Resilient Utility Coalition

RUC Visioning Workshop Report

Port of Miami August 18, 2016

QUALITY. VALUE. ECONOMIC GROWTH.
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ASCE FLORIDA SECTION Miami-Dade Branch

Florida Engineering Society Miami Chapter

American Water Works Association Florida Section

Resilient Utility Coalition

The Resilient Utility Coalition brings together water, wastewater, and stormwater utilities, industry, academia, and the greater community to address today's most pertinent issues.

Resilient Utility Coalition Visioning Workshop

The Resilient Utility Coalition Visioning Workshop was envisioned with the objective of bringing together water, wastewater, and stormwater utilities, industry, academia, and the greater community to develop the framework for a coalition that will address one of today's most pressing issues. Climate change impacts pose an unprecedented challenge to utilities in fulfilling their core mission of providing safe drinking water, protecting public health and maintaining environmental standards. Therefore, it has become imperative for utilities to place a greater emphasis on understanding these factors for resilience of the water sector.

With the objective of advancing utility infrastructure resiliency efforts and to operationalize the policy recommendations of the Southeast Florida Regional Climate Compact, the Miami-Dade Water and Sewer Department has taken a leadership role, along with professional organizations consisting of Florida Section of the American Water Works Association, the Miami-Dade Branch of the American Society of Civil Engineers, and the Miami Chapter of the Florida Engineering Society, in founding the Resilient Utility Coalition. Through the coalition, we have a unique opportunity to integrate resiliency into utility planning, design and operations.

RUC's visioning workshop intended to initiate a regional conversation on resiliency and facilitate the development of joint strategies to mitigate the challenges currently faced by the utilities in South Florida. RUC presented an agenda to promote discussion amongst the various stakeholders in our industry. The exchange of experiences, technical know-how and collective intellectual capital between the partners played a crucial role in establishing the vision for the coalition and identifying opportunities for collaboration between the various pillars of our industry.

This report documents the ideas put forward during the workshop by the participants who represented the different stakeholders that conform the Resilient Utility Coalition such as utilities from the region, academia, industry representatives and the overall community. In addition, based on the evaluation of the information collected during the event, this document seeks to identify common indicators for the most efficient path forward as well as steps to follow in the near future towards the establishment of a true coalition among all the utilities in the region, big and small, in order to build a resilient future for South Florida.

