ULI Advisory Group
Climate, Land Use and Energy (CLUE)
Findings Report

Urban Land Institute

Report to the Trustees from the Climate, Land Use and Energy (CLUE) Advisory Group

At the 2007 ULI Fall Meeting in Las Vegas, the Trustees directed Chairman Todd Mansfield to form an Advisory Group to study and advise on the issues of climate change and energy and how ULI as an organization might best engage in these issues. The Chairman appointed us to co-chair the Advisory Group on Climate, Land Use and Energy (CLUE) which was formalized in December 2007.

The Advisory Group is made up of a diverse body of ULI members who span the fields of finance, investment, development, design and the insurance industries. We have met on a monthly basis since December 2007 and have enjoyed the highest levels of commitment from participants.

The Advisory Group has explored how the issues of rising energy costs and global climate change should inform ULI's ongoing activities, including how these issues might impact the industry at-large and how they are changing the day-to-day practice of land use and urban development.

We have produced a report which is available on request from ULI staff. The report includes four primary elements:

- ULI Statement and Principles on Climate Change, Land Use and Energy
- Recommended Priority Topic Areas
- Summary Overview Activities Pursued by Other Organizations
- Summary of related ULI programs and activities

The ULI Statement on Climate Change, Land Use and Energy (CLUE) reads as follows:

> *ULI–the Urban Land Institute will bring its organizational resources to the complex issues surrounding energy and climate change, acknowledging that the successful global reduction of greenhouse gas (GHG) emissions requires substantial investments in local communities. We believe ULI has the ability to foster new policies and solutions to address global climate change that are both feasible and effective at the nexus of land use, real estate, energy and infrastructure. As an organization, we seek to move forward with new urgency by fostering leadership among ULI members and identifying the tools, techniques, and best practices needed to address difficult choices and trade-offs, for which there is no precedent to measure decisions. We seek to empower individuals and organizations to solve one of the most important and complex long-term challenges ever faced by communities around the world in a manner that meets the needs of the present without compromising the ability of future generations to meet their own needs.*

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- "Workforce Housing and Climate Change", John McIlwain (Urban Land, February, 2008)
- "Green Nation?", Ed McMahon (Urban Land Green, Spring 2008)
- "Location, Location, Location: Building Green Is about More Than Building", John McIlwain (Multifamily Trends, March/April 2008)
- "Some Good, Healthy Growth", William H. Hudnut III (Urban Land, September, 2007)
- "Growing Cooler", Summary Overview, Ewing et al. (ULI, 2008)
- "On the Front Lines of Positive Change", Tom Murphy et al. (Urban Land Green, Spring 2008)
- "Energy Bill Shines Light on Things to Come", John Miller (Urban Land Green, Spring 2008)
- "Zero-Carbon Cities", Ron Nyren (Urban Land, June 2008)
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ULI 2008 CLUE-related Program Highlights
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CLUE Advisory Group Members

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Rachelle Levitt
Ed McMahon
Tom Murphy
John McIlwain
Uwe Brandes
Matt Johnston

Meetings Convened

December 4, 2007	Advisory Group Meeting #1 SOM, 14 Wall Street, New York City
January 8, 2008	Advisory Group Meeting #2 The Jonathan Rose Companies, 551 Fifth Avenue, New York City
January 24, 2008	ULI Mid-Winter Meeting Washington, DC
March 4, 2008	Advisory Group Meeting #3 Hines, 885 Third Avenue, New York City
May 9, 2008	Advisory Group Meeting #4 Hyatt Regency Dallas, Texas ULI Spring Council Forum
June 3, 2008	Advisory Group Meeting #5 Jonathan Rose Company, 551 Fifth Avenue, New York City
July 15, 2008	Advisory Group Meeting #6 Hines, 885 Third Avenue, New York City
September 9, 2008	Advisory Group Meeting #7 Jonathan Rose Company, 551 Fifth Avenue, New York City
October 7, 2008	Advisory Group Meeting #8 Hines, 885 Third Avenue, New York City
October 27, 2008	Presentation to ULI Trustees, ULI Fall Meeting and Urban Land Expo, Miami, FL

<u>Climate Change, Land Use, and Energy- Statement and Guiding Principles</u>

ULI–the Urban Land Institute will bring its organizational resources to the complex issues surrounding energy and climate change, acknowledging that the successful global reduction of greenhouse gas (GHG) emissions requires substantial investments in local communities. We believe ULI has the ability to foster new policies and solutions to address global climate change that are both feasible and effective at the nexus of land use, real estate, energy and infrastructure. As an organization, we seek to move forward with new urgency by fostering leadership among ULI members and identifying the tools, techniques, and best practices needed to address difficult choices and trade-offs, for which there is no precedent to measure decisions. We seek to empower individuals and organizations to solve one of the most important and complex long-term challenges ever faced by communities around the world in a manner that meets the needs of the present without compromising the ability of future generations to meet their own needs.

Guiding Principles

1. **Foster a Global Response at the Local Level.** While the challenges are global in scope, impacts and actions will vary from region to region. Each community must adapt in unique ways and rise to the challenge of mitigating existing trends with bold and transformational long-term solutions. The effort to achieve a low-carbon global economy relies on local communities around the world.

2. **Empower Strategic Regional Coordination.** Public and private investments made throughout our communities cumulatively define a region's sustainability. Transportation, energy, industry, housing, and agriculture must be coordinated as part of an effective regional vision. Success is dependent upon all levels of government being engaged in the effort to effect change.

