water and Power
- Lower Valley Energy
- LWrNrG Energy Management Services
- Malis Photography
- McKenzie-Mohr Associates
- Mercy Housing Management Group
- Michigan Environmental Council
- Mid Michigan Community Action Agency
- Milepost Consulting
- Missouri University of Science and Technology
- New Ecology
- New York City Housing Preservation and Development
- New York State Department of State
- Nielsen Consumer Neuroscience
- Northwest Energy Efficiency Council
Call Attendees: Non-Members (4 of 5)

- Oakland Livingston Human Service Agency
- Opportunity Council
- Oregon Institute of Technology
- Pearl Home Certification
- PlugInConnect
- Presidio Trust
- Proctor Engineering
- Project Neutral
- Project Open Hearts
- Root Solutions
- Sarasota County
- Scalable Strategies
- Seattle City Light
- Sierra Club
- Snohomish County
- Solar Habitats, LLC.
- South Burlington Energy Committee
- Southwest Energy Efficiency Project
- Stewards of Affordable Housing for the Future (SAHF)
- StopWaste
- Sustain3
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<tr>
<td><strong>Sustainable Design + Behavior</strong></td>
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<td><strong>The Energy Challenge of Central Oregon</strong></td>
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<td><strong>The South-Central Partnership for Energy Efficiency as a Resource (SPEER)</strong></td>
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<td><strong>Therma-Stor LLC</strong></td>
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<td><strong>Universidade Federal De Santa Catarina</strong></td>
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<td><strong>University of Michigan</strong></td>
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<td><strong>University of Minnesota - Center for Sustainable Building Research</strong></td>
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<td><strong>Utah Governor’s Office of Energy Development</strong></td>
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Opening Poll

Which best describes your organization’s experience with strategies that use science to drive behavior change?

- Limited experience/familiarity – 40%
- Some experience/familiarity – 28%
- Very experienced/familiar – 19%
- No experience/familiarity – 11%
- Not applicable – 2%
Closing Poll

- After today's call, what will you do?
  - Seek out additional information on one or more of the ideas – 57%
  - Consider implementing one or more of the ideas discussed – 38%
  - Make no changes to your current approach – 5%
  - Other (please explain) – 0%