From Aspirational to Operational:

Effective and Efficient Practices for Creating Your Water Utility Roadmap

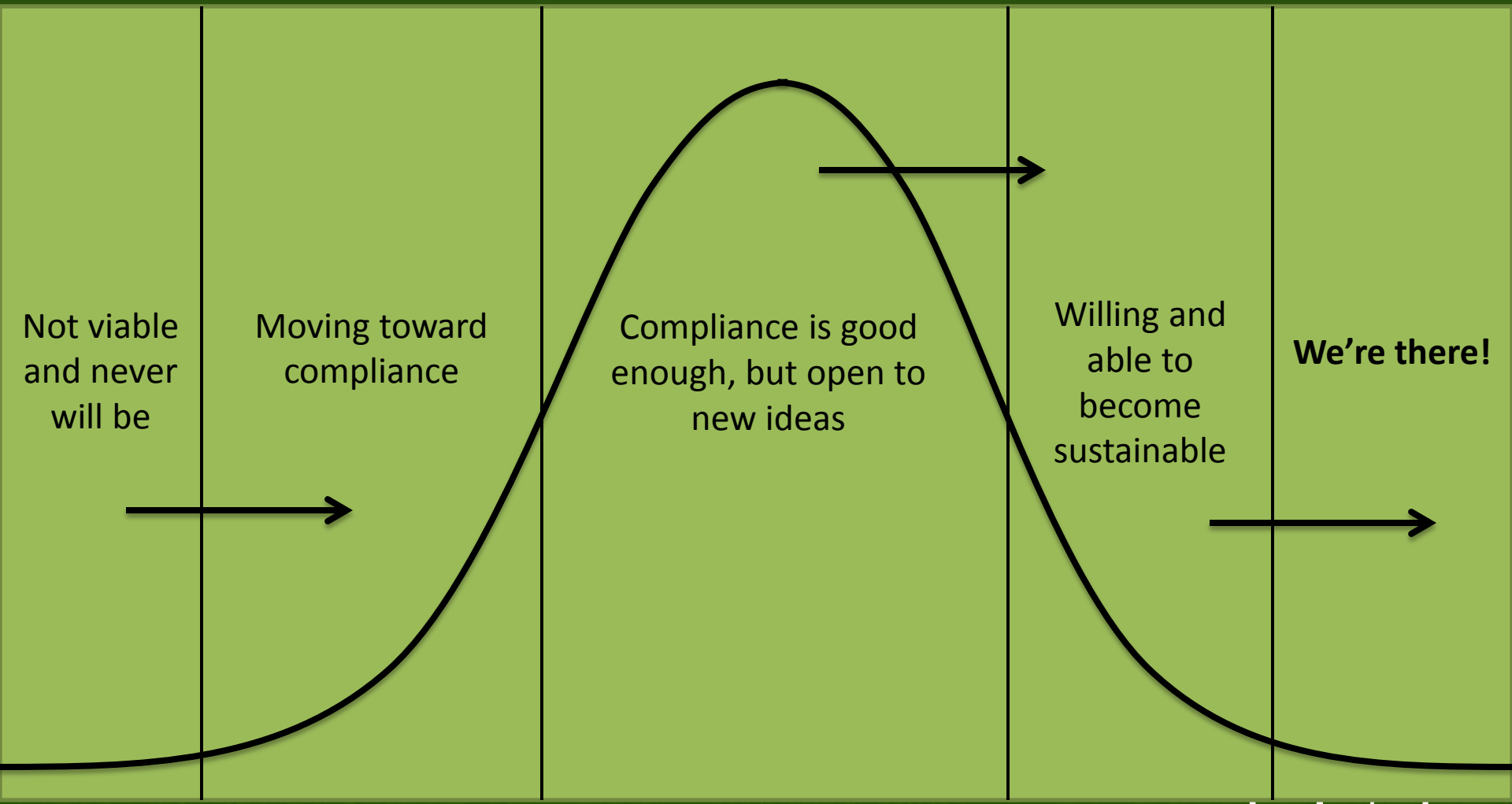
Available Online

http://water.epa.gov/infrastructure/sustain/upload/Practices-Roadmap-FINAL-4-2-14.pdf