3. **Reduce GHG Emissions.** Greenhouse gas emissions must be reduced in a verifiable manner, as communities and organizations make the transition to a low-carbon economy over time. The real estate sector should have the ability to participate in carbon markets by generating emissions reductions through investments in community revitalization and sustainability.

4. **Conserve Natural Resources by Using Land Wisely.** Land use strategies should foster the conservation of water and energy in our communities, preserve ecological integrity, and minimize waste and pollution. Sustainable development should be generally compact, mixed-use, and conserve or restore land for its value as green infrastructure and to sustain biodiversity. New land use models should be pursued that allow communities and economies to grow without sacrificing the coherence, quality, or capacity of natural resource systems.

5. **Create Mixed-Use, Mixed-Income Livable Communities.** Employment is the cornerstone of community vitality, and housing choice is necessary to sustain a workforce. Concentrated areas of civic uses and employment can be organized with housing to form a land use framework for efficient regional transportation. Housing must include a

diversity of types and a choice of locations providing easy access to employment and daily needs. Housing choice mitigates the forces of sprawl and reduces the amount of vehicle miles traveled (VMT).

6. **Promote Accessibility and Choices in Mobility**. Enhance ongoing innovations in automobile efficiency by reducing the overall amount of VMT. Encourage communities and regions to make moving people—rather than cars—a priority by promoting emissions-free and public modes of transportation and locating daily destinations in easily accessed places. Reduction of VMT is a cornerstone of overall emissions reductions and will result in enhanced health of citizens.

7. **Track Progress and Explore Feasibility**. Define the metrics of community sustainability, measure ongoing performance, and transparently communicate real progress with all stakeholders. Recognize that sustainable development relies on exploring feasible and practical opportunities that are grounded in reality and incorporate reasonable investment return. Sustainability grows from a culture of sound business practices, equitable fiscal management, and accountability.

8. **Cultivate Leadership, Invention, and Entrepreneurship**. Growth is inevitable; sustainable growth is a community's choice. We can grow into a sustainable future through partnerships that transform markets and achieve the necessary economies of scale to mitigate existing impacts. Sustainable innovation is achieved through deliberate decisions made iteratively at every stage of projects and endeavors.

ULI recognizes that effective strategies to combat global climate change will require cooperative effort by all segments of the economy and all segments of society, around the globe. Given the multifaceted challenge and the many exemplary efforts by organizations around the world to meet this challenge, ULI does not seek to duplicate the effective efforts of others, such as those focused on transportation technologies or building technologies. By focusing on issues at the core of the ULI mission—the responsible use of land—ULI seeks to make an important contribution within the emerging chorus of collaboration and partnership.

The intent of this document is to identify and recommend individual priority topic areas for the Urban Land Institute to engage under the umbrella of policy and practice research related to Climate Change, Land Use and Energy. These topic areas are by definition interdependent to one another and often inextricably linked. This document presents a broad prioritization of issues for which the ULI is best positioned to address, but for which there are likely to be significant variations in priority on a regional basis.

Priorities are: 1) Highest - ULI must explore; 2) High - ULI should explore; 3) Important - ULI to track; 4) Relevant - ULI to watch; 5) Lowest - Not a ULI Issue

Area	Issue	Description	Priority (1-5)	Current ULI Activities	Other Active Organizations
Feasibility	Making the Business Case	Assess and value the marginal costs and benefits of "going green" on an ongoing basis with an emphasis on making the business case for specific land development approaches as well as portfolio management strategies. Quantify the returns in terms of both public and private benefits. Document best investment practices with respect to short-term and long-term objectives and identify emerging risks.	1	Developing Green Conference, *Green Office Buildings* publication	USGBC, EPA, NRDC/M&Co, WBCSD
Infrastructure	Metropolitan Infrastructure	Explore the challenge of linking new edge development with regional transportation and other existing networks to promote sustainable land use. Explore the creation of satellite communities and new town centers as metropolitan strategies to effectively and expediously achieve synergy between land use, climate/ energy goals and infrastructure.	1	Infrastructure Report, 2007, 2008 Infrastructure Forum 2007, Infrastructure Advisory Group	CNT, Reconnecting America, T4 America, APA
Investment	Existing Buildings	Accelerating the renovation of the existing building stock to updated standards will be technically challenging and require creative financial strategies. What public and private resources and partnerships will be necessary to initiate similar projects in smaller cities? What specific actions are leading to measurable reductions of GHG emissions?	1	*Retrofitting Existing Buildings* publication	NAHB, BOMA, CCI
Land Use	Edge Development	Explore sound sustainable development principles for the significant amount of edge development which by magnitude and location represents new challenges to both prevailing development practices as well as prevailing definitions of sustainability. Include an exploration of evolving infrastructure requirements, entitlement process and mixed-use programming strategies.	1	Edge Development in the West Forum	SGA, CNU
Land Use	Infill Development	Explore the practice, trends and progress of the Smart Growth agenda, including TOD, brownfields, downtown revitalization and infill development. Identification and quantification of existing barriers and opportunity costs associated with under-developed land within urbanized areas.	1	*Growing Cooler* publication, *Getting Density Right* publication	SGA, NRDC
Land Use	Mixing Uses	Explore the inter-relationship of community and regional housing policies and the frameworks necessary to develop mixed-use and mixed-income communities. Emphasis to be placed on which policies and tools are	1	*Creating Great Town Centers and Urban Villages* publication	SGA

necessary to combat the forces of urban sprawl and the associated increases in household VMT-generated emissions.

