



**Urban Leaders Adaptation Initiative
Summary from Partner Meeting
Seattle, WA • May 20-23, 2008**

Local governments are the first responders to the impacts of climate change. Governments must prepare now to take action in the coming decades to lessen communities' vulnerabilities to the significant and potentially disastrous impacts of climate change. This type of action or intervention is commonly referred to as "adaptation."

The vision of the Urban Leaders program is to develop a scientifically, economically, and politically viable framework for informed urban decision making on climate adaptation. The program seeks to look at projected climate impacts in 2050 and 'back cast' to identify the necessary steps to reduce GHG emissions and build local resiliency.

With significant new funding from the Rockefeller Foundation, CCAP's Urban Leaders program is partnering with nine cities and counties to advance the climate policy discussion beyond greenhouse gas emissions reductions to ensure that state and local governments are considering climate change as a key factor when making decisions about infrastructure development, transportation, land use and resource management. Partners include King County (Wash.), Chicago, Los Angeles, Miami-Dade County (Fla.), Milwaukee, Nassau County (NY), Phoenix, San Francisco and Toronto.

Over the next three years, Urban Leader partners will design and implement specific adaptation plans, policies and projects, in addition to collecting and disseminating "best practice" recommendations to other interested governments. As the program progresses, it will expect concrete advancements on urban adaptation policy in partner cities and counties, and tangible impacts on a broader community-wide increase in resilience to climate change. It will see policy and investment steps being taken; learning disseminated broadly; models and best practices applied; and public recognition garnered for Partners who demonstrate leadership. Urban leaders will be linked with the tools and plans necessary to forge new projects and policies

Urban Leaders Kick-off Meeting May 2008 Seattle, WA

An Urban Leaders Kick-off meeting in Seattle, WA (May 2008), hosted by King County, revealed a number of fundamental insights about urban adaptation priorities and approaches.

- Climate mitigation and adaptation solutions are inseparable, "like eating and breathing" with combining strategies from green-roofs to tree planting to water conservation. Best practices should achieve community resilience to climate impacts, increase equity, and ultimately sustainability.
- The best adaptation solutions originate in positive stories about avoided costs, paths to local and regional competitiveness, "smart-growth", and improving the quality of life for citizens -- creating win-win solutions with multiple benefits to improve environment, public health & safety, economy, "green" jobs, and infrastructure simultaneously.
- What does adaptation look like? Answer: CCAP's vision is to look toward 2050 and "**Ask the Climate Question**" to identify the necessary steps to reduce GHG emissions and build local resilience to climate change impacts in everyday decisions.
- The role of partners in advancing adaptation goals should be to: choose the right investments that integrate climate into existing plans when opportunities arise – also known as "mainstreaming" – again: *Ask the Climate Question*; borrow and share 'best practices'; launch catalytic efforts that go beyond current activities implement new approaches step-by-step; target vulnerable populations (e.g., young, old, & poor) for extra support; and engage regionally in adaptive solutions that enhance community resilience to climate impacts.

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- Extreme temperature (e.g., heat, drought), precipitation (e.g., rain, floods), and coastal impacts (e.g., sea-level rise, storm surge) pose risks to interconnected urban ecosystems, buildings, and infrastructure, necessitating comprehensive and integrated responses and preparedness strategies from city and county departments as diverse as water & sanitation, public health & safety, emergency management, planning, environment, and transportation sectors. Best adaptation practices may mix together high and low tech approaches from sophisticated climate, economic, & risk-models, permeable pavement, and infra-red heat sensors to green roofs, rain barrels on down-spouts, beet juice replacing road salt, and a guy with a flashlight clearing clogged culverts before greater flood damage to roadways occur.
- The role of the Federal government and collaborators in adaptation should be to provide: funding in support of regional and local adaptation; “actionable” science, data, information, and scenarios—that are accessible, understandable, precise, and “downscaled” from global climate models to regional and local levels; programs, regulations, and solutions linking mitigation & adaptation; Federal & State “urban climate extension services” in cooperation with universities, the private sector, and other non-governmental organizations
- The role of CCAP in the Urban Leaders Adaptation Initiative is to help enhance knowledge among partners, facilitating sharing of “best practices” on climate adaptation locally and regionally, and “gluing” together partners to lead national discussions on adaptation policy.