Context

- Utility efforts toward sustainable operations are ‘all over the map’
- Some struggle to consistently remain in compliance and to provide basic services
- Other seek to optimize their current services
- A growing number are moving to transform their operations (e.g., Utility of the Future)
- Size is not the only determining factor
- EUM Framework (Attributes and Keys to Success) provide the foundation
- Sustainable practices bring it all together

Municipal Water Systems Sustainability Continuum

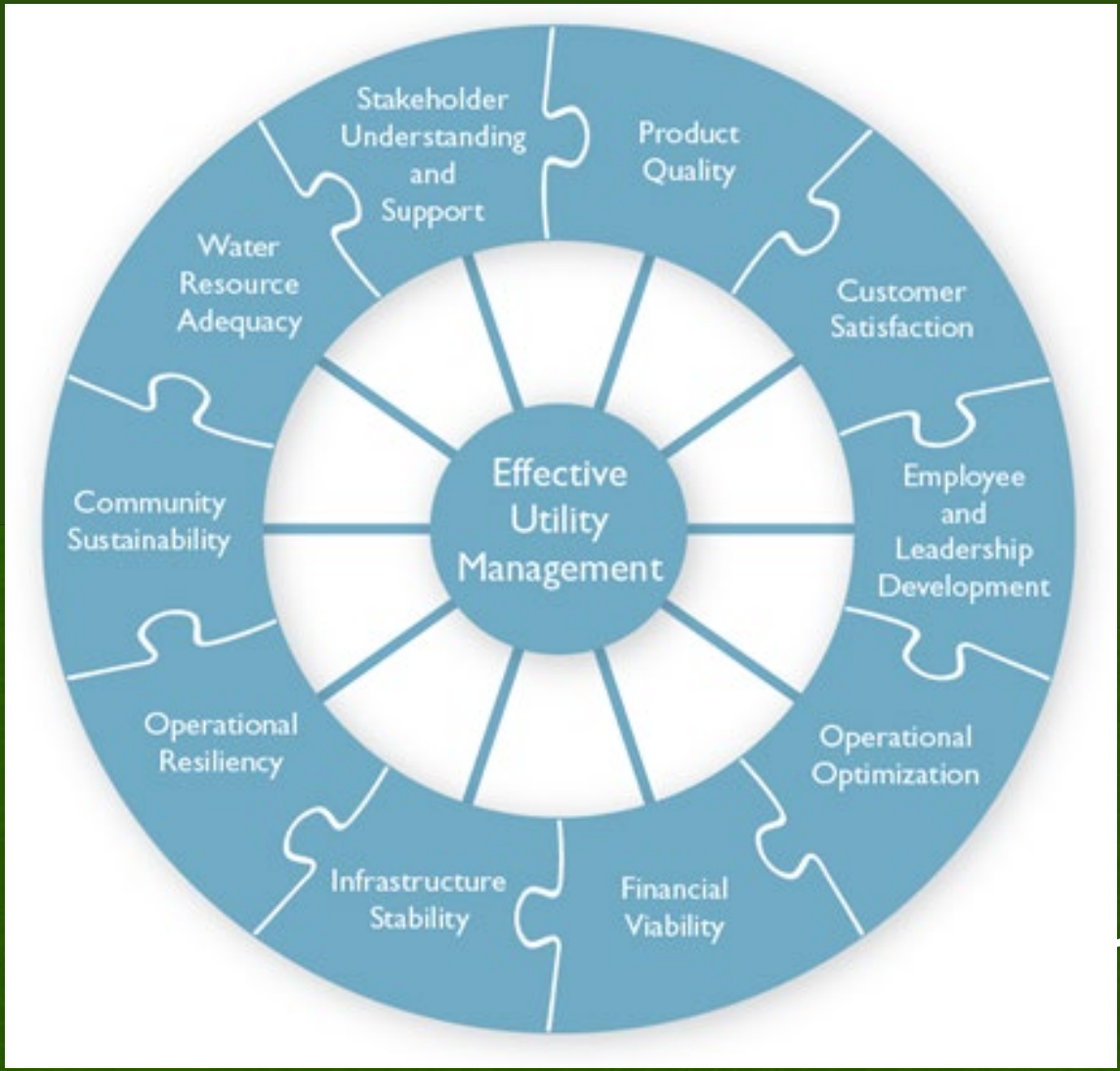


Where does this document fit?