Land Use	Land Use Implications of Infrastructure Decisions	Explore how infrastructure-oriented land use decisions can leverage existing and new infrastructure investments. Review of how different metropolitan land use patterns (TOD, new towns, etc.) play a factor in reducing vehicle trip generation and miles travelled (VMT). Explore how other infrastructure decisions (airports, high speed rail, etc.) lead to either desired or undesirable land use outcomes.	1	*Infrastructure Report* Infrastructure Advisory Group, *Moving Cooler* publication, *Developing Around Transit*	CNT, Reconnecting America, T4 America
Regulations	Development Regulations	There are hundreds of legislative initiatives at the state and local levels. How will land use zoning and building codes to better reduce emissions in the built environment? What strategies make sense and which may ineffective? Which strategies induce market innovation and which will be impossible to implement? When were they adopted and to what extent do policies integrate a variety of community sustainability objectives, such as workforce housing production, water conservation, etc. What is working and what isn't?	1	*Strategy for Real Estate Companies* publication	SGA, NAHB
Infrastructure	Infrastructure Adaptation	Explore the changing policy objectives and the design criteria associated with water level and climate trends. Examples include levees or storm water runoff systems where cities are forced to re-evaluate existing and proposed infrastructure.	2	Infrastructure Report Infrastructure and Western Growth Patterns Forum	IPCC
Land Use	Conservation Planning and Development	Explore land conservation and the creation and preservation of "green infrastructure" with an emphasis on water conservation, agricultural production, the disposal of waste and ecological integrity of environments in communities and metropolitan regions.	2	*Land Conservation and Development* , *Developing Sustainable Planned Communities*	EPA, TPL, Conservation Fund
Regulations	Legislation	Track emerging legislative initiatives in Congress, States, and Cities. Seek to establish general principles for future legislative actions based on the interdisciplinary nature of the real estate markets. Explore how legislative initiatives which are not explicitly geared towards Climate Change impact the CLUE agenda such as the Transportation Reauthorization Bill and others.	2	Cap&Trade Webinar	NRDC, SGA, Pew, ED, T4 America
Feasibility	Public Incentives	Assess the impact of "carrots" being utilized by the public sector to induce specific development outcomes. Evaluate the use and effectiveness of incentives in the larger context of the development process.	3		
Best Practices	Individual Projects	Document world-wide best practices on an individual project basis.	3	ULI/FT Sustainable Cities Forum, Annual Project Awards,	USGBC, NAHB, DOE

Feasibility	Market Preferences and Programming Trends	Explore evolving market demands and consumer preferences and explore how individual development projects are responding. Explore how individual projects are being marketed to respond to consumer preferences in both new and retrofitted projects. Assess how consumer preferences and individual project cost/benefits align with the overall public policy objectives and determine which development strategies amount to "greenwashing" and which effectively induce changing consumer behavior patterns required for emissions reduction.	3	*Emerging Trends* series of publications	USGBC
Metrics	Sustainability Metrics - Community	Track emerging sustainability metrics and performance rating systems geared towards communities, cities or metropolitan regions. Examples include LEED-ND and ICLEI Star Community Index and the Sustainable Sites initiative.	3	Reality Check Seattle-Carbon Impact Assessment Model	ICLEI, USGBC USHBA, ASLA, C40 Cities
Energy	Carbon Emissions - Valuation	Track the emerging legislative progress in the valuation of carbon emissions and ways in which the real estate community can benefit from alternative cap-and-trade policies and from the sale of carbon emission allowances. Document how the markets are being created and analyze how real estate economics will be impacted.	3	Venable LLP	RER
Energy	Carbon Emissions - Offsets	Explore the potential of structuring emissions offset mechanisms such that they benefit local communities, metropolitan regions and/or individual real estate projects. Assess how offset mechanisms reinforce other development policies seeking to make communities more sustainable. Explore international precedents in Europe and Australia, where pilot carbon markets and offsets have already been established and put into practice.	3		RER
Regulations	Planning and Entitlements	Explore the emerging legal issues surrounding environmental impact assessments and GHG emissions disclosure in the land use entitlement process. Assess issues of regulatory powers at the federal, state and local level which regard to setting performance targets (typically state level), planning to achieve the targets (typically MPO level) and the enforcement of those targets (typically municipal level). Assess the practices of utilizing NEPA and mini-NEPA in achieving GHG emission reductions in the land development and entitlement process.	3	Venable LLP	APA, Environmental Law Institute
Best Practices	Public Sector Initiatives	Document innovative government sustainability initiatives on a world-wide basis.	3	Infrastructure Report 2007, 2008	Pew
Energy	Carbon Measurement	Explore trends in how carbon emissions are being disclosed in the business practices of the real estate industry, including the assumptions behind individual measurement metrics (ex: GRI) and the methodology used to implement measurement practices (ex: OSCRE).	3	Reality Check Seattle-Carbon Impact Assessment Model,	WRI, GRI, OSCRE
Land Use	Land Use Adaptation	An ongoing examination of the implications of global sea-level rise and changing weather patterns on coastal and other communities. Exploration of regional trends in climate change and associated adaption measures (temperature, water, storms, public health). Document how	4	*Growing Cooler* publication	NOAA

