Resilient Utility Coalition

# Resilient Utility Coalition Visioning Workshop

**Thursday, August 18, 2016**

**Port Miami, Terminal E**

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MIAMI-DADE COUNTY

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August 18, 2016

Welcome to the Resilient Utility Coalition (RUC) Visioning Workshop. Today's event seeks to bring 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 the Florida Sections of the American Society of Civil Engineers and the American Water Works Association, 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.

Building a resilient utility is a significant and long-term effort that can only be accomplished through institutional commitment and regional collaboration. Today's visioning workshop will 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. Through the participation of the U.S. Department of Energy and the U.S. Environmental Protection Agency, the coalition is strengthened and provided with some of the tools necessary to become climate ready and operate as utilities of the future.

RUC has developed an agenda that will facilitate discussion amongst the various stakeholders in our industry. With your help, the vision for the coalition and opportunities for collaboration between the various pillars of our industry will be formed and identified. Together, let's take the first step towards regional resiliency through collaboration and partnerships in this journey. The exchange of experiences, technical know-how and collective intellectual capital between the partners will play a crucial role in learning and adapting to the changing landscape and conditions.

Thank you again for your support and participation. We hope that you enjoy the day and find this event to be enriching, informative, and the beginning of a fruitful partnership for the communities and citizens we all proudly serve.

Sincerely,

**Lester Sola**
Director
Miami-Dade Water and Sewer Department

**Hardeep Anand, P.E.**
Deputy Director - Capital Improvement
Miami-Dade Water and Sewer Department

ASCE Florida Section Miami-Dade Branch
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Florida Engineering Society Miami Chapter
Resilient Utility Coalition

# Climate Change and our Water Utilities

Climate change impacts pose an unprecedented challenge to water, wastewater and storm water utilities in fulfilling their core mission of providing safe drinking water, and protecting public health and environmental standards. The combination of factors related to extreme weather events, rising sea levels, extreme fluctuations in precipitation, temperature, and other natural processes compound the existing challenges of growing population, aging infrastructure, and a rapidly retiring workforce to put utility assets and operations at greater risk. Therefore, it becomes imperative for water related utilities to place a greater emphasis on understanding these factors for resilience of the water sector.

The Southeast Regional Climate Change Compact (Compact) recognized the vulnerability of the Southeast Florida region to climate change and resolved to work collaboratively on mitigation and adaptation strategies such as joint policies to influence climate/energy legislation and funding at state and federal levels, and developing a Regional Climate Change Action Plan. With the support of a variety of local, regional, state, and federal agencies, the Compact developed a technical foundation for regional climate issues.

It is now time for utilities to take the next step and build upon the policy put forth by the Southeast Regional Climate Change Compact. Utilities have an opportunity to mitigate the impacts of climate change through the operationalization of climate policy and a focus on resiliency.

# Our Mission

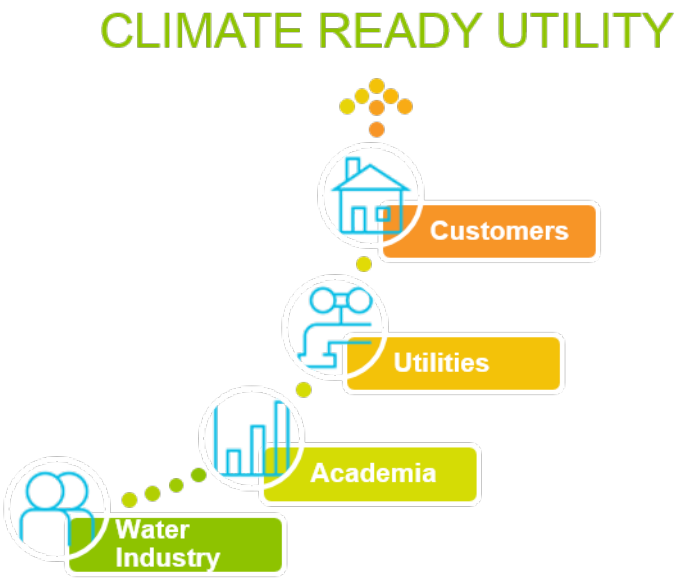
The Resilient Utility Coalition seeks to advance utility infrastructure resiliency efforts in South Florida and provide essential value to its members and partners. The Resilient Utility Coalition provides leadership in assessing and adapting utility operations to address the potential effects of climate 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. We invite you to join the Coalition!!