- Gives utilities of various sizes a practical, usable tool to improve operations and move toward sustainability – something they can use now
- Document includes proven and effective practices that are being used now by utilities
- Helps utilities make the connection between setting 'aspirational' goals and achieving tangible results
- 'Hard-wired' to the EUM Framework – consistency is key!

http://www.watereum.org/

Our Foundation: Attributes of Effectively Managed Utilities – The 360° Look



How We Got Here

- Project emerged from a workshop hosted by EPA in September 2012 with utilities and states
- Purpose was to take stock of current progress on effective utility management and potential next steps
- Most prominent and achievable suggestion from the meeting was to develop a 'roadmap' of selected practices
- Informal steering group of utilities and states formed to provide input throughout development of the document – included smaller utilities

Who We Worked With

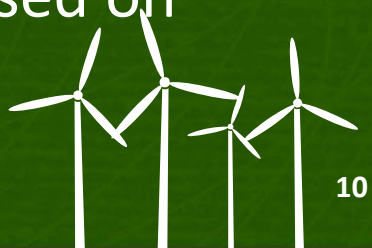
- Extensive input on individual practices from a steering committee of utilities and states
- Also reflects input from key EPA staff and managers
- Associations also provided input on later drafts – very supportive
- WEF also suggested working together with them and others going forward to communicate how various efforts ‘fit together’ – a great idea

How the Document Works

- Uses the same effective utility management framework accepted across the sector, and by partners like USDA
- Based on ten Core Management Areas – including planning and performance measurement
- Practices organized into three levels:
  - Level 1 – Adequate Fundamental Services (compliance focus)
  - Level 2 – Optimizing Current Services
  - Level 3 – Transforming Services for the Future (Utility of the Future)
- Levels are not 'bright white lines' – simply there to help utilities set priorities to determine where they want to go using the practices – i.e., a 'progression model'

Other Things You Should Know

- Does not define one ‘roadmap’ for all utilities to follow – helps them define what their own roadmap should look like
- Practices, by design, are not comprehensive – they are real life ‘practices with a purpose’ – to help utilities gauge current performance and progress over time
- Practices can be scaled and implemented, regardless of a utility’s current capacity or size
- The three levels of practice are an informal progression model – utilities choose the pace of progress based on their needs – their own ‘roadmap’



Relationship to Other Sustainability Priorities

- Climate / Resiliency – practices drawn heavily from ongoing resiliency work by EPA and others
- Small Systems – practices can help support the work we're doing with USDA to promote sustainable management – uses the same EUM framework
- Integrated Planning – planning practices emphasize capital planning, alternatives analysis, and collaboration with other community stakeholders during planning

Next Steps – National Webinar Series

- At least three additional webinars
- Each will focus on a particular aspect of the *Roadmap* – with at least two utility speakers
- Next webinar will focus on Resiliency
- WEF, AWWA, NACWA, and AMWA will co-sponsor
- Resource directory also under development

Today's Focus: Community Sustainability

- Built around the Triple Bottom Line approach to sustainability– Environmental , Economic, and Social
- Practices are designed to:
  - -- Enhancing community social conditions (minority hiring, workforce diversification)
  - -- Improving economic vitality (reused water)
  - -- Promote environmental stewardship (create or protect open space)
- Success in this area HIGHLY DEPENDENT on partnerships with outside groups

Thank You!

Questions?

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Moving Towards Sustainability

Sue Hann, City of Palm Bay, Florida

OCTOBER 2014

Why Sustainability? What's in it for Me?

- Save money by optimizing the planning and delivery of services to customers
- Ensure a reliable source of water consistent with customer needs
- Use energy and water-efficient practices and technologies that foster water reuse, resource recovery, and green infrastructure
- Become more resilient to short-term disasters and other longer-term climate related challenges
- Build greater understanding and support from decision-making bodies, customers, and other community stakeholders

Source: Moving Toward Sustainability: Water Sector Utility Roadmap of Effective Practices, December 2013

Seems Easy, But...