Resilient Utility Coalition Mission

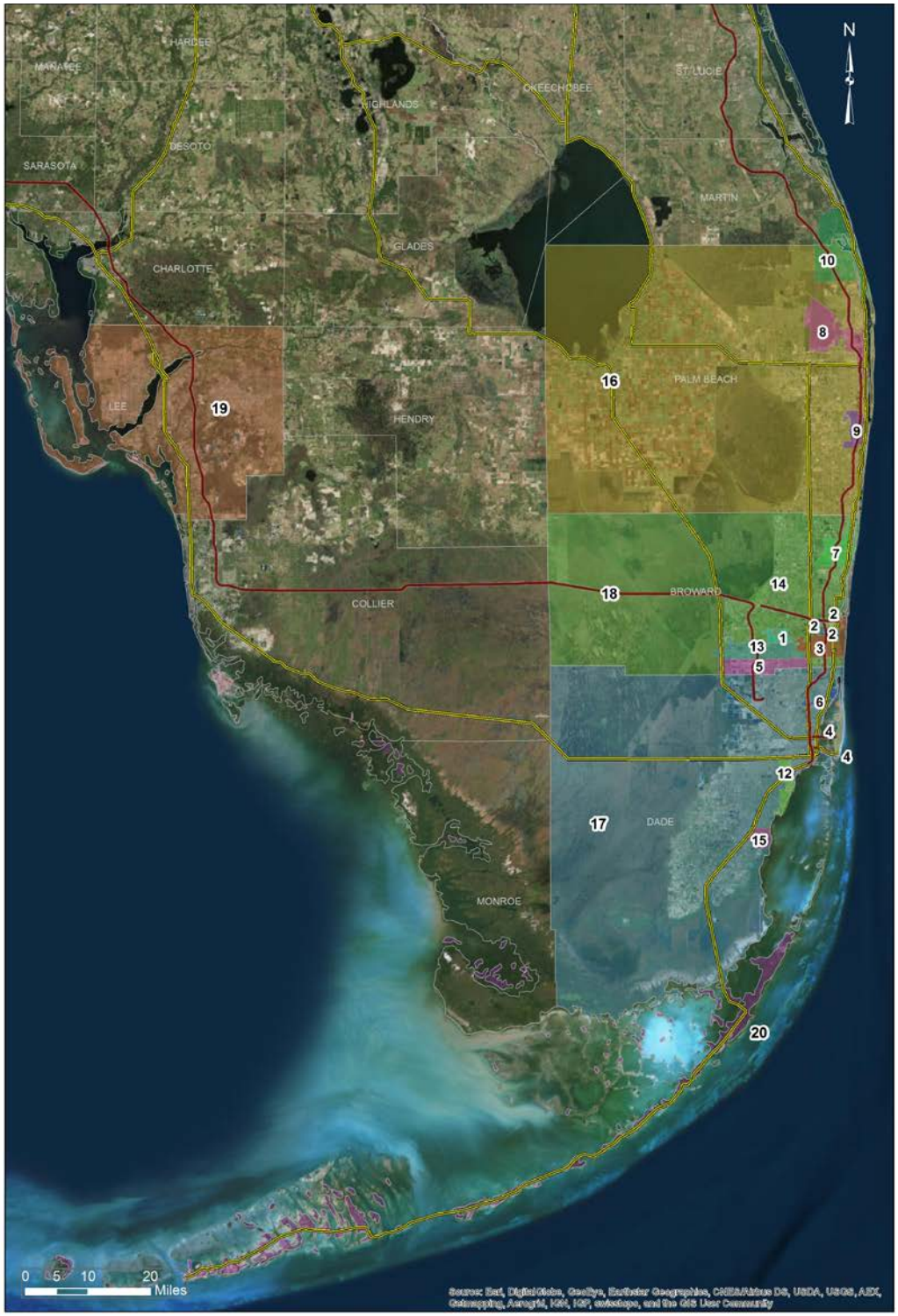
The Resilient Utility Coalition seeks to advance utility infrastructure resiliency efforts in South Florida and provide essential value to its members and partners. The Resilient Utility Coalition provides leadership in assessing and adapting utility operations to address the potential effects of climate change. The group seeks to enhance the usefulness of climate science by developing adaptation strategies and improving water management decision-making in the face of climate uncertainty.

Resilient Utility
Coalition

Utilities Representation

List Of Participating Utilities

Cooper City
City of Dania Beach
City of Hollywood
City of Miami Beach
City of Miramar
City of North Miami
City of Pompano Beach
City of West Palm Beach
Boyton Beach Utilities
Loxahatchee River District
Town of Bay Harbor Islands
City of Coral Gables
City of Pembroke Pines
City of Sunrise
Town of Cutler Bay
Palm Beach County Water Utilities
Miami-Dade Water and Sewer Department
Broward County Water and Wastewater Services
Lee County Utilities
20Florida Keys Aqueduct Authority



Utilities from South Florida and beyond participated in the RUC Visioning Workshop, adding valuable insight and perspective to the discussion regarding the future of the coalition.

Resilient Utility Coalition

RUC Kickoff Event

The event was held on August 18th, 2016 at PORT-MIAMI and had over 200 attendees which included 20 utilities from the region, 3 major universities and representatives from across the industry.

RUC presented an agenda to promote discussion amongst the various stakeholders in our industry. Some of the key activities for the event included presentations from Miami-Dade Water and Sewer Department's Director and Deputy Director as well as representatives from regional regulatory agencies such as Miami-Dade Department of Regulatory Economic Resources.