# Adaptation through Resiliency

Adapting utility infrastructure and operations to climate change and other challenges requires significant consideration and planning. However, adaptation planning is not necessarily a new effort distinct from other utility practices. Adaptation strategies often provide multiple benefits and can be integrated into existing efforts for emergency response planning, capacity development, capital investment planning, water supply and demand planning, conservation practices, sustainability goals and infrastructure maintenance. Climate change adaptation can be addressed through the promotion and development of more resilient utilities.

The components of a resilient utility include:

- **Resiliency Plan:** Provide a compliant, reliable, resilient, and flexible system to respond to catastrophic events and emergency preparedness
- **Adaptation and Mitigation:** Prioritize investments based on adaptation planning and maximize mitigation efforts by implementing energy efficiency measures, promote green infrastructure, reduce greenhouse gas emissions, engineering design standards, etc.
- **Effectively Managed Utility:** Incorporate the attributes of an effective utility management and achieve economic and environmental sustainability and maintain ratepayer affordability
- **Awareness and Engaged Workforce:** Improve processes and procedures to standardize systems across the utility
- **Partnerships and Community Outreach:** Develop key partnerships with stakeholders and develop a framework of community involvement for developing a collaborative and supportive environment to build resilience




Today, water and wastewater utilities have a unique opportunity to integrate resiliency into operations and planning. Building a resilient utility is a significant and long-term effort that can only be accomplished through institutional commitment and regional collaboration. Climate change is a global issue with unique regional impacts. South Florida's utilities can band together to address this challenge.

With the objective of advancing utility infrastructure resiliency efforts, the Miami-Dade Water and Sewer Department has taken a leadership role within the four counties along with strategic partnerships with professional organizations consisting of ASCE, FSAWWA, and FES and has become the founding Utility for the "Resilient Utility Coalition" (RUC). The coalition seeks to invite utility members to come together to develop joint strategies and actions to achieve resiliency within their organizations by jointly collaborating on these challenges. RUC's primary objectives include:

Advance Resiliency Efforts within Utilities

Provide Leadership and Value to Members

Develop Adaptation Strategies and Decision Making Tools for Utilities

RUC will provide 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. All of South Florida's water and wastewater utilities are invited to join RUC!

In addition to utility members, RUC's partners include professional associations, industry, and academia. The partner associations include ASCE, FSAWWA and FES. These organizations will support and facilitate RUC activities, allocate technical and training resources, and promote coalition participation among their membership.

Academic partners are key to RUC's vision. These will include the University of Miami, Florida International University, and Florida Atlantic University. With its academic partners, RUC will embark on research projects, develop internship programs for coalition members, and pursue grant opportunities.

RUC's immediate goals and initiatives include:

## Development of a Regional Resiliency Score Card

## Coordination of Quarterly Roundtable Meetings

## "Tech" Talks for Training and Education

## Publication of material developed by the Coalition and Community Outreach

Through RUC, South Florida's utilities have a unique opportunity to realize infrastructure and operational resiliency. We invite you to join the Resilient Utility Coalition!.

# AGENDA

## THURSDAY, AUGUST 18, 2016

| | |
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| 8:30-9:00 | **Breakfast and Registration** |
| 9:00-9:30 | **Introductory Remarks**<br>Lester Sola, Director of Miami-Dade Water and Sewer Department<br><br>**Resilient Utility Coalition**<br>Hardeep Anand, PE, Deputy Director Capital Improvement Program,<br>Miami-Dade Water and Sewer Department<br><br>**Collaboration - How Miami-Dade is Adapting and Building Resilience on Multiple Levels**<br>Nichole L. Hefty, CSM, Sustainability Chief, Office of Resilience<br>Miami-Dade Department of Regulatory and Economic Resources |
| 9:30-10:00 | **U.S. Department of Energy**<br><br>**Partnering with DOE on the Water-Energy Nexus**<br>Alice G. Dasek, Policy Advisor at U.S. Department of Energy |
| 10:00 – 10:30 | **Resilient Utility Coalition**<br><br>**Operationalizing Resilience in Water Utilities**<br>Hardeep Anand, PE, Deputy Director Miami-Dade Water and Sewer Department |
| 10:30-10:45 | **Intermission** |
| 10:45-12:30 | **Resilient Utility Coalition Visioning Exercise**<br>Moderator: Greg Ault, Principal/Vice President, AECOM |
| 12:30 – 1:30 | **Lunch** |
| 1:30 – 2:00 | **U.S. Environmental Protection Agency**<br><br>**EPA's Climate Ready Water Utilities: Supporting Utilities Adapting to the Impacts of Climate Change**<br>J. Stephen Fries, Ph.D, Climate Ready Water Utilities Initiative,<br>U.S. Environmental Protection Agency. |
| 2:00-3:00 | **Visioning Reporting**<br>Moderator: Greg Ault, Principal/Vice President, AECOM |
| 3:00-3:30 | **Closing Remarks**<br>Hardeep Anand, PE, Deputy Director Miami-Dade Water and Sewer Department |