"I want you to find a bold and innovative way to do everything exactly the same way it's been done for 25 years."

Leadership is Required

Community Culture

- Each community is different
- Where is your community on the sustainable practices continuum?
- What are priorities in your community?
- Effect change at a pace that your community can handle
  - Find the right pace – can't be too fast or too slow

Utility Services as a Focal Point

- Usually much easier to initiate sustainable practices
  - Enterprise fund
  - Typically more resources available
  - Can demonstrate ROI more quickly
  - Benefits and costs easier to quantify
- Innovation/Risk better tolerated
- Celebrate successes
  - Link to community priorities

Utility Services Leading Sustainability

- Alternative fuels
- Automation
- Resource recovery
- Resiliency
- Customer engagement – conservation
- Investment in capital facility maintenance

Link to Community Priorities

- Sustainability leads to:
  - Financial stability
  - Lowering costs for residents
  - Business development
  - Best practices leadership
  - Outstanding customer service
  - Whatever resonates locally
- Frame your sustainable practices over time to match

Palm Bay's Learning Experience

- Mismatch between community goal (lower garbage rates) and sustainable practice (recycling)
- Resulted in:
  - 2+ years of debate on trash contract
  - Service reduction (2x to 1x/week collection)
  - Many unhappy customers
  - Many delinquent accounts
  - Agony for new City Manager
  - Significant increase in recycling

Palm Bay Utilities
Best Management Practices – Cultural Evolution

- Incorporate environmental considerations into our business decisions, activities, services, and products.
- Set measurable objectives to improve environmental and safety performance.
- Reduce the generation, discharge, and emission of wastes or alternatives such as conservation, recycling or reuse to limit waste creation.
- Anticipate emerging environmental issues and respond accordingly.
- Apply principles that integrate the Sustainability Triple Bottom Line (environment, economy, and social equity).

Palm Bay Utilities
Best Management Practices – Cultural Evolution

- Internal culture – highly sustainable
- Now, we must convince our customers
- Utility expansion is challenging
  - Financial structure (who pays)
  - Cost vs. other alternatives – septic/well
  - Mandatory hook up
  - Expand to populated areas vs. unpopulated areas
  - Expand to areas with high economic development potential