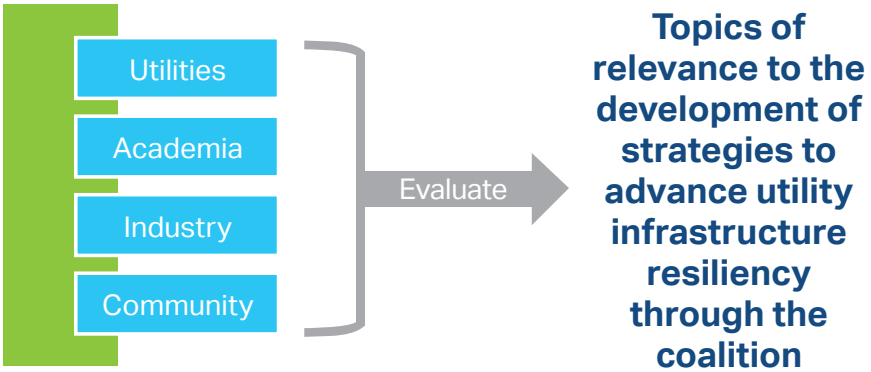
In addition to the participation of local organizations and stakeholders, the Resilient Utility Coalition has pursued an integration with leaders in the field at the national level. The agenda for the event included presentations from representatives of both the U.S. Department of Energy and the U.S. Environmental Protection Agency. Through the participation of both organizations, the coalition is strengthened and provided with some of the tools necessary to become climate ready and operate as utilities of the future.

The main focus of the event was the completion of a Visioning Exercise which intended to initiate a regional conversation among all the stake holders on resiliency and facilitate the development of joint strategies to mitigate the challenges currently faced by the utilities in South Florida

Visioning Workshop Methodology

In an effort achieve an integral approach to the definition of its operational structure, the Resilient Utility Coalition invited the South Florida water and wastewater community and all of its stakeholders to take part on a Visioning Workshop.

The main objective of the exercise is to understand and incorporate the perspective of the different members of the water and wastewater stakeholders – Utilities, Academia, Industry and Community – into the evaluation of topics of relevance to the development of strategies to advance utility infrastructure resiliency.



The framework for the visioning workshop was established through the implementation of a survey presented to the membership of our partner professional organizations. As a results of the survey, five (5) topics were identified as common factors of interest throughout the community of water and wastewater:

- Resiliency Planning
- Innovation in Utilities and Emerging Technologies
- Operational Reliability
- Asset Management
- Design Standards

Utilities

Academia

Industry

Community

Visioning Workshop Methodology

Considering the objective of an integral approach to the definition of RUC's structure, as well as short and long term goals, the participants were divided in to four (4) groups – Utilities, Academia, Industry and Community – consisting of five (5) discussion tables each, with ten (10) participants per table.

Based on the five themes identified through the surveying process, the following topics of discussion were developed for the evaluation of each of the groups from the perspective of their respective assignment:

1. How can the Resilient Utility Coalition advance resiliency planning and foster innovation within utilities, industry, and academia? How can each of these groups contribute most to the Resilient Utility Coalition?

2. In an effort to improve resiliency, how can utilities further foster an environment of collaborative thinking in order to propel the implementation of technology, partnerships, and research & development?

3. Realizing utility efficiencies can be achieved through embracing technology, which areas of utility planning, design, and operations could technology play an integral part in? How can we further help the identification and use of modern tools in design, planning and operations?

4. What role can RUC play in messaging the collective efforts of the region towards operationalizing resiliency within utilities? The ideas and suggestions that resulted from the discussions are summarized in the following sections of this report. In addition, the information consolidated by each the four groups are available at the RUC Website (www.resilientutilities.org).

The ideas and suggestion that resulted from the discussion and notes of the topics presented to the discussion groups are summarized in the following sections of this report. In addition, the information consolidated by the different groups and reported at the end of the visioning workshop are included in subsequent sections.

Summary of notes from all groups with regards to discussion topic No. 1.

How can the Resilient Utility Coalition advance resiliency planning and foster innovation within **utilities, industry, and academia**? How can each of these groups contribute most to the Resilient Utility Coalition?