Meeting Summary Points

The following are some of the key points from the presentations and discussions at the May Urban Leaders meeting.

Role of Leadership – Adaptation and Mitigation Advice

Mitigation & Adaptation

- *Climate Mitigation and Adaptation: “like eating and breathing”
 - **Negative to positive stories
 - --High cost of inaction – avoided costs & damages is the goal – and it’s a compelling story
 - **Positive stories
 - --Adaptation is an issue of local and regional competitiveness – a path to competitiveness and improving quality of life for citizens
 - --win-win solutions – with multiple benefits to improve environment, public health & safety, economy, jobs, infrastructure simultaneously
 - --new “green” jobs
 - --smarter growth = sustainability

Leadership

- --leadership at top of cities – formal authority - purpose driven work – capturing “mojo” of climate change – go beyond NIMTO (“not in my term of office)
- --Agreed/Common message – ideas that stick, then tip (inducing changes in practices and behavior)
- --avoidable costs and science are levers for influencing changing policies, management, habits
- --opportunity for learning among UL Partners – establish group identity and motivation
- --create prioritized unassailable stories (measurable, replicatable, help poor, hot baseline problem, multiple benefits, linked mitigation-adaptation)

Ask the Climate Question

- *Asking the Climate Question means incorporating climate considerations into daily urban management activities and for changing public behavior

WHAT DOES ADAPTATION LOOK LIKE?

Ask the Climate Question

- *Again: Asking the Climate Question means incorporating climate considerations into daily urban management activities and for changing public behavior
 - --expect uncertainty – act early – work with available information
 - --have UL Partners copy and borrow from each other – spread Best Practices (regionally, nationally, internationally)
 - --what does adaptation look like?: Examples of adaptation/catalytic projects to help sort out differences in terminology (ie word usage & choice, interpretation) -- what to build where and how
 - --incremental approach – tweak what already doing to account for climate/adaptation (i.e., “asking the climate question”)
 - -Planning - chose right investments, both public and private – integrate climate into existing investment plans when opportunity arises (e.g., timing replacement of infrastructure—windows of opportunity)
 - --“additionality test” – what extra needs to be done to existing activities to adapt to climate change impacts
 - --early actions with immediate results/no regrets actions/low-hanging fruit
 - --aim for long-term uptake of ideas (as in the short-term new ideas and actions tend to meet greater resistance)
 - --prepare for crisis to drive policy and management change when crises arise
 - --build capacity at the local level (funding & technical)

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- --prioritize early on which issues and uncertainties to address
- --know thresholds of change
- --target vulnerable populations for adaptation support (e.g., poor, elderly, young) – protect, preserve gains (don't allow climate to amplify poverty)
- --focus on maintaining equity, particularly with respect to vulnerable populations

ROLE OF CITY MANAGERS AND DEPARTMENTS

- *Leadership: educating city managers and the public – “connectivity work” – new institutional relationships – culture change at mid-level city management
 - --Again: Ask the Climate Question
 - --Again: telling compelling, prioritized stories
 - --involve all departments in appropriate leading roles—give them stake and ownership in the process
 - --putting information into daily context
 - --networking within city departments and with community
 - --funding & staff time for climate related & adaptation activities needs to be allocated
 - --funding for operations and maintenance of projects, not just launch
 - --have consultants perform economic impact studies to show trade-offs among policies and actions – based on iterative surveys and communication with city Departments
 - --provide “do it yourself” tools that allow city manager to do their own analyses
 - --create Center for Urban Climate Change to perform integrated research activities
 - --create Community Animators/Extension agents
 - --take a social marketing approach involving the public
 - --leverage informal authority among networks to get things done
 - --transparency to public

ROLE OF FEDERAL GOVERNMENT—What they should provide

Federal Government

- *Federal Government – What should they provide?
 - --Funding for adaptation implementation
 - --“Actionable Science”
 - --science and data—that is accessible and understandable, also precise as possible
 - --downscaling of climate model information to regional and local levels: IPCC Scenarios (better cloud resolving models)
 - --need computing power increases for climate models accuracy and precision—re-task DOE/DOD computers, or purchase better ones for the climate community (Caution: science culture issue may not allow easily); focus on ensemble model forecasting, probabilistic information, dynamic vs. statistical
 - --provide worst case (paleo information e.g., via tree rings)
 - --Priorities: stakeholder outreach, decisions support tools, coordination among Federal CCSP agencies, next generation of climate models
 - --improve monitoring: ground level, satellite
 - --create a Federal/State: “Extension Service for Climate”
 - --expand the Regional Integrated Sciences and Assessments (RISAs) Program (both number and funding)
 - --GAO audit of climate expenditures across the Federal government
 - --disseminate best practices on adaptation
- ***EPA***
 - *Programs related to Urban Leaders program:
 - --energy efficiency and adaptation nexus
 - --sustainable infrastructure initiative (full cost pricing, water efficiency, watershed approach, energy efficiency)