Strategic Lessons Learned

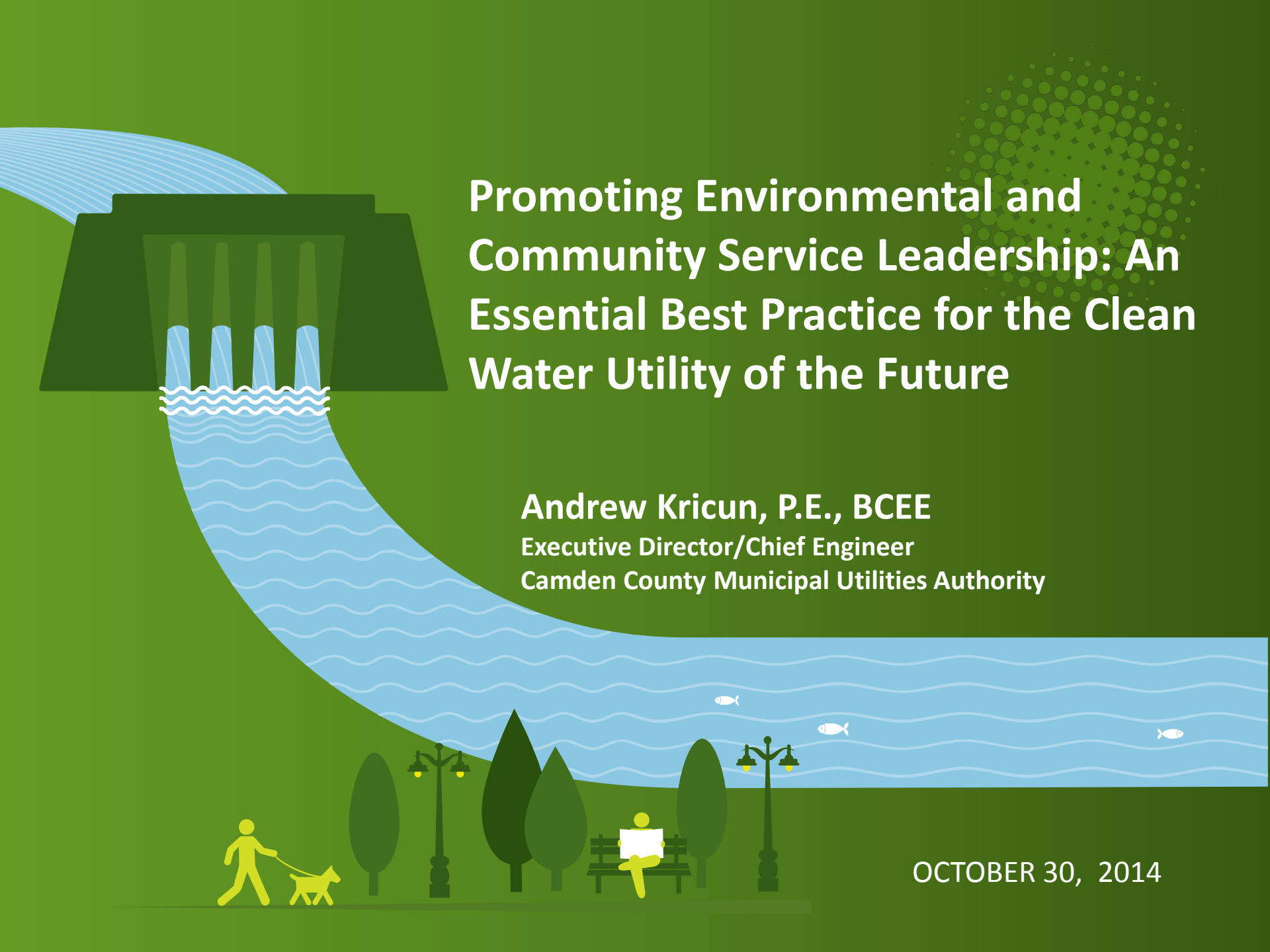
- Know what resonates and what does not
  - Elected officials
  - Residents and businesses
- Timing
  - Elections or other key community events
- Vocabulary
  - Sustainability or cost effectiveness
- Messaging is very important

Concluding Thoughts

- Your community might be more sustainable than you think
  - Palm Bay's examples
  - Sustainable practices often "under the radar"
- Engage others who are contributing to "moving the needle" in your community
  - Transit provider
  - Waste contractor
  - Regional transportation agency
  - Regional environmental agency
  - Power provider

It doesn't matter how many resources you have.

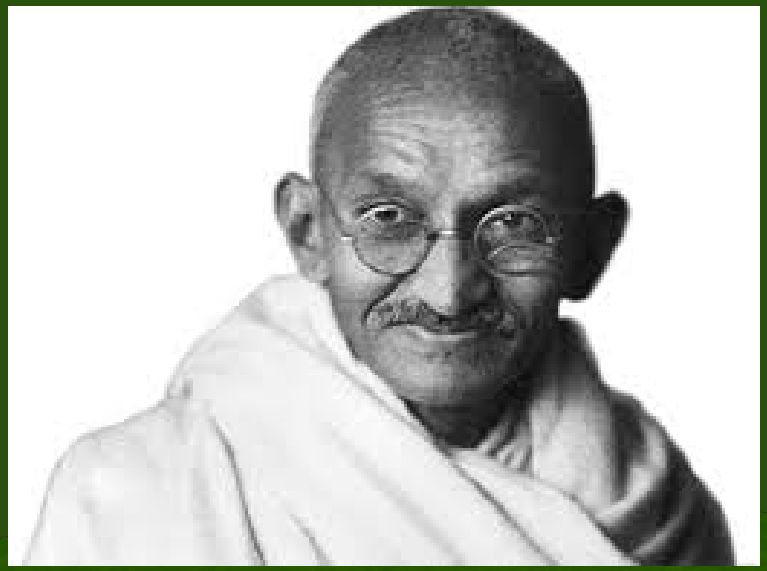
If you don't know how to use them,
it will never be enough.



