

THE GARRISON INSTITUTE



Climate, Mind and Behavior Project

Climate, Mind and Behavior Symposium
March 10-12, 2010
Garrison, New York

Letter From the Chairman



Dear colleagues:

Climate change and biodiversity loss are human behavioral problems – the earth was doing just fine before humans began to grow in significant numbers. To reduce our impacts, we very much need green regulations, legislation and green investment strategies. But at the same time it's clear that within

a given landscape of choices, we must also change our own behavior voluntarily. With strategies that nudge us in positive directions, we can make hugely beneficial pro-climate changes with little cost, and almost instantly. The question is, what are the best strategies to quickly shift human behavior on a large scale?

In this report you will read about the Garrison Institute's *Climate Mind and Behavior* (CMB) project which is tapping new insights from the behavioral and social sciences on what drives human behavior, and applying them to effective climate solutions. After a year of mapping the fields of social science, economics and ecological action, determining where they best intersect, forming a stellar leadership committee and defining core strategies, in March 2010 CMB held its first retreat. It convened 72 scientists and environmental thought and organizational leaders to explore emerging research in behavioral economics, complexity economics, neuroscience and related fields, and how the climate movement can benefit from this research. Among the important take aways: research shows that people are more motivated to take voluntary action on climate change when they know they aren't alone and that their action is part of cumulative effort that really can make a difference.

How big a difference? A joint study by the Garrison Institute and NRDC shows that if every American did a few simple things – for example turning lights off, keeping tires inflated, making modest changes in diet – this could reduce greenhouse gas emissions by a gigaton, equal to the total GHG output of Germany. The NRDC/Garrison Institute study was one of dozens of on the ground collaborations between participants that emerged from the CMB Project. The retreat

and study have garnered significant media coverage and helped seed a new focus on productive behavioral approaches that has already reached policymakers.

Several CMB retreat participants told us they thought the CMB retreat was of historic importance. Two follow-up programs in May 2010: *Catalyzing the Clean Energy Economy*, led by Billy Parish and Van Jones and *Climate, Buildings and Behavior*, a co-venture with the Urban Land Institute and Enterprise Community Partners, are building on the CMB approach, as the CMB network and activities continue to grow and evolve. We think CMB will prove to be the origin of an effective movement mobilizing the power of voluntary behavior shifts and eliciting productive, adaptive public responses to climate change. We're excited to share the story of its early activities with you.

Warmly,

A handwritten signature in black ink, appearing to read 'Jonathan F. P. Rose'.

Jonathan F. P. Rose
Chairman
The Garrison Institute

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Pete Seeger performs at the Climate, Mind and Behavior Symposium, March 2010.

Executive Summary

The Garrison Institute's Climate, Mind and Behavior (CMB) Project integrates recent findings from the behavioral and social sciences, evolutionary theory and psychology about what drives human behavior, with new thinking about climate solutions. Over the last two years CMB has gone from conception to leadership in this important emerging field.

Building the Knowledge Base

CMB was conceived in 2008 and, after consultation with advisors, was initiated in 2009. The project's first step was to survey the social science and climate change fields to identify relevant research and potential participants. This work was carried out by Dutch economist, Sander Tideman, who wrote a paper describing the project's scope of work and key ideas. Dr. John Gowdy of Rensselaer Polytechnic Institute took the next step and conducted a baseline study of the potential interactions between behavioral and social sciences, new economics (e.g. neuro-, behavioral and complexity economics), psychology and related fields, with new approaches to climate change. This study will be enhanced and edited over time by Dr. Gowdy and other CMB researchers. The study is available on the Institute's website.

The Institute assembled a CMB steering committee of researchers and climate change leaders to guide the project (see p10 for Steering Committee). The CMB project was led by Dr. Rebecca Henderson of the Harvard Business School, and Dr. John Gowdy served as science advisor and chair of the committee.

Growing the Network, Evolving a Strategy

In 2009 the program began disseminating its work via a monthly email blast that contained links to articles, research, and relevant projects. These email blasts are sent to the growing CMB community of academics, government officials, not-for-profit and for-profit entrepreneurs.

CMB proposed the concept of a "behavioral wedge" to the Natural Resources Defense Council (NRDC). In climate-change parlance a "wedge" is a gigaton (one billion tons) of greenhouse gas (GHG) reduction; a "behavioral wedge" means a gigaton of GHG emissions reduction derived from

simple, voluntary, no-cost, low-cost or cost-saving behavioral shifts adopted on a large scale. Examples include turning off lights when leaving a room, eliminating one plane trip a year, keeping tires properly inflated, eating more chicken and less red meat, etc. At least fifteen such "wedges" of GHG reduction are needed by mid-century to hold global warming to acceptable levels. Achieving them will require regulation such as new building codes, new legislation limiting GHG emissions, and new investment in areas such as renewable power and technological innovation. We support all of these, but we note that voluntary behavior changes also have an important role, can be implemented right now at low or no cost, and will help us achieve and optimize other needed approaches in the pipeline.

Working jointly with the NRDC we defined and quantified the behavioral wedge. CMB steering committee members conducted a peer review of NRDC's quantitative work, and the CMB project came to understand some of the behavioral dimensions of achieving such shifts on a large scale. How to encourage behavior change at scale was a key topic explored at the CMB symposium.

Thank you for all your hard work putting this remarkable conference together! Without a doubt it was a landmark event for the climate change movement which will be rippling out for some time.