1) PLANNING

a. Model after the Southeast Florida Regional Climate Compact
b. Prepare long-term vision document
   - 50/100 years
   - Compact consistency
   - Develop Risks
c. Leverage Cities engagement
d. Propose compliance plan
e. Unified vision forum
f. Get to ground level action (no abstract planning)
g. Identify stakeholders, develop benefits and drivers / multifunctional plan
h. Use master plans at the utility level in order to set road maps (special chapter in Resiliency) and incorporate into the larger regional plan
i. Include the community in the planning – participation

2) BENCHMARKING

a. Define all components of resilience, including operations
b. Quantify operations, needs, productivity, sharing information
c. Develop costs
d. Rank:
   - Energy efficiency
   - Design standards
   - Operating costs
   - Life cycle / asset life
e. Create a utility benchmark group as part of RUC
f. Introduce state of the art standards (best practices) / regional guidelines

3) IMPLEMENTING "UTILITIES WITHOUT BORDER" CONCEPT

a. Define best approach to integrate/share resources
b. Work with regulatory agencies / buy-in
c. Prevent barriers / "One common industry voice"
d. Advocate for regulation
e. Share concerns regarding resiliency to help identify common problems/ issues
f. Take a regional approach

Summary of notes from all groups with regards to discussion topic No. 1.

4) IMPROVING COMMUNICATION & COLLABORATION

a. Engage Elected Officials / Mayors / Politicians to develop urgency
b. Start Municipalities talking
c. Join AWWA / professional association training (league of cities)
d. Model after the Southeast Florida Regional Climate Compact
e. Outreach Events / Adds / Message to the public – part of a larger initiative
f. Formulate competitions / campaigns to educate public/stakeholders
   - Show visuals of events where utilities filed
   - Promote unified campaign across counties
   - Use examples close to home
   - Adopt a simple, coordinated, comprehensive plan
   - Reinvent/Publicize the word resiliency for public consumption / make it more familiar to community
   - Educate to be able to sell / get community to buying (awareness / involvement)
   - Use bus wrappers, bus benches, Metrorail posters, community and school events, social media, apps
g. Highlight health and safety benefits, need for resilience and system updates
h. Create a direct line of contact among Utilities
i. Establish a reoccurring "round table" that fosters communication by all RUC members and a venue to enable ideas and communications

5) EDUCATION

a. Develop Training & workshops
b. Buy-off from Utility employees
c. Promote special sessions at conferences (local, regional) to discuss curriculum related to resiliency for utilities and technology tools.
d. Setup classrooms for students to visit SFWMD/IRC College that teach subject.
e. Bring industry into classroom
f. Encourage implementing resiliency programs into school/college curriculum
g. Go to schools, educate children
h. Develop pocket book

6) FOSTERING INNOVATIONS

a. Collaborate with Academia / Academic liaison
b. Support partnerships to solve the unknowns
c. Bring real world questions/needs to Academia
d. Advance discussion – Tech Talks
e. Have utilities present from industry about technical innovations / responsibility to introduce new and better technologies
f. Work with utilities to develop specific product (Ex. Leak detection program
g. Research development of new technologies
h. Promote internships, bring post-doctoral students
i. Develop expertise in Data Collection (Big Data)
j. Create a Technology Innovation Committee, staffed by members of industry, utility & academia

Summary of notes from all groups with regards to discussion topic No. 1.

7) ENGAGEMENT

a. Focus on interdisciplinary action:
   - Attorneys
   - Procurement
   - Finance
   - Public outreach
   - Departments from each municipality
   - Senior leaders from Academia

b. Involve operators and other stakeholders / leverage utility input from operators

c. Develop messaging of benefits to encourage early operator inputs and participation

d. Identify appropriate representation, including all smaller firms

e. Stimulate Industry/Consultants to bring resiliency component to their service efforts with utilities / responsibility to introduce better solutions / responsive to clients' needs

f. Promote participation from academia and community in groups like SEFLUC and BCTAC

8) INFORMATION SHARING

a. Develop a one-stop portal of data / central source of information and clear distribution channels

b. Stimulate a broad perspective/Regional Database (Interactive Database)

c. Share knowledge and experiences across utility/industry/academia

d. Share studies/templates:
   - Standardization / common ground
   - Find common goals / regional consistencies
   - Resilience template for planning

e. Coordinate Planning with operations, especially during implementation

f. Use feedback to implement better designs related to resiliency

g. Utilize consultants to gather information from nearby utilities/clients

h. Define a common language by standards amongst all RUC players (e.g., Broward County Tech Advisory Committee)

9) FUNDING/PARTNERSHIPS

a. Involve State and Federal Funds / Inter-agency collaboration

b. Engage Utility councils – AWWA, FWEA, etc.