Promoting Environmental and Community Service Leadership: An Essential Best Practice for the Clean Water Utility of the Future

Andrew Kricun, P.E., BCEE
Executive Director/Chief Engineer
Camden County Municipal Utilities Authority

OCTOBER 30, 2014



You must be the change
you wish to see
in the world.

M. Gandhi

Clean Water Utilities can Make a Positive Difference by:

- Optimizing Water Quality
- Minimizing Odors
- Achieving Cost Efficiencies to Reduce Rates
- Reducing Carbon Footprint and implementing Green Energy Initiatives
- Implementing Green Infrastructure, Creating Parks & Rain Gardens
- Providing Environmental & Community Service Leadership for our ratepayers and the Clean Water Industry

Camden City, NJ

- One of the poorest cities in the nation
- One of the highest rates of violent crime in the nation
- Poor urban planning (little separation between residential community and industry)
- Aging infrastructure (combined sewer system is over 100 years old

Camden County Municipal Utilities Authority, Camden, NJ

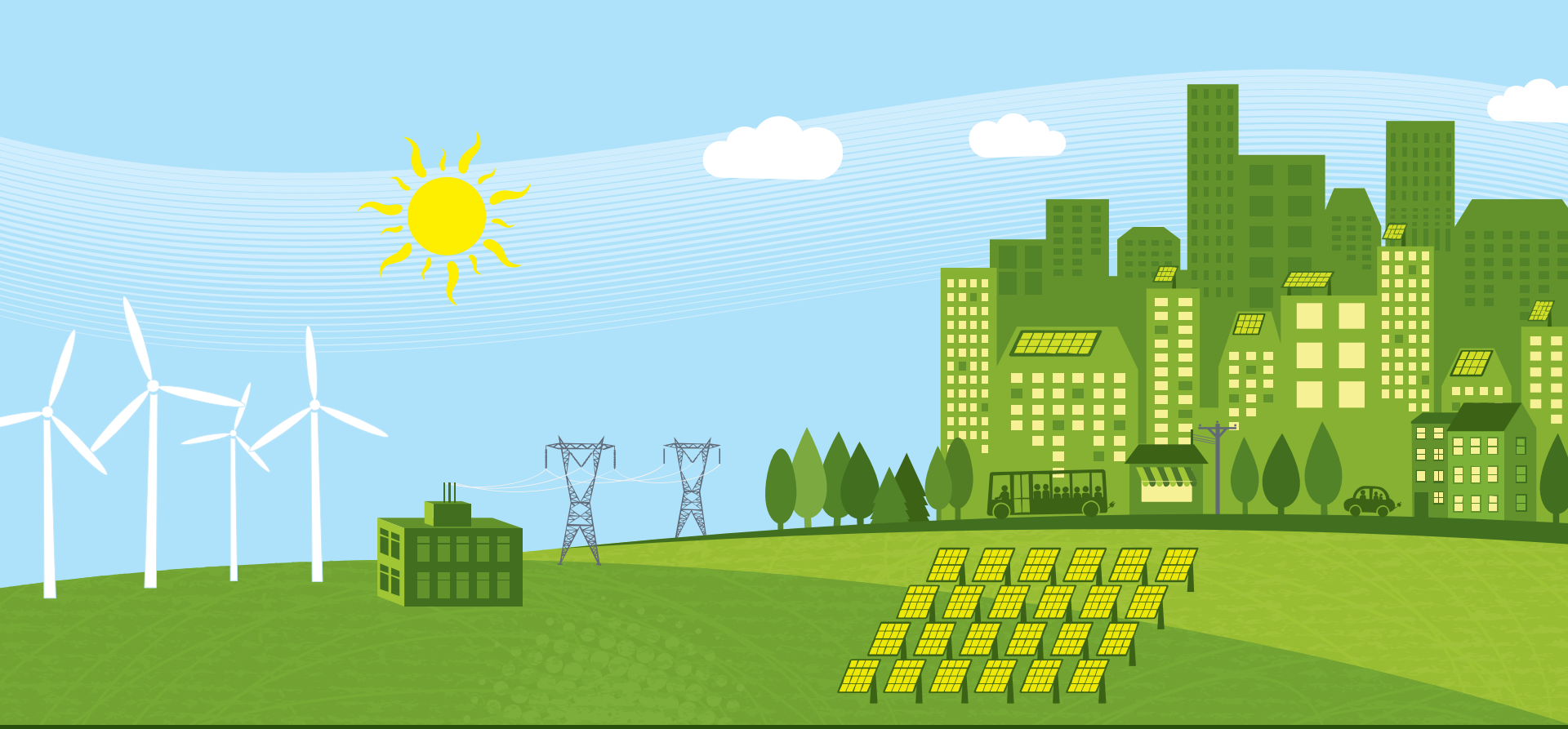
- Services 500,000 customers in Southern New Jersey
- Design Flow: 80 MGD
- Average Flow: 58 MGD
- Secondary, pure oxygen activated sludge treatment
- Discharges to Delaware River