- --EPA/OWOW—office of wetlands, oceans, and watersheds – promoting adaptation via “climate ready estuaries” program

ROLE OF NON-FEDERAL KNOWLEDGE & RESOURCE COMMUNITIES

- **Universities/Academia**
 - --enhanced role of universities in providing best-available, cross-disciplinary, peer-reviewed, science and technical support – extension role
 - --expand RISAs
- **Role of Foundations**
 - --Rockefeller Foundation—funds adaptation programs like Urban Leaders—but also adaptation projects directly, such as, “What if New York” scenario planning exercises for NYC housing for displaced people from potential hurricane
- **Role of Private Sector**
 - --consulting services
 - --modeling consortia
 - --risk assessment and mitigation (e.g. insurance industry)
 - --catastrophic modeling
- **Other Organizations**
 - *Role of other organizations and associations—and outreach to them:
 - --American Water Works Association (AWWA), Health Canada, Conference of Mayors, US Green Building Council (USGBC) (LEED certification for adaptation)

REGIONAL ENGAGEMENT, ISSUES, MARKETS

- *Linking local/municipal/city to County level (regional level) –stay cognizant of the regional narrative
 - --Cross-jurisdictional issues (Fed, state, local) – legal issues (e.g., insurance, zoning, tax laws, building codes, water law, etc.)
 - --regional partners are often best 3rd party judges of progress

PLANNING AND SCENARIOS

Scenario Planning

- *Scenario Planning (impacts models & policy models) – tailored for local governments
 - --provide climate emissions projections scenarios (e.g., IPCC)
 - --narrow uncertainties in projections and impacts
 - --downscaling of information (e.g., climate forecasts and projections) to regional and local levels
 - --variables with general range of precision: elevation impacts on snowpack, temperature above 100 degrees, sea-level rise, etc.
 - --“stationarity” is dead (i.e., assumptions about statistical averages in climate and water variables will no longer hold true in a future climate changed world)--also need to account for non-linearity of the climate and natural systems in planning to adapt
 - --need to focus on extremes, not averages, especially locally and regionally
 - --run regional models that can be better translated into policy (e.g., help to determine base reservoir yield)
 - --need for linked climate and hydrological scenarios
 - --assess vulnerabilities, for example, facilities focus—impact from combined tidal, storm surge, and sea level rise
 - --need risk assessment and analysis tools

- --menu of policy choices when applied to different sectors
- --use simple or complex GIS tools
- --propagating and using the University of Washington–Climate Impacts Group (CIG)/King County Adaptation Guidebook (ICLEI-NOAA) & training on it too
- --emergency management planning – linked to extreme events (e.g., heat, flood)
- --perform business continuity planning with the private sector
- --link with existing policies and regulations (e.g., local NEPAs)

MONITORING AND EVALUATION

Monitoring and Evaluation

- --How do we know we are adapted? Provide definitions of vulnerability and resilient communities -- prove that behavioral change occurred
- --risk assessment and management
- --determine baseline data and information early
- --mine existing data and plans
- --metrics? comparable across partner cities
- --benchmarking: ISO Standards, Federal Program standards (GPRA/PART)
- --accountability: climate liability disclosure statements
- --local and regional economic analysis of impacts, solutions, decisions
- --event response/evaluation (e.g., heat-waves)

SECTOR/TOPIC ACTIONS

- *Focus on monitoring and modeling the following physical parameters*
 - --extreme temperature
 - --extreme precipitation
 - --building & infrastructure
 - --lack of snowpack & melt-timing
- *Flooding/Extreme Precipitation -- understand and address:*
 - --change in return frequency of floods (100 year flood becomes 10 year flood; 10 year flood becomes 1 year flood)
 - --link climate and hydrological models
 - --vulnerable facilities assessment
 - --understand and address impacts on facilities (water supply, pumping, wastewater)
 - --retrofit water & sewer systems (some 100 years old)—pipe and culvert size adjustments to account for extreme events
 - --dual use or “sacrificial” assets (e.g., roads also as flood channels)
 - --make first floors of building “flood expendable” and no basements allowed
 - --water quality testing (public health)
 - --Integrated Watershed Management