David Gershon, The Empowerment Institute

Convening the Field Leaders

On March 10th–12th, 2010, the Garrison Institute held its first CMB symposium which brought together seventy-two influential thought and movement leaders. Participants explored how to connect emerging behavioral and social science to climate change policy and strategies to bring them more in line with the way that humans really think and behave.

Participants included prominent neuro-, behavioral and complexity economists, social scientists, environmental leaders,

activists, investment leaders, communications experts and others. Among them were representatives from the Yale Climate Center, Columbia University's Climate Center and Columbia's Center for Research in Environmental Decisions (CRED), Deutsche Bank Climate Change Advisors, the New Economy Network, the Urban Land Institute, the U.S. Green Building Council, the International Council for Local Environmental Initiatives (ICLEI), the New York Academy of Sciences, the White House Office of Science and Technology, and two former heads of the White House Council on Environmental Quality, to name just a few.

Symposium participants were organized into plenary knowledge presentations punctuated by breakout working groups whose members are pursuing collaborative on-the-ground projects operationalizing their discussions. The working groups included: Public Policy, Collaborative Public Engagement, Buildings and Communities, Investment, Communications, New Economics, and Indicators of Well-Being (see p8 for Symposium Highlights).

Symposium Outcomes

New collaborations and project emerged from the CMB symposium. ICLEI and the Empowerment Institute conceived a new project that will use social networks to green cities. A group of investors and foundations was formed to discuss transformative climate change capital. Billy Parish of Energy Action Coalition will hold a follow-up retreat for climate change activists which will be facilitated by Van Jones and held at the Garrison Institute in May. Also in May, a Climate, Behavior and Buildings (CBB) retreat for real estate professionals working to reduce climate impacts will take place.

At a plenary session, NRDC Director Peter Lehner described the Garrison Institute/NRDC collaboration around the new behavioral wedge which had been prepared for public release in the weeks leading up to the symposium. The behavioral wedge was formally released publicly and to the press on the last day of the symposium. A fact sheet on the wedge is available on NRDC's web site at www.nrdc.org/energy/billiontons.asp. NRDC has also created *Simple Steps* which details behavior changes anyone can make (<http://www.simplesteps.org>). The CMB project is continuing to cross-promote the wedge with NRDC and other partners.

On the final day of the symposium, we invited the media in for a report-out and Q&A with participants. For two and a half hours we engaged in a substantive, provocative dialogue with journalists working for Time Magazine, The New York Times, Scientific American, ABC News, Mother Jones, Fortune, and blogs such as GreenBiz.com, theenergycollective.com and climatepost.wordpress.com. Coverage of the symposium and "behavioral wedge" was widely circulated on the internet and traffic to our website doubled as a result (see p16 for Media Coverage). The CMB project, in partnership with NRDC, will continue to advance public understanding of the power of personal climate reduction actions through broad-based outreach.

Additional information about the CMB project and symposium can be found on the Institute's web site at www.garrisoninstitute.org under "initiatives."



Aimée Christensen, Founder and Chief Executive Officer of Christensen Global Strategies, discusses media strategy at the Symposium's Organizing for Change session.

Symposium Agenda

Day 1: Wednesday, March 10

7:30 – 8:00	Meditation Session in Meditation Hall Annex (optional)	4.30 – 5.30	Plenary Session: What can be done? Facilitated by Dr. Rebecca Henderson Each team gives a short presentation and preliminary proposals Group discussion: What are we learning about the application of these ideas? What's exciting? What can we use?
9.00 – 9.30	Introduction and Goals: Dr. Rebecca Henderson, Jonathan Rose and the Steering Committee		
9.30 – 11.30	Knowledge Session I: New insights from brain science Dr. Daniel Siegel: The mind, the brain, and the 'optical delusion' of our separateness David Gershon: Large scale behavior change and system transformation	7.30 – 9.00	After Dinner Speaker: Paul Hawken Followed by lively group discussion (Meditation Hall)
11.30 – 12.30	Team Session I: Translating ideas into action Public policy: Facilitator: Stockton Williams Investment: Facilitator: Mark Fulton Communications: Facilitator: David Fenton Advocacy: Facilitator: Aimee Christensen and Billy Parish New economics: Facilitator: Eric Beinhocker Behavior in Buildings & Communities: Facilitator: Chris Pyke Indicators: Facilitator: Sander Tideman		
12.30 – 1.30	Luncheon Speaker: Dr. George Woodwell - State of the climate		
1.30 – 3.30	Knowledge Session II: The big picture Eric Beinhocker: The current state of economics and climate change Jack Jacometti: Climate scenarios Dr. Radley Horton: Adapt or die		
3.30 – 4.30	Team Session II: Translating ideas into action Developing concrete proposals for action that build on the latest research		



Billy Parish, Founder of Energy Action Coalition, discusses youth engagement during the Organizing for Change session.

Day 2: Thursday, March 11

- 7:30 – 8:00 **Meditation Session** in Annex (optional)
- 9:00 – 9:30 **Check In:** Dr. Rebecca Henderson
- 9:30 – 11:30 **Knowledge Session III:**
Behavioral/Neuro economics
Dr. John Gowdy: Overview of mapping project - state of the research
Dr. Sabine Marx: Lessons learned from Columbia University's Center for Research on Environmental Decisions (CRED)
- 11:30 – 12:30 **Team Session III:** Moving towards action
- 12:30 – 1:30 **Luncheon Speaker:** Mark Anielski
Indicators of community health
- 1:30 – 3:30 **Knowledge Session IV:** Sharing solutions
Dr. Anthony Leiserowitz: Climate change in the American mind
Dr. Jon Krosnick: Tracking American opinions about climate change
Peter Lehner: The power of the behavioral wedge
Mark Fulton: The emerging field of climate investment
- 3:30 – 4:30 **Team Session IV:** Moving towards action
Teams prepare presentations for the following day
What will it take to have impact? What are the key leverage points? What steps are required to affect them? What are our next steps?
- 4:30 – 5:30 **Plenary Session:** General discussion
Dr. Benjamin Barber: The challenge of consumption
- 7:30 – 9:00 **Organizing for Change:** Van Jones, Billy Parish, Eli Pariser, Dr. Jon Isham, Aimee Christensen
What is working, what isn't, what do we need to know to be more effective? (Meditation Hall)



Dr. John Gowdy delivers his presentation on Climate Change Economics at the symposium. He is currently co-leading with Eric Beinhocker the CMB New Economics working group.