## LESTER SOLA

Director of the Miami-Dade Water and Sewer Department

As Director of the largest utility in the Southeastern United States, Mr. Sola is responsible for providing high-quality drinking water and wastewater disposal services to more than 2.3 million residents, businesses and visitors on a daily basis. The Department provides direct service to more than 432,000 accounts, wholesale water service to 15 municipalities and wholesale wastewater service to 13 municipalities.

During the next 15-20 years, the Department is tasked with implementing a $13.5 billion capital improvement program to upgrade the County's water and sewer infrastructure. This capital improvement program is the largest in Miami-Dade County's history. Mr. Sola's experience in County operations, capital design, construction management, contract administration and negotiations will prove invaluable as this capital improvement program progresses. Mr. Sola manages more than 2,600 employees and an annual operating budget of $732 million.

Prior to his appointment to the Water and Sewer Department, Mr. Sola had been the Director of the Internal Services Department since October of 2011. The Internal Services Department is responsible for the Procurement of Goods and Services, Small Business Development, Architectural and Engineering selection services, Capital Improvement Program, Design and Construction Services, Facilities and Fleet Management, Risk Management, Parking Operations, Printing and Graphics Services, and Surplus Asset Disposal and Countywide Capital Inventory oversight. Mr. Sola managed an operating budget of $370 million, capital projects totaling over $400 million, and over 850 employees.

Mr. Sola has served in several senior management positions and accomplished numerous task that have benefited the county. A few of the highlights are:

- Several departmental reorganizations
- Negotiated and restructured sizable capital development contracts
- Examined operations and delivery of services to better serve residents
- Established several minority, small and local business programs
- Reviewed County contracts to increase participation
- Eliminated contract barriers to benefit local and small businesses

Mr. Sola began his career with Miami-Dade County Government in 1992 as a member of the County Manager Management Training Program. He has held several high-level positions including: Contract Coordination Officer in the County Executive Manager's Office, Architectural and Engineering Consultant Coordinator for the County Executive Manager's Office, Assistant to the County Manager, Associate Director for the Aviation Department, Deputy Director for the Department of Business Development and Supervisor of Elections.

During his career with Miami-Dade County, Mr. Sola has been responsible for the reorganization of several county departments; coordination and refocusing of the capital program at Miami International Airport; the establishment of small and minority-based programs for the procurement of goods and services; establishment of centralized systems for the tracking of County capital expansion programs and professional services; the provision of management direction to County Departments, Management Agreements and agencies (Aviation, Seaport, Beacon Council, Performing Arts Center, American Airlines Arena).

Mr. Sola has a Master's Degree and Bachelor's Degree in Public Administration with a minor in organizational psychology from Florida International University.

## HARDEEP ANAND, P.E.

Deputy Director Capital Improvement Program
Miami-Dade Water and Sewer Department

Mr. Anand has over 25 years of professional civil and environmental engineering experience along with a combination of program management and leadership experience within the public and private sector.

He currently serves as the Deputy Director for Miami Dade Water & Sewer Department and oversees the implementation of the $13.5B Capital Improvement Program for the utility to deliver innovative projects with the objective to position Miami-Dade County as a Utility of the Future. He is engaged in incorporating effective utility management attributes, sustainability and resiliency measures as well as identifying and deploying specific technology applications to realize quality, efficiency and utility resilience.

Mr. Anand previously served the Miami-Dade County Department of Environmental Resources Management for about 9 years, as the Public Works Director with the City of Fort Lauderdale, and as an engineering consultant over a variety of utility, storm water, environmental, solid waste and information technology projects for about 10 years.

His capital project management experience includes project planning, developing functional and technical requirements, project cost and schedule monitoring, performing process redesign, organizational and management reviews and performing business continuity planning. His private sector experience has served him well as he draws upon these experiences to continually create and implement programs to realize efficiencies in government.

Mr. Anand is originally from Tanzania. He is a registered professional engineer in the State of Florida and holds a Bachelors in Civil Engineering along with Masters degrees in Civil Engineering and Management of Information Systems.