Heat Island/Temperature/Spikes Heat Waves -- understand and address:

- --impacts on people (public health, vulnerable populations/communities)
- --impacts on infrastructure (buildings, road, rail, aqueducts, electrical)
- --impacts on ecosystems (plants, wetlands, parks)

Drought -- understand and address:

- --water supply
- --water conservation
- --timing of water use

Winter Storms -- understand and address:

- --road salt use
- --snow removal

Coastal Issues-- understand and address:

- --storm surge (storms, hurricanes)
- --sea level rise
- --insurance issues and insurance rates
- --assess vulnerability of facilities linked storm-surge, sea-level, tidal interactions

Public Health -- understand and address:

- --heat
- --water quality
- --vector borne disease
- --food related illness

Disaster Preparedness -- understand and address:

- --emergency management planning
- --“climate refugees”

SOLUTIONS

Overlapping Mitigation-Adaptation Activities

- --performance based green infrastructure and ordinances
- --open and green space
- --treeplanting
- --permeable surfaces (including pavement)
- --green roofs
- --greening urban forestry programs
- --geothermal
- --solarthermal
- --district heating
- --building design
- --water conservation
- --reclaimed/recycled water
- --water banking
- --local food
- --real-time monitoring using sensor technology; and low-tech approach of people to warn of disasters e.g., “guy with flashlight” monitoring a culvert for blockage—which also has a link to green jobs)
- --CAUTION: try to anticipate unintended consequences of linked policies, e.g., increase efficiency of water use via smaller pipes, may also increase use of electricity to pump it; or building denser community in floodplain means they are more vulnerable

SPECIFIC NEEDS OF URBAN LEADERS PARTNERS (as specifically articulated by them)

Physical Climate Context – data & information

- --local and regional data on climate change impacts (e.g., heat island effects; Great Lakes water levels)—that is also increasingly accessible and useable—going beyond just data from NOAA and EPA
- --use satellite data to refine and calibrate climate and hydrologic models
- --downscale information and forecasts to the watershed level
- --info on climate impacts on flow/water supply from major rivers (e.g., in the West: Colorado, Salt, Verde—particularly how to incorporate into operational water management models
- --fill data gaps in particular states and regions—particularly links between ground and surface waters

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- --LIDAR maps to monitor sea level rise (SLR) in real time
- --maintain and enhance the national stream gauge network for local and regional monitoring
- --studies on artificial groundwater recharge and storage

Adaptation Opportunities

- --assessments identifying adaptation opportunities
- —bringing attention to adaptation at the national level
- --spread ‘best practices’ on adaptation
- --improve understanding of how to include resiliency into city operations
- --address how to resolve controversial adaptation measures with other environmental goals (e.g., increased need for water storage due to climate change (ie snowpack reductions) in conflict with dam removal goals to preserve salmon)

Funding

- --Federal funding for regional-scale impacts research, vulnerability and risk analysis (e.g., Great Lakes, Midwest, etc.)
- --State and federal funding for implementation of adaptation measures—Federal funding should also go to municipalities and counties, as well as to states

Dialogs, Communications, Outreach

- --facilitated dialogs to share lessons learned on adaptation among cities & counties (particularly Urban Leaders partners)
- --facilitated dialogs among cities & counties with states about adaptation planning
- --communications and outreach material on adaptation needs to be developed

Legal and Regulatory

- --phase out economic incentives encouraging mal-adaptation (e.g. insurance for construction in coastal zones vulnerable to sea level rise) and redirect to adaptation/mitigation
- --address jurisdictional issues across Federal, State, and local laws to facilitate adaptation implementation. For example: no unfunded adaptation mandates for the states/localities from the Federal government; enhance Federal laws so that they can address adaptation more effectively (e.g., CWA, SDWA, CZM, ESA, Water Law); address contradictions between Federal-Federal, and Federal-State laws (e.g., where development and environmental protection goals may conflict under the law)