Day 3: Friday, March 12

- 7:30 – 8:00 **Meditation Session** in Annex (optional)
- 9:00 – 9:30 **A Call to Action:** Dr. Gus Speth: The need for a new economics
- 9:30 – 10:30 **Moving to Impact**
Learning teams present to the entire group, proposed action plans, and make concrete commitments.
- 11:00 – 12:00 **Conference Summary:** Dr. Rebecca Henderson
Creating the basis for effective action
General Discussion

Symposium Highlights

Plenary knowledge presentations and discussions at CMB covered neuro- and behavioral science, economics, the politics of climate change, and our behavioral responses to it. Here are some highlights:

Dr. Dan Siegel, UCLA psychologist and author of the recent book *Mindsight*, opened the symposium with a compelling summary of the intricacies of brain physiology and its relationship to human behavior. He described our neural “me maps” which evolved for self-preservation and reside in a different part of the brain than our “we maps” which define how we relate to others. How we respond to climate change depends in part on which part of the brain is stimulated. The threat of climate change as typically presented triggers a self-preserving cortical fight/flight/fear response, resulting in anxious denial and inaction. But appealing to “we-maps” of relatedness to our communities, and ultimately the environment at large, triggers the opposite response.

Thank you for hosting and inviting me to the Climate, Mind, and Behavior Symposium. You brought together an amazing group of experts. The presentations, discussions, meditations, location, and wonderful food combined to make for a thoughtful and mind-broadening event. The variety of disciplines and expertise gave us new ways of thinking about behavior change. Importantly are the new connections that will enhance what we do and hopefully meet your goal to solve the climate change problem. Congratulations on the news stories that we are beginning to see. I'm sure that more are coming.

Stephanie Shipp, Science and Technology Policy Institute

Dr. George Woodwell, founder of the Woods Hole Research Center, gave an incisive assessment of the state of the climate drawn from a lifetime of pioneering work. He compellingly expressed the imperative to change our trajectory and his conviction that we can.

Jack Jacometti, outgoing VP of Future Fuels & CO2 at Shell International Petroleum Company, overviewed resource constraints, climate change, the “perfect storm” scenario of

UK Chief Scientist John Beddington, and the various response scenarios, and reminding us that “business as usual” is not a viable option. Even the most aggressive scenarios, such as the discussed “Blueprints”, will require fundamental life style changes to achieve 450ppm CO2. This points to a need not only for more effective technological innovation, policy development and implementation – though these are crucial – but also a new game-changing narrative, a breakthrough in leadership and organizational effectiveness, a social networking revolution (multi-media), a fundamental change in lifestyle and behavior, i.e. a shift in mindset to bring it about.

Dr. Sabine Marx of Columbia University's Center for Environmental Decisions (CRED) presented an overview about how social science applies to the decisions we make about resource use and climate change. They aren't always rational. For example, most people buy flood insurance only after a flood occurs. Research shows the more deeply people feel group affiliation and the more strongly they identify with their community, the harder they will work for social goals and the more likely they are to take concerted action on big, collective issues like climate change. Messaging and narrative are critically important: overuse of the self-protective affective response (e.g., red and orange security alerts in the wake of 9/11) can lead to numbing and what is known as ‘apocalypse fatigue,’ whereas a balance of rational information, effective narrative and an affective appeal to affiliation (e.g. “we aren't alone and our contributions add up; we can help the people we know in our community and be part of an effective global response to climate change”) can empower people to act individually and collectively.

Eric Beinhocker of McKinsey explained how neoclassical economics is static and linear. It posits that narrowly defined and homogenous “rational actors” minimize costs and maximize consumption, seeking supply/demand equilibrium within a closed system, and excluding environmental effects as mere “externalities,” but new economic thinking takes into account complexity, dynamism, heterogeneity and systems change. It aptly models how the economy can evolve to mitigate and adapt to climate change, support technological and market innovation, and new employment and growth, with climate protections built in.

Dr. John Gowdy of Rensselaer Polytechnic Institute explored the implications of behavioral and neuro-economics for the current policy levers governments use, such as price signals, and what different levers we might use to induce large-scale behavioral and societal changes. He argues that keeping climate change at acceptable levels will require a kind of revolution that shifts environmental impacts by an order of magnitude, just as the industrial revolution raised production by an order of magnitude.