		associated business implications such as changes in insurance policies, permitting and infrastructure requirements impact development trends in those regional areas.			
Land Use	Metropolitan Land Use	Explore how the emerging trends of sustainable land development influence housing, infrastructure and mixed-use development collectively impact the quality of life on a community and metropolitan scale. Explore the emerging public private partnerships which seek to aggressively transform the metropolitan experience.	4	Metro Areas Data- Hartgen Group, *Changing Metropolitan America* publication	APA, RPA, CNU, Brookings
Best Practices	Emerging Partnerships	Document how diverse organizations are coming together to address community sustainability challenges.	4		Reconnecting America
Infrastructure	Public Transportation and VMT Reduction	Explore emerging areas of transit innovation which have a direct impact on reducing a community's VMT and GHG emissions. Explore and assess the changing implementation criteria for new systems as well as identifying the associated economic development opportunities.	4	*Growing Cooler* publication, *Moving Cooler* publication, *Developing Around Transit* publication	APTA, CNT, T4 America
Feasibility	Infrastructure Funding	Track the trends in infrastructure planning and finance, with special emphasis on how "adaptation" climate change policies lead to the need for public infrastructure funds.	4		Infrastructure Journal
Metrics	Sustainability Metrics - Investment	Explore and tracking of responsible investment guidelines which seek to incorporate sustainability objectives into investment criteria.	4	*Responsible Property Investment* publication	CERES
Energy	Alternatives and Renewables	Explore land use and development implications of integrating new technologies (wind, solar, bio-mass) into the retrofit of existing communities and into new master planned communities.	4		USGBC
Architecture	New Buildings and Landscapes	Track new developments in the field of architectural design with special interest in integrated energy design, mixed-use building typologies and emerging track record of individual design rating systems. Explore the emerging rating systems for horizontal development, including landscapes and infrastructure.	4	*Green Office Buildings* publication	USGBC, AIA, ASLA
Energy	Energy Production and Transmission	Examine land use and development implications of distributed (co-generation) energy production, with a particular emphasis on rapidly developing metropolitan areas, large-scale developments and campus developments. Explore the land use implications of transmission lines in the metropolitan context.	5		CNT
Energy	Management	How is energy consumption being managed at the building, neighborhood and metropolitan scale? Which on-going management strategies have land use implications or asset management implications? How is human behavior being induced to change?	5		USGBC, ICLEI, DOE, ASHRAE

Note: This is a summary overview and does not include all international organizations or organizations working outside the bounds of real estate, such as in the field of energy or transportation.

Organization:	Overview:	Topic Area(s):	Current Programs:	Initiatives/Research:
International				
Intergovernmental Panel on Climate Change (IPCC)	The IPCC was established to provide the decision-makers and others interested in climate change with an objective source of information about the subject. Its role is to assess on a comprehensive, objective, open and transparent basis the latest scientific, technical and socio-economic literature produced worldwide relevant to the understanding of the risk of human-induced climate change, its observed and projected impacts and options for adaptation and mitigation.	The IPCC is a scientific body: the information it provides with its reports is based on scientific evidence and reflects existing viewpoints within the scientific community. The comprehensiveness of the scientific content is achieved through contributions from experts in all regions of the world and all relevant disciplines including, where appropriately documented, industry literature and traditional practices, and a two stage review process by experts and governments.	The main activity of the IPCC is to provide in regular intervals Assessment Reports of the state of knowledge on climate change. The latest one is "Climate Change 2007", the Fourth IPCC Assessment Report.	Work is guided by the IPCC Chair and the Working Group and Task Force Co-chairs. Hundreds of experts from all over the world are contributing to the preparation of IPCC reports as authors, contributors and reviewers.
United Nations Framework Convention on Climate Change (UNFCCC)	The adoption of the Framework Convention on Climate Change (UNFCCC) in 1992 sparked the negotiations that led to the organization of the Kyoto Protocol in 1997.	The Kyoto Protocol is considered to be the most far-reaching agreement on environment and sustainable development. However, any treaty not only has to be effective in tackling a complicated worldwide problem, it must also be politically acceptable. Most of the world's countries eventually agreed to the Protocol, but some nations chose not to ratify it. Following ratification by Russia, the Kyoto Protocol entered into force on 16 February 2005.	The most current rounds of United Nations climate change talks, held by the Conference of Bodies (COB) took place in Bangkok in March 2008.	The 2009 meetings are to take place in Copenhagen, Denmark
World Economic Forum	The World Economic Forum is an independent international organization committed to improving the state of the world by engaging leaders in partnerships to shape global, regional and industry agendas.	With the belief that "economic progress without social development is not sustainable, while social development without economic progress is not feasible," relevant program areas include: Global Governance, Global Risk Network, Climate Change, Energy Poverty Action, Scenario Planning.	Business leaders, governments and climate specialists have drawn up comprehensive recommendations on a post-2012 framework for global climate policy- "The CEO Climate Policy Recommendations to G8 Leaders"	Climate Change Vulnerability Index. Climate Disclosure Standards Board.