c. Promote financial support by community

d. Support raising rates, as a worthy investment

e. Endorse the inclusion of resiliency in budgets

f. Lobby grant-giving agencies to provide funding for resiliency-related activities

g. Find grants for research related to resiliency

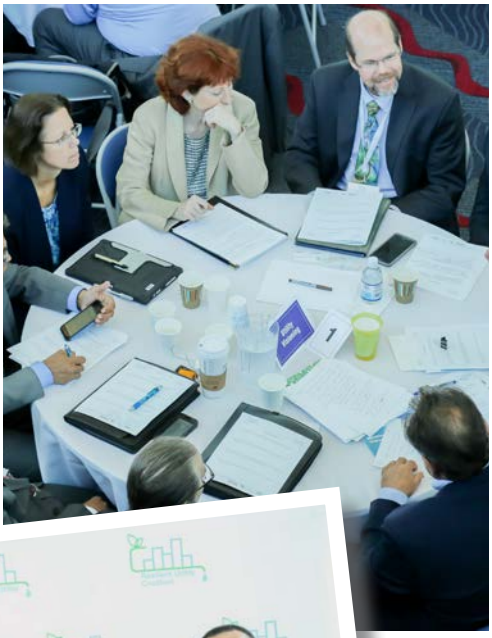
h. Merge/incorporate to existing resiliency programs (e.g. FEMA Climate institute)

10) EMERGENCY PREPAREDNESS

a. Develop emergency preparedness at residential and larger scale

b. Plan for "before, during and after"
   - Mock drills / exercises with the community
   - Pre-catastrophic coordination

c. Coordinate regional exercises (how can utilities help each other)



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Summary of notes from all groups with regards to discussion topic No. 2.

In an effort to improve resiliency, how can utilities further foster an environment of collaborative thinking in order to propel the implementation of **technology, partnerships, and research & development**?

1) EDUCATION / LEADERSHIP

a. Empower / educate its workforce to invest in resiliency
b. Promote incentives, training, six sigma type concepts, ISO buy-off, etc.
c. Support employee councils
d. Cross training engineers, managers, operators to develop better understanding
e. Send an unified message to the workforce
f. Offer guest lectures for courses
g. Provide staff with expertise to work with community to promote utility related career paths
   - Push resiliency program at school level (elementary to high school)
   - Partner with university administrators to help develop utility relevant curriculum
h. Establish forums, via RUC, for brainstorming, sharing, etc. on a quarterly/(semi)annual basis
i. Take advantage of pilot technology programs – leverage vendor opportunities to showcase technologies
   - Integrate vendor capabilities and R&D experience into resiliency options
j. Increase of amount of pilot studies, new and innovative technologies and processes
k. Support utility staff advancing studies/degrees to bring working-staff into university environment
l. Educate elected officials and decision makers about Resiliency
m. Utilize RUC partners (i.e., ASCE, AWWA) to make South Florida the venue for large conferences / discussions on resiliency and regional efforts

2) PARTNERSHIPS

a. Invite collaboration with utilities, academia, and industry (consultants)
b. Promote Mutual Aid Agreements / continuous mechanisms focusing on Resiliency
c. Leverage university engagement / R&D / Academia
d. Identify research and grant opportunities / Partner on grant proposals
e. Engage for big data computers / labs and other available infrastructure
f. Share data among Utilities – Central data repository, via RUC, in collaboration with Academia
g. Include Regulatory Agencies and additional intergovernmental agreements
h. Promote a friendly competition across utilities (RUC can set up performance metrics)
i. Foster collaboration of operations and academia to develop education track for integrating operations – integrate operations experience in academia
j. Offer graduate students practical experiences/internships opportunities

Summary of notes from all groups with regards to discussion topic No. 2.