Several presentations and discussions grappled with bridging current political realities with the imperative for transformative social and economic change. Dr. Anthony Leiserowitz of the Yale Project on Climate Change and Dr. Jon Krosnick of Stanford's Woods Institute for the Environment deconstructed the assumptions and findings of current public opinion polls on climate change. Dr. Benjamin Barber, author of *Jihad vs. McWorld* and *Consumed*, offered a critique of neo-liberal politics and the consumer society, and made an appeal for reclaiming America's civic heritage. David Gershon of the Empowerment Institute described his work creating successful neighborhood-level social networks to reduce climate impacts. Dr. Gus Speth, former Dean of the Yale University School of Forestry and

Environmental Studies and founder of the New Economy Network, described a movement to re-organize economics around social and environmental needs. Environmental movement leaders and organizers such as Paul Hawken, Van Jones of Green for All, Billy Parish of Energy Action Coalition, and Dr. John Isham of Middlebury College and 350.org, discussed how to apply lessons from the behavioral sciences to advocacy movements, drawing on previous work with the Institute's Climate Change Leadership program.

See presentations from the symposium at www.garrisoninstitute.org/video.



Van Jones, Founder of Green for All, shares his wisdom during the Organizing for Change session.

Steering Committee



Aimée Christensen leads Christensen Global Strategies, which advises clients seeking to address climate change and ecosystem degradation, including the Clinton Global Initiative, Duke Energy, the United Nations Development Program, Virgin Unite, and Wolfensohn & Co. Previously, Ms. Christensen developed climate change

strategies for Google.org including developing the plug-in hybrid RechargeIT initiative and advising Google's Greenteam in taking the company carbon neutral. Ms. Christensen practiced law with Baker & McKenzie and the World Bank, and while at the US Department of Energy in the 1990s, developed the first bilateral and regional agreements on climate change. She has been named an "Emerging Leader" by the New Leaders Council and was chosen to address energy issues at the 2008 Democratic National Convention.



Dr. John Gowdy, Project Chair, is the Rittenhouse Teaching Professor of Humanities and Social Sciences, Department of Economics at Rensselaer Polytechnic Institute. Holding a PhD in Economics and a degree in Anthropology, Dr. Gowdy has been a Visiting Professor at the Universities of Barcelona, Leeds, Tokyo and Vienna. He has published widely on environmental

economics, including on economics, energy and climate change. In January 2010 he assumed the role of President of the International Society for Ecological Economics. He is co-author with Carl N. McDaniel of *Paradise for Sale* and his latest book is *Economic Theory Old and New: A Student's Guide*, published by Stanford University Press in 2010.



Paul Hawken is an environmentalist, businessman, and author. His practice has included starting and running ecological businesses, writing and teaching about the impact of commerce on living systems, and consulting with governments and corporations on economic development, industrial ecology, and environmental policy. He

is author and co-author of dozens of articles, op-eds and papers, as well as seven books including *The Next Economy*, *Growing a Business*, and *The Ecology of Commerce*. His latest book, *Blessed Unrest: How the Largest Movement in the World Came Into Being and Why No One Saw it Coming*, was a New York Times bestseller in 2007. Mr. Hawken has given lectures all over the world and has appeared on numerous news talk shows and other media. He has traveled to insurgent-held territories of Burma to research tropical teak deforestation and to war-torn Kosovo and Macedonia in 1999 for a humanitarian/photojournalistic mission. Paul is founder of the Natural Capital Institute (www.naturalcapital.org), a research organization located in Sausalito, California. The Natural Capital Institute created Wiser Earth (www.WiserEarth.org), an open source networking platform that links NGOs, foundations, businesses, government, social entrepreneurs, students, organizers, academics, activists, scientists, and citizens concerned about the environment and social justice.



Dr. Rebecca Henderson is the Senator John Heinz Professor of Environmental Management at the Harvard Business School and a research fellow at the National Bureau of Economic Research. From 1998- 2009 she was the Eastman Kodak Professor of management at the Sloan School of the Massachusetts Institute of Technology where she ran the

strategy group and taught courses in strategy, technology strategy, and sustainability. Dr. Henderson's research focuses

on the economics of research and development, technology strategy, and the difficulties large organizations encounter in attempting to respond to major shifts in their environment. She has experience working in many industries, including semiconductor capital equipment, aerospace, branded consumer goods, automobiles, pharmaceuticals, biotechnology, information technology and telecommunications, but her current research focuses on the energy sector and on the challenges firms encounter as they attempt to act in more sustainable ways.



Jack Jacometti is the former Vice-President of Future Fuels & CO₂ at Shell International Petroleum Company, Limited Shell Centre in London. His career has included techno-commercial, human resource development and managerial roles, as well as the development and design of the GTL project in Bintulu, Malaysia. As Vice President of Global XTL

Development for Shell, Mr. Jacometti worked closely with governments and car manufacturers at the senior level, and developed advanced applications for synthetic fuels. Over the years he has increasingly been involved in the development of long term energy scenarios and working to ensure that global networks drive policies to shape a sustainable future. In 2008, Mr. Jacometti was appointed to a new role to expand these initiatives across Future Fuels & CO₂. He worked on building partnerships with cities, governments, academics, NGOs and OEMs to drive policies to meet the energy challenge and address climate change. Furthermore, Mr. Jacometti was instrumental in developing the Shanghai-Shell 'Sustainable Energy Partnership' to promote energy conservation and increase public awareness and is actively involved in climate change initiatives such as Project Catalyst.



Peter Lehner is the Executive Director of the Natural Resources Defense Council (NRDC). He created and led the environmental prosecution unit for New York City Law Department early in his career. Subsequently, Mr. Lehner began his long association with NRDC, serving for five years as Director of NRDC's water program from 1994 to 1999. He left NRDC

to become the Chief of the Environmental Protection Bureau of the New York State Attorney General's Office, a job he held for eight years. In addition to Mr. Lehner's leadership at NRDC, he teaches law at Columbia Law School, and serves on the boards of the Butler Environmental Protection Fund, the Columbia Journal of Environmental Law, New York Rivers United, and the Center for Watershed Protection. He is also a member of the Council on Foreign Relations, on the advisory council of Harvard University's David Rockefeller Center for Latin American Studies, and is one of the founding members of the Environmental Law Reporter and Environmental Law Institute's Advisory Board.