## NICHOLE L. HEFTY

Sustainability Chief
Office of Resilience
Miami-Dade Department of Regulatory and Economic Resources

Nichole Hefty earned a Bachelor of Science Degree in Biology from the University of Miami, Florida in 1987. She began working for Miami-Dade County in 1989, beginning as an environmental compliance inspector until 1992 and then transitioning to work in the County's Pollution Prevention (P2) Program. She was promoted to Manager of the P2 Program in 1995 and served in this capacity until 2006. Ms. Hefty began working on climate change related policy and initiatives in 2002, when the Urban CO2 Reduction Program was merged into the Pollution Prevention Program. Her responsibilities in this capacity included coordinating and facilitating implementation of County (internal) and community-wide climate change mitigation and adaptation initiatives, and aligning them with regional, state, and federal resources and priorities. She has served as a Steering Committee member of the SE Florida Regional Climate Compact since it began in early 2010. The Compact is a groundbreaking partnership of four SE Florida counties (Monroe, Miami-Dade, Broward, & Palm Beach) that are collaborating regionally on climate change adaptation and mitigation issues, policies, and strategies for SE Florida. Mrs. Hefty was a member of the core team responsible for the development of Miami-Dade County's community-wide Sustainability Plan, "GreenPrint; Our Design for a Sustainable Future," and served as the Chief of the County's Office of Sustainability from November 2012 to November 2015, when the County hired a Chief Resilience Officer and the Office was transitioned into the Office of Resilience. Ms. Hefty now serves as the Sustainability Manager within the Office of Resilience which is headed by the Chief Resilience Officer and also includes 3 sustainability coordinators and an executive assistant.

## ALICE DASEK

Policy Advisor, U.S. Department of Energy (DOE)

Alice Dasek is a Policy Advisor and has been at DOE for six years. She serves multiple roles as part of the Policy and Technical Assistance Team. In addition to serving as the State Lead for the Better Buildings Challenge, Alice serves as Policy Advisor for five states advancing energy efficiency in wastewater treatment facilities. She also leads DOE's Better Buildings Accelerator for Energy Savings Performance Contracting (ESPC), assisting state and local governments to increase their ESPC investment by two billion dollars by 2017. Alice graduated from Bryn Mawr College and has a Master of Business Administration from Georgetown University and a Master of Environmental and Energy Management from George Washington University.

## J. STEPHEN FRIES, PH.D.

Climate Ready Water Utilities Initiative
Office of Ground Water and Drinking Water
U.S. Environmental Protection Agency

J. Stephen Fries, Ph.D., has over fourteen years of experience directing research and product development to facilitate the collections and application of scientific data in the public policy realm. Dr. Fries currently works as a Physical Scientist at the US Environmental Protection Agency (EPA) in the Office of Ground Water and Drinking Water. His duties are focused on the Climate Ready Water Utilities initiative (CRWU: http://www.epa.gov/crwu) and EPA's support of water utilities pursuing climate adaptation strategies. Dr. Fries directs projects that provide the tools and resources required to support water utilities in recognizing risks and using decision support tools for security improvements, mitigation of damage from natural hazards and climate adaptation.

Previously, he led the Analytics and Scientific Program Support Group at CSC, now CSRA. This team provided contract support to several EPA programs and was responsible for implementing solutions and tools required to support the water sector, including decision support tools for adaptation (Climate Resilience Evaluation and Awareness Tool [https://creat.epa.gov]) and resilience to security and natural hazard threats (Vulnerability Self-Assessment Tool [VSAT]). Software development was complemented by risk assessment training and outreach, novel formats for searchable online databases and guides (Adaptation Strategies Guide), consequence analysis tools (Water Health and Economic Analysis Tool [WHEAT]), and software pilots and exercises.

Previous to working with CSC, Dr. Fries was a AAAS Science & Technology Policy Fellow with the EPA Global Change and Drinking Water Research Programs to evaluate research priorities on environmental impacts of geologic sequestration of carbon dioxide. His postdoctoral research experience in the role of sediment transport in microbial transport and public health exposure in surface and coastal waters was conducted at Rutgers University and the University of North Carolina at Chapel Hill.

Dr. Fries holds a Ph.D. in Civil & Environmental & Oceanographic Engineering from the Massachusetts Institute of Technology & Woods Hole Oceanographic Institution Joint Program and a Dual B.S. in Civil Engineering and Engineering Public Policy from Carnegie Mellon University.

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

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**The Resilient Utility Coalition would like to thank and recognize PortMiami for hosting today's event.**

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We invite you to connect with us through our website or any of the social and professional networks to stay up to date on the latest efforts associated to the Resilient Utility Coalition initiative as well as remaining informed of upcoming events.

Resilient Utility Coalition

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## Notes


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