



INTERNATIONAL
Water & Climate Forum
2015 DECEMBER 7-9 SAN DIEGO

BREAKOUT SESSION
DISCUSSION



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INFRASTRUCTURE

- ***Moving to Solutions***
- ***Improving Resilience***
- ***Research Needs***

Moving to Solutions

- *Scenario Planning*
- *Long-Term View – Including the Communication Aspects*
- *Assessments of Service Risk – Understanding Assets (Asset Management)*
- *Regional Planning Approaches*
- *Coordination/integration with Other City Services/Departments – Plan All Work Together*
- *Balancing Conservation with Rate Structures (leak detection, metering)*
- *Taking the long-term view on communication with the public*

Improving Resilience

- *Remove Silos – Coordinate all Utilities Under One Umbrella*
- *Vision Can Conflict with Reality - Boston example*
- *Mix of Centralized and Decentralized – context and locally dependent - local issue*
- *Regulation Needs to Be Updated to Increase Flexibility to Optimize Use*
- *Understand unintended consequences of decentralization*

Research Needs

- *What exactly is resiliency? What does it mean to a utility and what **are** the barriers?*
- *Research on regulations to support Total Water Solutions, NPDES discharges*
- *Localized actionable science needed to understand system responses and tipping points*
- *Who are the green investors and what do they want?*
- *Quantification of the cost of no action vs the benefits of taking action*
- *Successful communication methods for decision-makers and rate payers – conveying complex topics in simple terms*

WATER RESOURCES MANAGEMENT

- ***Barriers and Research Needs***
- ***Cross Boundary Success***
- ***Enabling Env. Principles***

Barriers and Research Needs

1. Data ...

- ***Needs to be transparent***
- ***QA/QC***
- ***Consistent methodologies***

2. Political-institutional barriers (including power issues)

- ***Incentives and political cover***
- ***Overcoming parochial thinking***

Barriers and Research Needs (cont.)

- 3. Mgmt of public perception and implementation of potable reuse***
- 4. Documenting benefits using triple bottom line approach***
- 5. Social science investments – including cultural, economic and behavioral issues***

Cross Boundary Success

- 1. Key champions who are knowledgeable, empowered and charismatic (and coalition building)*
- 2. Mutual definitions of success*
- 3. Acknowledge shared risk*
- 4. Well-articulated (flexible) priorities*

Enabling Environment Principles

- 1. *Acknowledge place-based context***
- 2. *Policies need to be flexible in changing circumstances but in place in advance***
- 3. *Conflict resolution framing***
 - *Mutual respect, create a common vision***
 - *Establish common fact-based foundation***
 - *Acknowledge constraints***
 - *Negotiate in good faith***



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WATER AND ENERGY INTERDEPENDENCIES

- ***Moving to Solutions***
- ***Innovation Opportunities***
- ***Research Needs***

1) Towards Solutions

- Understanding current portfolio (resources, energy and water use, emissions): baseline & benchmarking, optimization
- Improve institutional capacity, alignment and buy-in
- Achieve consistency with broader environmental plans
- Seek triple-bottom-line benefits (energy, environmental quality, social equity goals)
- Enable two-way engagement and communication, and co-development of plans (e.g., customer base, organizations, governments, ...)

2) Innovations

- Intelligent distribution systems (e.g., smart metering, integration across sectors, ...)
- Develop optimization tools to identify cost-benefits, and future opportunities
- Seek within-system energy production and resource recovery (e.g., bio-solids, inline-hydro, methane recovery, ...)
- Foster low energy-intensive and water harvesting development
- Seek co-benefits and opportunities for partnerships across sectors and departments

3) Research

- Central vs distributed systems efficiency research
- Need for demonstration projects, sharing and reducing start-up cost (grant programs, regulatory relief)
- Best practices in translation and communication strategies with constituencies
- Trade-offs between resilience goals vs emission reduction goals
- Research on complete waste recovery and reuse