Billy Parish is the Founder of Energy Action Coalition. In 2003, as it became more apparent that significant national action was required to combat climate change, he decided to work full-time to build the youth climate change movement. He left Yale University in his junior year to start the Energy Action Coalition, which has since become the largest youth advocacy

organization in the world working on climate change issues. Mr. Parish and the coalition have brought together 50 diverse organizations, raised nearly \$10 million in four years, committed nearly 600 colleges to climate neutrality, trained and empowered tens of thousands of young people, and built a base of 340,000 young voters who elevated climate issues in the 2008 elections. He has been a consultant for Green for All on "Green Jobs Now," a national day of action in September 2008 that involved more than 50,000 people in nearly 700 communities across all 50 states, and the Clean Energy Corps, a proposal that would create millions of new jobs and opportunities for community service. A 2007 Ashoka fellow and 2005 Rolling Stone "Climate Hero," Mr. Parish was also named one of Utne Reader's "50 Visionaries Who Are Changing Your World" in 2008.

Steering Committee - continued



Jonathan F.P. Rose is Chairman of the Garrison Institute, Chair of the MTA Commission on Climate Change, and Co-Chair of the Urban Land Institute's Committee on Land Use and Climate Change. Mr. Rose's business, not-for-profit and public policy work all focus on creating a more environmentally, socially and economically responsible world. In 1989, Mr. Rose founded Jonathan

Rose Companies LLC, a multi-disciplinary real estate development, planning, consulting and investment firm, as a leading green urban solutions provider. The firm currently manages over \$1.5 billion of work, much of it in close collaboration with not-for-profits, towns and cities. The company's mission is to repair the fabric of communities. The firm draws on its human capital, financial depth and real estate expertise to create highly integrated solutions to real estate challenges. Mr. Rose graduated from Yale University in 1974 with a B.A. in Psychology and received a Masters in Regional Planning from the University of Pennsylvania in 1980.



Dr. Gus Speth is a Distinguished Senior Fellow at Demos and former Dean of the Yale University School of Forestry and Environmental Studies. He will soon join the faculty of the Vermont Law School. Dr. Speth served as administrator of the United Nations Development Programme and chair of the UN Development Group. Prior to his service at the UN, he was founder

and president of the World Resources Institute; Professor of Law at Georgetown University, chairman of the U.S. Council on Environmental Quality and senior attorney and cofounder of the Natural Resources Defense Council.

Throughout his career, Dr. Speth has provided leadership and entrepreneurial initiatives to many task forces and committees whose roles have been to combat environmental degradation. Publications include *The Bridge at the Edge of the World: Capitalism, the Environment, and Crossing from Crisis to Sustainability*, *Red Sky at Morning: America and the Crisis of the Global Environment*; *Worlds Apart: Globalization and the Environment*.



Sander Tideman is the founder of Sense Consulting where he helps to create sustainable organizations and sustainable economic systems. He is the author of *Mind over Matter* (2009) and (co-)authored many articles and books, including "Doing Business in China," "Sustainable Development in Central Asia" and "Compassion or Competition." Mr. Tideman is cofounder and director

of the Global Leaders Academy, an international network organization with members in the UK, US and Holland, which is organizing programs for members, leadership journeys, seminars and events. He has facilitated many events, including the Leadership for a Sustainable World Forum - a one day conference with H.H. the Dalai Lama, and 525 others; the Gross National Happiness Conferences - commissioned by Royal Government of Bhutan, first GNH conference in 2004, with several follow-on events, publications and lectures. Mr. Tideman has been a student of Eastern contemplative traditions since his student years and he regularly leads journeys to the Himalayas, Tibet and Mongolia, to give people an authentic experience of Buddhist culture and Inner Asian nature. He is also pursuing research on Sustainable Leadership at Nijenrode Business University in the Netherlands. For further information see: www.sandertideman.com and www.globalleadersacademy.com

Symposium Participants

Daniel R. Abassi, Director, MissionPoint Capital Partners

Dr. Rohit T. Aggarwala, Director of Long Term Planning & Sustainability, Office of the Mayor, City of New York

Mark Anielski, President, Anielski Management, Inc.

Dr. Benjamin Barber, Distinguished Senior Fellow, Demos

Julianne Baroody, Coordinator, Climate Initiative Rainforest Alliance

Rene Baston, Chief Business Officer, New York Academy of Sciences

Eric Beinhocker, Senior Expert, McKinsey & Company

Alan Belenzs, Director, Office of Climate Change NY State Department of Environmental Conservation

David Berreby, Author, Independent Scholar & Writer

David Berry, Sustainable Water Resources Roundtable

Kelly Blynn, Co-coordinator, 350.org

Jessica Brackman, Director, E.F. Schumacher Society/New Economics Institute

Uwe Brandes, Vice President: Initiatives, Urban Land Institute

Renee Bunnell-Schwartz, Founder, Real

Dr. Martin Bunzl, Director, Rutgers Initiative on Climate and Social Policy

Dr. Mary-Elena Carr, Associate Director, Columbia Climate Center, Earth Institute

Aimee Christensen, Chief Executive Officer, Christensen Global Strategies

Bob Dandrew, Director, Local Economics Project, New World Foundation

Frank Dixon, Founder, Global System Change

Jeffrey Domanski, PhD Candidate, Sustainability Associate Director, Princeton University

David Fenton, Chief Executive Officer, Fenton Communications, Inc.