World Business Council for Sustainable Development (WBCSD)	The World Business Council for Sustainable Development (WBCSD) is a CEO-led, global association of some 200 companies dealing exclusively with business and sustainable development. The Council provides a platform for companies to explore sustainable development, share knowledge, experiences and best practices, and to advocate business positions on these issues in a variety of forums, working with governments, non-governmental and intergovernmental organizations.	The Council focuses on four key areas: Energy and Climate, Development, The Business Role, Ecosystems	Projects/Initiatives-Energy Efficiency in Buildings, Water, Capacity Building Sector Projects- Cement, Electricity Utilities, Forest Products, Mining & Minerals, Mobility, the Tire Industry.	The Council's objectives are to: Research/Work Objectives: Be a business advocate on sustainable development; Policy development to create the right frameworks for business to make an effective contribution to sustainability; Develop/promote the business case for sustainable development; Demonstrate the business contribution to sustainable development solutions; Contribute to a sustainable future for developing nations and nations in transition.
Public Sector				
U.S. Conference of Mayors (USCoM)	The Mayors Climate Protection Center calls attention to the need for global climate protection, focusing on renewable energy sources, national standards for climate change, building standards and practices, and transportation options	Greening City Government: energy efficiency for city buildings and transportation fleets, municipal renewable energy purchases, promotion of water and waste recycling, environmental health and education, and documenting best practices.	Energy Efficiency block grant advocacy, Best Practices Guide 2007/2008 that highlights action in U.S. cities.	Cool Mayors for Climate Protection
National Governors Association	The National Governors Association is launching a year-long initiative—Securing a Clean Energy Future—to enlist the efforts of all governors to make our nation a global leader in energy efficiency, clean technology, energy research and the deployment of alternative fuels.	Energy Security	Formation of a Governor's Task Force.	Partnership with Wal-Mart to green State Capitols. Focus to-date on clean fuels, not underlying demand management.
C40 Cities/Clinton Climate Initiative	This partnership aims to develop and implement a range of actions that will accelerate greenhouse gas emissions reductions in large cities	Technical assistance to city governments in areas including building efficiency, cleaner transport, renewable energy production, waste management and water and sanitation systems to result in reduced energy use and lowered GHG emissions, and documenting best practices	Best Practices reporting (facts and figures) from international cities covering the following topics: buildings, energy, lighting, ports, renewable, transport, waste, and water.	Creation/deployment of common measurement tools so that cities can establish a baseline on their greenhouse gas emissions, track reductions and share best practices.

Local Governments for Sustainability (ICLEI)	An international association of more than 650 local governments internationally and cultivating national leadership on climate protection and sustainable development, ICLEI's provides resources, tools, peer networking, best practices, and technical assistance to help local governments measure and reduce greenhouse gas emissions in their communities.	Sustainable development policies and practices: Provided through a range of activities and products including performance-based campaigns and initiatives, local, regional, and national training workshops and events, managing the national peer network of local government practitioners, publications, tools, and promotion of local government success stories	ICLEI USA runs 3 primary programs: Cities for Climate Protection®, Climate Resilient Communities, and Communities 21	The Star Community Index (public later in 2008), Transportation and Climate Change resources
Alliance for Climate Protection	Founded by former Vice President Al Gore, The Alliance for Climate Protection is a non-profit, non-partisan effort to halt global warming. The Alliance is made up of a number of grassroots organizations and recently announced a $300 million ad campaign to push for Federal action on climate change legislation	Clean Energy Economy, Energy Efficiency, Renewable Energy, Innovative Leadership	The "WE Campaign"- Partners include: The Climate Project, Blue Green Alliance, Colorado Wildlife Federation, Earth Day Network, Environmental Justice and Climate Change Initiative, National Audubon Society, U.S. Climate Action Network, (and growing).	Petition for a global treaty on climate change, new $300 million "Campaign to Solve Climate Crisis" designed to engage the American public and political leaders.
The Climate Registry	A nonprofit partnership developing an accurate, complete, consistent and transparent greenhouse gas emissions measurement protocol that is capable of supporting voluntary and mandatory greenhouse gas emission reporting policies for members and reporters.	Will provide a verified set of greenhouse gas emissions data from its Reporters supported by a robust accounting and verification infrastructure.	1. Voluntary reporting 2. Mandatory reporting	Climate Registry Information System (CRIS)- The Registry's online calculation, reporting, and verification tool.
The Carbon Trust	The Carbon Trust was set up by government in 2001 as an independent company. Their mission is to accelerate the move to a low carbon economy by working with organizations to reduce carbon emissions and develop commercial low carbon technologies.	Helps businesses reduce their carbon emissions, accelerating the move to a future low carbon economy. Also provides a wide range of services and support for low carbon technology development.	Energy-efficiency loans, Enhanced capital allowances, Carbon surveys, Carbon management strategies for private sector, local authorities, and higher education, Venture capital.	Applied research grants for developing low-carbon technology, publications and case studies supporting low carbon operations.
Policy, Planning and Environment				
World Resources Institute (WRI)	WRI's goal is to protect the global climate system from further harm due to emissions of greenhouse gases and help humanity and the natural world adapt to unavoidable climate change.	Climate, Energy and Transport		U.S. initiatives focus on emissions markets, GHG registries, green power and renewable energies, carbon capture and storage and the Climate Northeast initiative.