3) FUNDING / FINANCIAL RESOURCES TO RESILIENCY

a. Support partnerships and R&D
b. Encourage political financial support
c. Support a top-down approach for allocating budget for resiliency
d. Advocate for a State Law on Resiliency
e. Implement a compliance plan
f. Develop grants for encouragement of academia participation

4) PLANNING

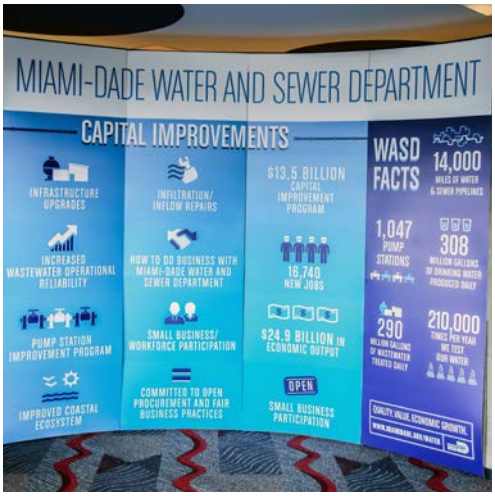
a. Include resiliency goals/policy within Master Plans to assure their implementation
b. Engage with insurance industry to understand risks, determine liabilities, bond writing, and underwriters
c. Bring utilities that have been impacted by natural disasters to discuss lessons learned
d. Create Stakeholders Advisory Committees – voice back from the community

5) INFORMATION SHARING

a. Share case studies to enhance decision making
   - Success products, processes, metrics, operations, performance
   - Money savings, environmental enhancements, reliability
b. Share information on practical field issues
c. Establish a collaborative R&D and share results within utilities and RUC members
d. Reduce political barriers between vendor and utilities

6) COMMUNICATION

a. Promote a more active role in community
b. Report back to the community – success cases
c. Participate in various community boards via RUC
d. Translate sensationalism to community impacts and actions
e. Bring transparency to proposals, new projects // community scorecard
f. Communicate with neighboring utilities via RUC
g. Spread the vision internally, in each utility – to get buy in
h. Formulate a communications plan, ensuring that resiliency work is clearly defined and all relate terms can be easily understood



Summary of notes from all groups with regards to discussion topic No. 2.

7) REGIONAL COALITION

a. Implement "Utilities without Border"
b. Promote collaborative information and sharing of success and failures
c. Help alleviate fear of publically sharing problems (potential EPA issues)
d. Find utilities with common issues and host round tables/meetings with the following participants, through partnering with professional organizations:
   - Legal Cities
   - Elected officials
   - SFWMD
   - Community
e. Get out the information / multiple avenues of education
f. Leverage input from other groups
g. Share Priorities and help establish common goals
h. Bring together the common elements/ "unified vision" / move out of silos / "Swap Day"
i. Integrate operators, managers, elected officials perspectives
j. Foster an approach to take off blinders and look at how other regions work on resiliency

8) RESILIENCE OPERATION

a. Promote better communications between operators and decision makers
b. Reinforce Technology
   - Pilot studies
   - Value engineer
   - Data driven
c. Foster operators to operators discussions
   - Lessons learned
   - Case studies
     - How it was done
     - Metrics
     - Data requests
     - Pilot studies
     - Measured results
     - Reporting
     - Present decision making
   - Communicate constrictions and opportunities between stakeholders
   - Power company & Wastewater/stormwater challenges

9) WHOLE SYSTEM APPROACH

a. Recognize Water/Energy Nexus
b. Recognize all elements
   - Water
   - Wastewater
   - Storm water
   - Electric
c. Value energy efficiency
d. Promote regulatory flexibility
e. Encourage to implement green infrastructure

Resilient Utility Coalition

Summary of notes from all groups with regards to discussion topic No. 3.

Realizing utility efficiencies can be achieved through embracing technology, which areas of the **utility planning, design, and operations** could **technology** play an integral part in? How can we further help the identification and use of modern tools in **design, planning, and operations?**

1) DATA PLANNING / MANAGEMENT / TECHNOLOGY

a. Utilize data "innovation/efficiency"
   - Useful work order tracking system
   - Easy access to GIS for planning
   - Reporting tools to be consistent (consolidating)
   - Predictive analytics
   - Correct information / data upload
   - "Open" systems
   - Central point for data
   - Feedback process

b. Leverage and use data, don't just collect and store
   - Maintain / Harvest
   - Use data to react, operate, maintain
   - Identify trends
   - Embrace analytics
   - Look at full reuse of available data to better manage systems
   - Leverage data to optimize operations
   - Analyze/Convert data to something useable
   - Use data to understand contribution of management techniques
   - Demonstrate and document results and applicability to meet intended results