Anders Ferguson, Partner, Chief Strategist, Veris Wealth Partners

Jesse Fink, Betsy & Jesse Fink Foundation

Mark Fulton, Managing Director & Global Head of Research, DB Climate Change Advisors

Michel Gelobter, CEO/Chairman, Cooler, Inc.

David Gershon, Founder & CEO, Empowerment Institute

Dr. John Gowdy, Professor of Economics, Rensselaer Polytechnic Institute

Herndon Graddick, Broadcast Media Professional

Robert Hallman, Partner, Cahill Gordon & Reindel, LLP

Paul Hawken, CEO, Biomimicry Technologies, LLC

Jeremy Heimans, CEO/Co-Founder, Purpose

Dr. Rebecca Henderson, Professor, The Harvard Business School

Daniel Hernandez, Director of Planning, Jonathan Rose Companies

Barbarina Heyerdahl, Donor, Citizen Lobbyist, Natural Resource Defense Council

Dr. Radley Horton, Center for Climate Systems Research, Columbia University

Symposium Participants - continued

Dr. Jonathan Isham, Associate Professor, Middlebury College

Jack Jacometti, former Vice President, Shell International

Anthony “Van” Jones, Founder, Green for All

Dr. Bruce Kahn, Director and Senior Investment Analyst, DB Climate Change Advisors

Cary Krosinsky, Vice President/Adjunct Professor/Trucost, Columbia University

Dr. Jon Krosnick, Fredrick O. Glover Professor of Humanities and Social Sciences, Stanford University

Peter Lehner, Executive Director, Natural Resource Defense Council

Dr. Anthony Leiserowitz, Director, Yale Project on Climate Change

Jon Love, Program Director, The Pachamama Alliance

Peter Mandelstam, President, NRG Bluewater Wind

Carl Mas, Project Manager, NYSERDA

Dr. Sabine Marx, Managing Director, Center for Research on Environmental Decisions (CRED), Columbia University

Dr. Carl McDaniel, Visiting Professor, Oberlin College

Billy Parish, Co-Founder, Energy Action Coalition

Sarah Parks, PhD Candidate, Rensselaer Polytechnic Institute

Robert Perkowitz, President, ecoAmerica

Cara Pike, Director, Social Capital Project, The Climate Leadership Initiative, University of Oregon

Dr. Chris Pyke, Director of Research, U.S. Green Building Council

Andrew Revkin, Senior Fellow, Pace University

Jonathan F.P. Rose, President, Jonathan Rose Companies

Dr. Sarah Ryker, Research Staff Member, Science and Technology Policy Institute

George Sarrinikolaou, Senior Program Officer, Institute for Sustainable Communities

Dr. Juliet Schor, Professor of Sociology, Boston College

Dr. Stephanie Shipp, Senior Researcher, Science and Technology Policy Institute

Dr. Daniel Siegel, Professor, Semel Institute at UCLA

Wayne Silby, Founding Chair, Calvert Funds

Dr. James Gustave Speth, Professor, School of Forestry and Environmental Studies at Yale

Melissa Stults, Adaptation Manager, ICLEI-Local Governments for Sustainability

Carolyn Taylor, Founder, Walking the Talk

Peter Teague, Program Director, Nathan Cummings Foundation

Sander Tideman, Tideman & Associates

Dr. Louke van Wensveen, Senior Researcher (Stichting Oikos), Associate Professor (Academia Vitae)

Dr. Marsha Walton, Senior Project Manager, Behavioral Research Program, NYSERDA

Stockton Williams, Senior Advisor, Director of Green Economy Initiatives, Living Cities

Dr. George Woodwell, Director Emeritus and Senior Scientist, Woods Hole Research Center

Nancy Youman, Deputy Director of U.S. Programs, Open Society Institute

Institutional Collaborators

The following organizations have consistently provided to this project staff expertise, ideas, outreach and reference materials:

- Natural Resources Defense Council (NRDC)
- Enterprise Community Partners
- Columbia University's Center for Research on Environmental Decisions (CRED)
- The Urban Land Institute's New York District Council

The project has also benefited from the intellectual leadership and support of other researchers and practitioners who have made valuable contributions in this area.

The Behavioral Wedge

The Garrison Institute and the Natural Resources Defense Council released their work on 'the behavioral wedge' at the March symposium.

Focusing exclusively on simple and affordable behavioral changes, the research indicates that Americans can reduce our nation's annual carbon emissions by one billion metric tons below business-as-usual emission levels by 2020 through small modifications in the sectors of home energy use, transportation, food consumption and waste. One billion metric tons is equivalent to 15% of the United States' 7 billion tons of annual greenhouse gas emissions and roughly equivalent to the total annual emissions of the United Kingdom and Saudi Arabia combined.

Suggested behavioral changes in the study include: reducing unwanted catalog subscriptions, decreasing vehicle idling, using a programmable thermostat, replacing seven light bulbs with CFLs, setting computers to hibernate mode, shutting off unused lights, and eating poultry in place of red meat two days per week. All of the recommendations offered in the study can be adopted immediately at little or no cost, and will reduce not only emissions, but home energy, transportation and food costs as well.

The analysis details how each of the common sense actions can result in significant emissions reductions when implemented across the country. For example, if Americans collectively cut personal food waste by 25%, the nation could eliminate 65 million tons of greenhouse gases, which is approximately the emissions generated from 11 million cars – or roughly all the cars in New York and Missouri combined.