Organization	Description	Focus Areas	Activities	Initiatives/Publications
U.S. Green Building Council (USGBC)	More than 12,000 organizations from across the building industry working to advance structures that are environmentally responsible, profitable, and healthy places to live and work. Members includes building owners and end-users, real estate developers, facility managers, architects, designers, engineers, general contractors, subcontractors, product and building system manufacturers, government agencies, and nonprofits.	Building Design and Operations, Neighborhood Development, Education	LEED Rating Systems for New Construction, Existing Buildings, Commercial Interiors, Core and Shell, Schools, Retail, Healthcare, Homes	LEED for Neighborhood Development (ND) will go public in 2009
Pew Center on Global Climate Change	Provides credible information, straight answers, and innovative solutions in the effort to address global climate change. The Center also provides a forum for objective research and analysis and for the development of pragmatic policies and solutions.	International, Congressional, State and Regional, Business, and Individual solutions to climate change	Tracking of Congressional, business community and state level actions. GHG emissions tracking. white/policy papers on climate science.	Research and Publications
Natural Resource Defense Council (NRDC)	An environmental action organization, using law, science and the support of 1.2 million members and online activists to protect the planet's wildlife and wild places and to ensure a safe and healthy environment for all living things	Green Buildings, Global Warming, Smart Growth	Partnership with Cambridge Systematic for "Moving Cooler" publication to potentially be published by ULI.	Green Building Guide for Professionals, In partnership with USGBC for development of LEED for Neighborhood Development (ND), Sponsored McKinsey's 2007 GHG Report
Smart Growth America (SGA)	A coalition of national, state and local organizations working to improve the ways towns, cities and metro areas are planned and built. The coalition includes many of the best-known national organizations advocating on behalf of historic preservation, the environment, farmland and open space preservation, neighborhood revitalization.	Smart growth, land use planning, energy and transportation, policy analysis		Initiatives with coalition members include: Smart Schools, Complete Streets, Urban Vitality.
Regional Plan Association (RPA)/America 2050	Independent, not-for-profit regional planning organization that improves the quality of life and the economic competitiveness of the 31-county New York-New Jersey-Connecticut region through research, planning, and advocacy.	Community design, open space, transportation, workforce and economy, and housing.		The America 2050 Initiative aims to meet infrastructure, economic development and environmental challenges of the U.S. as it prepares to add 120 million people by 2050.
Center for Climate Strategies (CCS)	CCS enables governors and other state leaders to develop statewide climate action plans with comprehensive policy solutions, broad bipartisan stakeholder support, and successful implementation.	Climate plan elements include land use and transportation, waste management, energy use and conservation, and water management.		National Impact of States Action Initiative

Center for Neighborhood Technology (CNT)	Promotes the development of more livable and sustainable communities through various initiatives	Smart Growth, Energy, Local Economic Development	CNT Energy	Partner with the Clinton Foundation/C40 Initiative
Reconnecting America	National non-profit working to integrate transportation systems and communities with the goal of generating lasting public and private returns, improving economic and environmental efficiency, and giving consumers more housing and mobility choices. Provides public and private sectors with impartial, fact-based perspective on development-oriented transit and transit-oriented development, and seeks to reinvent the planning and delivery system for building regions and communities around transit/walking rather than solely the automobile.	Transit-oriented development, local economic development through transit investment.	Center for Transit-Oriented Development, Reconnecting America's Transportation Networks.	Database and research focused on current projects with public and private partners, Best practices relating to TOD, transit, parking, affordability.
Congress for the New Urbanism (CNU)	Promotes walkable, neighborhood-based development as an alternative to sprawl. Members include planners, developers, architects, engineers, public officials, investors, and community activists who create and influence the built environment, transforming growth patterns from the inside out.	Walkable, mixed-use neighborhood-based development framed by architecture and landscape design that celebrate local history, climate, ecology, and building practice.	Partnership w/ USGBC on LEED ND, CNU Street Design Manual, Highways to Boulevards.	Small Developers Network, Light Imprint New Urbanism, New Urbanism and Comprehensive Plans.
The Nature Conservancy	Since 1951, the leading conservation organization working around the world to protect ecologically important lands and waters for nature and people.	Joining with policy makers, community members, businesses, scientists, industry leaders and others to slow the pace of climate change, TNC works to reduce the accumulation of heat-trapping gases in the atmosphere and help natural areas adjust to the impacts of climate change.	Programs focus on climate change adaptation in the following areas: forestry, education, and policy development.	CO2 impacts of deforestation, personal carbon reduction education, other educational initiatives.
Rockefeller Foundation	The Rockefeller Foundation "promotes the well-being" of humanity by addressing the root causes of serious problems. The Foundation works around the world to expand opportunities for poor or vulnerable people and to help ensure that globalization's benefits are more widely shared.	Climate Change Focus	Climate Change Resilience	Funding, promoting and disseminating models and policy ideas to support increased funding and action for climate change resilience.
Lincoln Institute of Land Policy	A leading resource for policy makers and practitioners, the Lincoln Institute of Land Policy addresses issues involving the use, regulation and taxation of land.	Through research, training, conferences, demonstration projects, publications, and multi-media, Lincoln Institute provides high quality, non-partisan analysis and evaluation for regulatory, planning, and policy decisions.	In partnership with the Sonoran Institute, the State Trust Lands Project conducts research and policy analyses on key growth and development issues in the West.	Four major research areas: Economic and community Development, Planning and Urban Form, Valuation and Taxation, International Studies.