c. Improve Asset Management System
   - Hydraulic modeling – helps the utility be proactive with their system
   - Demand projection modeling
   - Process optimization / Out of the box products

d. Define consistent/coordinated software platform/program for utilities to use

e. Make real time data available to the public
   - Foster understanding and build interest
   - Better feedback about resource consumption

f. Increase ability to use "big data" for informing the public

g. Use apps to report information (flooding areas, water levels, water quality issues)

h. Invest in public information security

i. Set schools involved in RUC issues based on real information / data/ technology

j. Require Academia perspective for embracing technology and making informed decisions

k. Mobilize external departmental data analysis for multi discipline perspective

Summary of notes from all groups with regards to discussion topic No. 3.

2) COMPREHENSIVE PROCESSES: PLANNING, DESIGN, IMPLEMENTATION, OPERATIONS

a. Envision methodologies, for example

b. Full project life cycle - beginning to end

- Hurricane
- Infrastructure failure
- Coastal flooding
- Rainfall flooding
- SLR
- Transportation
- Poverty / Affordable housing

c. Develop tools to help operations navigate from planning, development, implementation

a. Involve operators (understand their role)

b. Utilize operators to include practice into planning

d. Require consistent standards throughout the region

e. Support employment of technology – plays a role in all phases of utility resilience

f. Adopt technology at early stage

g. Look at short term/long term issues facing resiliency

h. Create SOP's for resiliency and power saving

i. Underline Project Management Tools

- Dynamic Master Plan
- Better Models

j. Revisiting of the manner in which services /products are procured

- May not be efficient
- Need to be flexible in order to optimize for proper reaction and planning
- Sustainability

Summary of notes from all groups with regards to discussion topic No. 3.

3) EDUCATION / RESEARCH / DEVELOPMENT

a. Promote professional development
   - Trade conferences showcase technology
   - Enhanced employee training / skilled staff for utilities
   - Data sharing and consolidation

b. Develop programs using tools like Envision
   - Communication
   - Project
   - Future
   - End of Life
   - Project demolition

c. Set Academia to provide courses with technology advances (SCADA, etc).

d. Funding research at university level

e. Put utilities and academia together to obtain grants on new technologies:
   - Real Time Operation
   - Use of drones
   - Virtual Reality Experiences, etc.

f. Engage corporations and universities to advance resiliency topics

g. Utilize University/School/Lab resources in resilience topics (e.g. computer power)
   - Pilot studies, small scale testing, bench testing, etc.

h. Request utilities to provide input/feedback on appropriate tools, as used in the field, and exchange with interested students/stakeholders

i. Promote expertise, not only on Engineering programs but at all levels e.g., Business School, Vocational Schools

4) IMPROVING COMMUNICATION & COLLABORATION

a. Establish framework for communications - publications/newsletters

b. Engage departments to be connected

c. Communicate success stories to get increased support
   - Community savings through new technology
   - Feedback on engineered solutions
   - Demonstrate and document results and applicability
   - Conservation based rates, for example
   - Knowledge on behavioral psychology
   - Testimonies of implementation of new technologies

d. Disseminate technology, e.g. server tunneling (Innovation Committee)

e. Spread knowledge on industry best practices in the fields of GIS, smart devices, intelligent water meters, nest thermostat, and other technologies

f. Organize Workshops/Annual Conferences
   - Session on case studies and shared experiences
   - Sharing opportunities and experience
   - Forum to digest data
   - Integration between industry, academia, utilities
   - Network of utilities

g. Benchmarking: look at products that have worked in other areas in the world – tools/planning process.

Summary of notes from all groups with regards to discussion topic No. 4.

Water role can RUC play in messaging the collective efforts of the region towards **operationalizing resiliency within utilities**?