Source: from the NRDC/Garrison Institute press release on the 'Behavioral Wedge:' New Analysis: 15% Cut in U.S. Carbon Emissions Achievable Through Simple Inexpensive Personal Actions. To read the full release go to <http://www.nrdc.org/media/>

Energy Facts

For more information please contact:
Sasha Lytse
(212) 727-4603
Matthew Etelson
(212) 727-4600

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Simple and Inexpensive Actions Could Reduce Global Warming Emissions by One Billion Tons

The United States is the world's second-largest emitter of global warming pollution, currently pumping approximately 7 billion tons of greenhouse gases (GHGs) into the atmosphere every year. U.S. residents have an individual "carbon footprint" that is more than 20 times larger than people living in many developing countries. If Americans adopted a series of simple and inexpensive emissions-reducing measures in the areas of transportation, household energy consumption, diet, and waste over the next ten years, the U.S. could avoid 1 billion tons of emissions annually, beginning in 2020, and save money.* This sum represents nearly 15 percent of current national emissions, and is roughly equivalent to the total greenhouse gas emissions of Germany, the largest polluter in Western Europe.

Behavioral change and personal actions—in addition to responsible policymaking and technological innovation—are critical to any successful effort to curb greenhouse gas pollution and avoid the worst impacts of climate change. All of the recommendations offered here are cost-effective and ready to be adopted immediately. They are simple and yet significant steps we can all take to help protect our own health, our communities, and the planet.

Media Coverage

A complete list of clips and links to coverage is posted at www.garrisoninstitute.org.

Can Small Lifestyle Changes Lead to Huge CO2 Cuts?, by Bryan Walsh, Time, March 17, 2010. "A new analysis released on Mar. 12 by the Natural Resource Defense Council (NRDC) and the Garrison Institute's Climate Mind Behavior Project found that personal actions could reduce U.S. carbon emissions by 1 billion metric tons by 2020..."

Can you make a difference? 14 simple steps save money, reduce pollution, USA Today online edition, March 18, 2010. "Americans can save money and reduce U.S. carbon pollution 15% by making 14 simple changes such as washing clothes in cold water or using a programmable thermostat..."

Can Smiley Faces (and a 14-Step Program to Stop Overconsumption) Save the Global Climate?, by David Biello, Scientific American, March 16, 2010. "When rational appeals fall short, environmentalists enlist social and economic incentives--and even neuroscience--to get the public in on national efforts to combat climate change..."

Putting the "I" in Climate, by Kate Sheppard, Mother Jones, Blue Marble Blog, March 12, 2010. "Tiny changes can yield a 15 percent reduction in US greenhouse gas reductions by 2020, cutting 1 billion tons of CO2 from the atmosphere, according to a new study released by the Natural Resources Defense Council and the Climate Mind Behavior Project at the Garrison Institute..."

Can behavioral economics help save the planet?, by Marc Gunther, The Energy Collective, March 14, 2010. "People often ask, if I change my behavior, what difference will it make?" Lehner goes on. "This analysis showed that it makes a lot of difference. That's exciting..."

The Two-Chicken Global Warming Solution, by Dan Shapley, The Daily Green website, March 15, 2010. "A new analysis has an encouraging conclusion about individuals who "go green": If we all took a few simple steps, collectively we could reduce U.S. carbon dioxide emissions 15%..."



Dr. Gus Speth, Professor, School of Forestry and Environmental Studies at Yale, presents "The Need for a New Economics."

Moving Forward

The CMB symposium was an exciting and highly visible kickoff event, but it was just the beginning. Symposium participants and other members of the growing CMB network are already actively working together to generate creative climate solutions, messaging and policy design, with a view to achieving measurable, on-the-ground change in attitudes and behaviors. Going forward, they will continue to collaborate on many fronts.

The Garrison Institute is nurturing the growth of the CMB network and its collaborative activity. For example, the Institute has launched a CMB online information hub designed to help network members find and share relevant research and connect it to practical applications. We are already working to connect network members' ideas and projects to institutional partners in the U.S. and abroad, who can help implement them on a larger scale.

We are building on successful CMB communications work with news-driven blogging and social networking and continued cultivation of opinion-making journalists and bloggers. We are also assembling news-relevant CMB information for movement leaders and policymakers, and follow-up media strategies for new CMB-related events the Institute is convening.

In May 2010 we will hold two follow-up retreats that build on the insights of CMB: *Catalyzing the Clean Energy Economy* is a retreat for climate activists organized by Billy Parish of the Energy Action Coalition and facilitated by Van Jones of Green for All, both of whom attended the CMB symposium. Parish says the retreat is designed to help activists "optimize our work on a local level through new research on neuro science, behavioral economics, community-wide change and best practices from leading local practitioners."

Our second annual climate change retreat for real estate leaders, *Climate, Buildings and Behavior* (CBB) will focus on applying behavioral knowledge to the building sector, which currently accounts for 42% of US GHG emissions. Directed by a steering committee of leading professionals, the retreat will bring together for-profit, not-for-profit, university, institutional and governmental real estate owners to explore ways of shifting climate impacts by shifting behaviors of their building managers and occupants. In fact, the exploration is already underway. CMB symposium participants, the Urban Land Institute, the U.S. Green

Building Council, the U.S. Department of Housing and Urban Development and ICLEI are already beginning to consider how to bring pro-climate behavior changes to their institutions, and one goal of the CBB retreat is to advance their work.