Industry and Advocacy				
Building Owners and Managers Association (BOMA)	Primary source of information on office building development, leasing, building operating costs, energy consumption patterns, local and national building codes, legislation, occupancy statistics and technological developments.	Building Management	BOMA Energy Efficiency Program: Teaches commercial real estate professionals how to reduce energy consumption and costs with proven no- and low-cost strategies for optimizing equipment, people and practices.	The Green Resource Energy and Environment Network
Ceres (CERES)	National network of investors, environmental organizations and other public interest groups working with companies and investors to address sustainability challenges such as global climate change.	Coalition Building, Corporate Governance, and Sustainability Reporting.	Investor Network on Climate Risk: A $4 trillion network of investors that promotes better understanding of the financial risks and opportunities posed by climate change.	Shareholder Action, Stakeholder Engagement and Assurance, Sustainability Reports, , North America and Global, Facility Reporting.
Real Estate Roundtable (RER)	The RER brings together the leaders of the nation's largest real estate firms with the national real estate trade associations to jointly address key national policy issues related to real estate and the economy.	Real Estate Advocacy	Environment and Energy Policy Advisory Committee	Convening of Advocacy Groups
United States Climate Action Partnership (US-CAP)	Group of businesses and leading environmental organizations have come together to call on the federal government to enact strong national legislation to require significant reductions of greenhouse gas emissions.	Emissions Cap	Advocacy	USCAP has issued a set of principles and recommendations (Call to Action Report) to underscore urgent need for policy framework on climate change.
National Association of Home Builders (NAHB)	Trade association whose mission is to enhance the climate for housing and the building industry.	Affordable Housing, Green Buildings, Training and Education.	The National Green Building Standard- Practice Guide	Research and resources for builders, consumers, housing professionals.
American Society of Landscape Architects (ASLA)	ASLA is the national professional association representing landscape architects	Landscape architecture, design, and education	Creation of site certification program: Sustainable Sites.	Sustainable Sites Initiative-Partnership with the ASLA, the Lady Bird Johnson Wildflower Center, US Botanic Garden and other stakeholders to develop guidelines and standards for landscape sustainability.

American Institute of Architects (AIA)	With membership over 80,000, licensed architects, emerging professionals, AIA represents the professional interests of America's architects.	Building and Community Design	Architecture 2030/SustAIAnability 2030 Toolkit: Asks the global architecture and building community to adopt specific targets for GHG emissions reductions.	Communities by Design
American Planning Association (APA)	APA brings together thousands of people — practicing planners, citizens, elected officials — committed to making great communities happen	General Planning Research and Education	Surveys and Briefings	Planning Our Way to a New Energy Future (in partnership w/ EESI)
American Public Transportation Association (APTA)	APTA serves its diverse membership through advocacy, innovation and information sharing to improve and strengthen public transportation. APTA and its members and staff work to ensure that public transportation is available and accessible for all Americans in communities across the country.	Public bus, rapid transit and commuter rail systems, and the private organizations responsible for planning, designing, constructing, financing, supplying and operating transit systems, government agencies, metropolitan planning organizations, state departments of transportation.	Advocacy for public transit as a general GHG reduction strategy	Publication: "Public Transportation's Contribution to U.S. Greenhouse Gas Reduction"
Open Standards Consortium for Real Estate (OSCRE)	As a non-profit, OSCRE Americas mission is to effectively facilitate the standards development process among key real estate stakeholders, including owners, tenants/occupants, investors, operators, tenants, developers, service providers, regulatory agencies, consulting firms, vendors and suppliers — to benefit all stakeholders and enable the real estate industry to function more efficiently in the digital economy.	The development, synthesis, and adoption of e-business standards that enable the real estate industry to function effectively and efficiently. OSCRE Standards are the only open-format and global e-business data exchange Standards for Real Estate.	Commercial Information Exchange (CIE) standard enabling users of the standard to significantly reduce the cost, time and errors associated with the current method of exchanging commercial property listing information between Sellers, Brokers, Listing Exchanges and Buyers.	
American Association of Professional Technical Analysts (AAPTA)	Incorporated as a nonprofit organization in 2004 and a member of the International Federation of Technical Analysts in 2006, AAPTA is for experienced professionals applying Technical Analysis to the markets and a place to share ideas, information, research and analytical techniques in an atmosphere of openness, trust and cooperation.	AAPTA and its members analyze a variety of markets, including equities, bonds, commodities, futures, currencies, ETFs and foreign markets.		

American Association of State Highway and Transportation Officials (AASHTO)	A nonprofit, nonpartisan association representing highway and transportation departments in the 50 states, the District of Columbia, and Puerto Rico.	Represents all five transportation modes: air, highways, public transportation, rail, and water. Its primary goal is to foster the development, operation, and maintenance of an integrated national transportation system.		Have initiated research focused on the inter-relationship of VMT and land use. Advocate a 50% reduction in VMT by 2050, including milestone of 23% reduction by 2030.
Property Records Industry Association (PRIA)	Non-profit corporation that represents a unique partnership of business and government members of the property records industry, with the end goal of facilitating recordation and access to public property records.	Facilitates the research, development, creation and implementation of national standards, systems and procedures for the property records industry.	Committees include Administration and Infrastructure, Business Process and Procedures, Real Property law and Legal Issues, Records Access Policy, and Education	
Infrastructure Journal	The foremost provider of breaking news and dedicated data for the global infrastructure investment market.	Infrastructure- project and investment tracking	Magazine, Project Database and Global Directory (only directory of practitioners working in the project finance and infrastructure market)	Infrastructure Journal R&A, a unit of Infrastructure Journal that conducts independent and in-depth reviews of global project finance market activity, is providing subscribers of IJ with access to its global project finance database. The database contains technical and financial details of more than 2,000 infrastructure projects worldwide.

<u>Climate Change Bibliography</u>

Objective

Summarize core reference material on the topic of global climate change, with an emphasis on the nexus of land use and energy. Supply ULI members with the background information necessary to proactively engage in the dynamic dialogue.