1) INFORMATION SHARING

a. Develop a Website/Sharepoint for case studies, lessons learned, best management practices, successful programs, and reference materials
b. Organize a "Clearinghouse" for documents and information – library
   - Standards
   - Events
   - Workshops
c. Build infrastructure for knowledge sharing
d. Promote technology transfer / resources and experiences with tools
e. Share challenges/achievements in the academic field
f. Avail guidelines "by other agencies"
g. Organize Workshops / Annual Summit / Conferences / Webinars

2) IMPROVING COMMUNICATION & COLLABORATION

a. Publish case studies and messages to public in clear concise format
b. Help with layman message: narrow down RUCs mission for general public
c. Advertise job opportunities and fields of study (STEM – spark interest)
d. Develop consistent message for politicians
   - "Emergency Management"
   - "Infrastructure Improvements"
   - "Flooding"
   - "Energy Savings / Efficiency"
e. Find commonalities and unify the message
f. Use "right" words for specific audiences
g. Step away from climate change only
h. Focus on the positive message and restrict negativity
i. Propose a marketing plan
j. Advance public outreach
k. Advertise a State of Resiliency
   - PSA's, TV, Online
l. Develop an annual reporting /quarterly / scorecard (could be used in water bill / allow for neighboring communities to compare how we are performing)
m. Increase confidence factor in community – ''we know what we are doing you can trust us''
n. Implement broadcasting, podcasts, city hall, social media, you tube channel
o. Facilitate two way communications between utilities, public, academia and industry
p. Open communications with industry and add transparency to the process
q. Assist on spreading the word on recommendations from SFRCC
r. Inform/warn about infrastructure failures/corrective actions/incentive programs

Summary of notes from all groups with regards to discussion topic No. 4.

3) ENGAGEMENT

a. Bring the utilities together to discuss issues, challenges, opportunities, solutions, etc.
b. Incorporate key stakeholders: decision makers, commissioners, HOA leaders, influential contacts – within South Florida and across the state
c. Provide inputs to regulatory agencies (increase flexibilities in standards)
d. Distribute the RUC community / Mentor program
e. Peer review packaging of resiliency efforts / visibility
f. Provide recognition of collaborative effort
g. Advocate for funding & resources
h. Assist with public finance initiatives and/or P3's
i. Acknowledge university administrator/professors expertise and request their input to facilitate collaboration and advance utility resilience
j. Work alongside universities to facilitate interdepartmental collaboration
k. Use academia to provide research studies that support solutions developed by RUC
l. Partner with ongoing committees / Participate in the SEFLUC / SFRCC
m. Drive implementation of utility related recommendations from the SFRCC
n. Allows industry to develop strategies on how to help and provide services.

Resilient Utility Coalition

RUC's Next Steps

Over the next several months, RUC will continue to build the framework assist utilities in operationalizing the policy set forth by the Southeast Florida Regional Climate Compact and other entities. Some of RUC's next steps include:

- Comprehensive Planning: elaborate unified long term vision document (model like SFRCC, including operation) / scorecard
- Benchmarking: organize state of the art standards / best practices / regional guidelines
- Engaging: implement "Utilities without Border" and mobilize membership
- Communication & Collaboration: promote outreach events, workshops and participate existing Committees
- Education / Leadership: organize training/tech talks (include elected officials)
- Fostering Innovation: partnership with Academia / foster Research and Development / Technology Committee
- Information Sharing: implement sharepoint, with success studies, databases, contacts, guidelines, etc.
- Data Management: data analytics and coordinated software platform
- Funding/Partnerships: lobby funds for resiliency
- Emergency Preparedness: formulate tools for regional integration

Resilient Utility Coalition would like to thank all the organizations that participated in the Visioning Workshop

Utilities:

Miami-Dade Water and Sewer Department

Broward County Water and Wastewater Services

Palm Beach County Water Utilities

Boynton Beach Utilities

City of Coral Gables

City of Dania Beach

City of Hollywood

City of Miami Beach

City of Miramar

City of North Miami

City of Pembroke Pines

City of Pompano Beach

City of Sunrise

City of West Palm Beach

Cooper City

Florida Keys Aqueduct Authority

Lee County Utilities

Loxahatchee River District

Town of Bay Harbor Islands

Town of Cutler Bay

South Florida Water Management District

Academia:

University of Miami

Florida International University

Florida Atlantic University

Resilient Utility Coalition

Thanks to our Partners

The Resilient Utility Coalition would like to thank its partners for their valuable support throughout the development of this initiative.

The Resilient Utility Coalition would like to thank and recognize PortMiami for hosting the event.

Thanks to our Sponsors

Resilient Utility Coalition

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