An example of continuing CMB communications and outreach work on this front is our new partnership with the national non-profit Enterprise Community Partners, Inc. Enterprise is planning to produce and broadcast webinars on best practices that affordable housing managers can use to help reduce their residents' climate impacts.

The feedback we have received from CMB participants so far has been extraordinary. They repeatedly tell us they are engaging in this network because of its high quality and diversity, the freshness of its thinking, and the relevant connections it makes between emerging academic work and real on-the-ground change. The network is growing rapidly as a result. Responding to this growth, we are already planning the second annual CMB symposium scheduled for April, 2011.

We're very excited about the results and future prospects of the CMB project. The project continues to deepen the Garrison Institute's standing in the environmental community, with academics, funders and the media, and it is opening up new pathways for us to gain greater visibility and more effective thought leadership. Most importantly, it promises to make important real-world contributions to GHG reduction at scale. As significant as CMB's impact has been so far, we hope and expect to report bigger impacts in the months ahead.

"In some ways, the Climate, Mind and Behavior symposium, in concert with other recent Garrison gatherings on the climate movement, was historic... Building on the vision that created the Garrison Institute, a visionary band in these last few years has dedicated themselves to trying to shape history... For the leading roles you all have played in this grand awakening, many thanks."

Jonathan Isham, Middlebury College and 350.org

Past Accomplishments of the Climate Change Leadership Program

The Institute has had significant success in developing thought leadership in the fields of education, trauma and climate change. Through field development and its process of mapping the field, understanding gaps, and bringing people together to see the larger whole, the Institute has become a neutral hub for the growth of knowledge in multidisciplinary fields.

Institute projects and events are carried out within a contemplative framework. Contemplative practices and methods introduced deepen participants' absorption of the content and help leaders think with greater resilience and personal balance. This contemplative approach leads to fresher insights and more integrated solutions. The Climate Change Leadership Program (the 'Program') has hosted six successful retreats, each of which lead to expanded knowledge, networks and action.

2007

The Program's first retreat in 2007 focused attention on the cascading of human potential that can unfold in the face of great challenges. The Institute's work gave birth to a structural framework for collaboration (1Sky), a new mental model for collaboration, and a follow-up retreat one year later.

2008

The Program's third retreat held in early 2008 was organized by Van Jones and Majora Carter. It brought together activists from the emerging green jobs movement and developed a framework to transition great ideas into a coherent movement. The Program's fourth retreat held in April of 2008 focused on lessons from large-scale social movements, particularly Gandhi's Satyagraha and Martin Luther King's Agape based non-violent Civil Rights movement, and their applications to climate change.

2009

In May of 2009 the Program hosted a fifth retreat, *Real Estate Leadership in the Age of Climate Change*. Participants from for-profit and not-for-profit real estate companies developed



Bidisha Kumar participates in a group discussion at Satyagraha.

strategies to lead their companies and communities toward greater environmental sustainability. At the end of the retreat participants developed action plans which they shared with each other. Following the retreat, participants continued to meet quarterly in New York City and participate in online discussions.

The Program's sixth event, the Climate, Mind and Behavior (CMB) Symposium was held March 9-12th, 2010, and the seventh event, Climate, Buildings and Behavior, will be held May 26th to the 28th, 2010.

About the Garrison Institute

The Garrison Institute is a not-for-profit, non-sectarian organization exploring the intersection of contemplation and engaged action in the world.

Our program initiatives – Contemplation and Education, Transforming Trauma, and Transformational Ecology – create rigorous, innovative, contemplative-based tools and approaches to help teachers, caregivers, human service providers, environmentalists and others on the front lines of social and environmental engagement succeed.

We nurture development of professional fields and discuss and disseminate these approaches, breaking silos and opening up dialogues between frontline professionals, scientists, and contemplatives. We test these approaches in innovative pilot programs in settings from domestic violence shelters to classrooms. We refine, replicate, and adapt them to new settings and larger scales, and track results.

At the same time, our retreat programs bring world-class teachers from diverse wisdom traditions to wide audiences, conveying a wide range of contemplative ideas and practices conducive to personal growth and social change. Since its founding in 2003, the Garrison Institute has hosted hundreds of retreats and events, and attracted some 18,000 participants – each one a potential agent of change.

The Institute is housed in a beautifully renovated 77,000 square foot former Capuchin monastery with comfortable accommodations, world-class meeting facilities and healthy, locally sourced food for groups of up to 175 people. Located one hour north of New York City on the banks of the Hudson River, surrounded by forest and fields, it offers a unique, authentic setting for non-sectarian exploration of contemplative practice and social change.

Project Sponsors

For CMB's success so far and its exciting potential, we wish to thank the funders whose generous support to date has made this project possible:

- Surdna Foundation
- Nathan Cummings Foundation
- Betsy and Jesse Fink Foundation
- Shell Oil
- Lostand Foundation
- Deutsche Bank Climate Change Research Foundation
- Deutsche Bank Americas Foundation
- JPMorgan Chase Foundation

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How to Get Involved

If you are interested in supporting this project please contact Bridget Connors at bridget@garrisoninstitute.org. If you would like to receive monthly updates about this project or to get involved, please contact Stephanie Bosco-Ruggiero at stephanie@garrisoninstitute.org. Additional information about the CMB project and symposium can be found on the Institute's website at www.garrisoninstitute.org/cmb. Videos of select presentations can be seen at www.garrisoninstitute.org/video.



GARRISON INSTITUTE

www.garrisoninstitute.org
Garrison Institute, Rt. 9D at Glencllyffe, Garrison, New York
845.424.4800