Climate Change Overview

"Scientific consensus now exists that greenhouse gas accumulations due to human activities are contributing to global warming with potentially catastrophic consequences" (IPCC, 2007)

"Most of the observed increase in global average temperatures since the mid-20th century is very likely due to the observed increase in anthropogenic greenhouse gas concentrations" (IPCC, 2007)

Introductory Documents:
- *Uniting on Climate* (United Nations Framework Convention on Climate Change- UNFCC, 2007) http://unfccc.int/essential_background/background_publications_htmlpdf/items/2625.php

Core Documents:
- *The Effects of Climate Change on Agriculture, Land Resources, Water Resources and Biodiversity in the United States* (U.S. Climate Change Science Program, 2008) http://www.climatescience.gov/
- *Synthesis Report: Climate Change 2007* (IPCC, 2007) http://www.ipcc.ch/ipccreports/ar4-syr.htm
- *The Stern Review: The Economics of Climate Change* (Great Britain Treasury, 2007) http://www.occ.gov.uk/activities/stern.htm
- *Reducing U.S. Greenhouse Gas Emissions*: How Much at What Cost? (McKinsey and Co., 2007) http://www.mckinsey.com/clientservice/ccsi/greenhousegas.asp

Climate Change and the Built Environment

Cities cover less than one per cent of the earth's surface but are disproportionately responsible for causing climate change. A majority of the world's energy consumption either occurs in cities or as a direct result of the way that cities function, resulting in 80% of total greenhouse gas emissions. Bearing this large responsibility, cities are therefore key to alleviating climate change. (C40 Cities, Climate Leadership Group, 2007)

Introductory Documents:
- *Towards a Climate Friendly Built Environment*, (Pew Center on Global Climate Change, 2005) http://www.pewclimate.org/global-warming-in-depth/all_reports/buildings

Core Documents*:*
- *Growing Cooler: The Evidence on Urban Development and Climate Change*, Urban Land Institute (ULI, 2008) http://commerce.uli.org/AM/Ecommerce/ProductDisplay.cfm?Productid=1725
- *Globalization and Global Trends in Green Real Estate Investment* (RREEF Alternative Investments, 2008)
- *Shrinking the Carbon Footprint of Metropolitan America* (Brookings Institution, 2008) https://www.rreef.com/cps/rde/xchg/ai_en/hs.xsl/3092.html
- *Buildings and Climate Change: Status, Challenges and Opportunities*, United Nations Environment Programme (UNEP, 2007) http://www.unep.fr/scp/bc/publications/
- *Smart Growth and Environmental Quality: The Value of Smart Growth in Adapting to Climate Change* (U.S. EPA, 2006)

Emerging Public Policy Frameworks

Policies are needed to realize the full potential of energy efficiency as a high priority energy resource and a cost-effective means of reducing greenhouse gas emissions which contribute to climate change.
(U.S. Climate Action Partnership)

U.S. action to implement mandatory measures and incentives for reducing greenhouse gas emissions should not be contingent on simultaneous action by other countries. Rather, U.S. leadership is essential for establishing an equitable and effective international policy framework for robust action by all major emitting countries.
(U.S. Climate Action Partnership)

Introductory Documents:
* *Governing Climate: The Struggle for a Global Framework Beyond Kyoto*, (International Institute for Sustainable Development, 2005) http://www.iisd.org/publications/pub.aspx?pno=743

Core Documents:
* *Mitigation of Climate Change: Climate Change* (IPCC, 2007)
  http://www.ipcc.ch/ipccreports/ar4-wg3.htm
* *Impacts, Adaptation and Vulnerability: Climate Change (*IPCC, 2007)
  http://www.ipcc.ch/ipccreports/ar4-wg2.htm
* *The Mayor's Climate Protection Agreement* (U.S. Conference of Mayors, 2006)
  http://www.usmayors.org/climateprotection/agreement.htm
* *The Kyoto Protocol: Overview and highlights of EU Implementation* (online)
  http://unfccc.int/kyoto_protocol/items/2830.php
* *America's Climate Security Act* (S.2191- pending)
  http://thomas.loc.gov/cgi-bin/bdquery/z?d110:SN02191:@@@D&summ2=m&
* *National Action Plan for Energy Efficiency*, (U.S. EPA, 2006)
  http://www.epa.gov/cleanenergy/energy-programs/napee/index.html
* *The State Solutions Program*, Pew Center on Global Climate Change (online)
  http://www.pewtrusts.org/our_work_category.aspx?id=352

Legislative and Regulatory Sources

In combating climate change, the public sector must lead as well. Cities consume 75% of the world's energy, and produce 80% of its greenhouse gases. So while global warming clearly requires action at the national and international levels, those of us in city government can and must also take a leading role.
-NYC Mayor, Michael Bloomberg

I say the [global warming] debate is over. We know the science, we see the threat, and we know the time for action is now. I commend the President for acknowledging that we have a climate change problem and a responsibility to address it, but as I've said, the time for real action is now. [I'd] like to see the federal government follow the lead many states have taken on this issue.
-California Governor, Arnold Schwarzenegger

International
* Pew Center on Global Climate Change: http://www.pewclimate.org/international
* World Resources Institute: http://www.wri.org/climate/international-and-us-action

Federal
* Pew Center on Global Climate Change: http://www.pewclimate.org/federal
* Natural Resources Defense Council (NRDC): http://www.nrdc.org/legislation/default.asp
* World Resources Institute: http://www.wri.org/climate/international-and-us-action
* Environmental Defense: http://www.edf.org/page.cfm?tagid=414

States
- Pew Center on Global Climate Change: http://www.pewclimate.org/states-regions
- The Center for Climate Strategies: http://www.climatestrategies.us/
- Environmental Defense: http://www.edf.org/page.cfm?tagid=1009

Cities
- C40Cities, Climate Leadership Group: http://www.c40cities.org/
- ICLEI (Local Governments for Sustainability), Cities for Climate Protection: http://www.iclei.org/index.php?id=800