Initial Conditions:

- Effluent Quality suboptimal, frequently non-compliant
- CCMUA obliged to raise rates by 22 1/2%, from $275 per household to $337
- Numerous odor complaints from neighboring residents
- Lawsuits from NJDEP and Community Groups
- Privatization considered

Implementation of Environmental Management System (EMS)

- Optimize Effluent Quality
- Optimize Odor Control
- Minimize Costs
- Environmental and Community Service Leadership



Current Camden County Programs

Optimizing Water Quality Performance

- Effluent Quality improves from 25ppm to 4ppm
- Solids capture increases from 44,000 tons per year to 60,000 tons per year
- Wet weather overflows eliminated at plant
- Netting systems installed at CSO's for solids capture

Optimizing Odor Control Performance

- Replaced odorous sludge composting facilities with sludge drying facility
- Installed $50 million in new odor control systems
- Imposed zero tolerance policy with respect to odors from carelessness (doors left open; odor systems left off, etc)
- Increased supervision, especially on weekends

Economic Stewardship

- Operational optimization through EMS
- Replacement of capital using low interest State Revolving Fund
- Rates held for 17 years
- Rates 45% lower after interest adjustments ($337 in 1996; $342 in 2014)
- Host Community Rate Benefit given to Camden City residents

Green Energy Initiatives

- Reduced electricity usage through improved operational efficiency and more energy efficient equipment
- 2 MW solar panel system installed
- 3 MW digestion/CHP system being installed
- Sewage to Heat facility

Green Infrastructure & Flood Control

- Collaborative among NJDEP, NJ Tree Foundation, Rutgers, CCMUA, Camden City and Cooper's Ferry Partnership to reduce flooding citywide
- 50 rain gardens, stream daylighting, depaving projects and 1000 trees planted
- Water conservation ordinance adopted
- Combined sewers replaced and rehabilitated
- Increased oversight of operations and maintenance

Environmental & Community Service Leadership- Camden Collaborative Initiative

- Collaboration among USEPA, NJDEP, CCMUA, Camden City and 25 other environmental and community agencies, to address environmental issues
- Six working groups formed:
  - Flooding
  - Contaminated Sites
  - Air Emissions
  - Recycling
  - Environmental Justice
  - Environmental Education
- Camden County Sustainability Initiative

Riverfront Access through Creation of New Parks

- Michael Doyle Riverfront Park (fishing pier)
- Phoenix Park (10 acre riverfront park created from an abandoned factory)
- Gateway Park (40 acre riverfront park)

Community Sustainability: Doing the Right Thing By Doing the Smart Thing

- Reduction of regulatory liability, fines, etc.
- Reduction of liability to litigation from residents
- Improvement in public perception
- Improved efficiencies not only allowed for improved environmental performance and community service initiates but also significant cost savings
- THIS IS THE ESSENCE OF COMMUNITY SUSTAINABILITY!

Sustainable and Effective Practices "Roadmap"

- A very useful way to connect your goals to your practices
- Document reflects significant input from leading utilities
- Practices are proven—not made up!
- Helps you improve over time at your own pace
- Encourage you to take a close look at the document and use it in your utility

Conclusion

The Clean Water Utilities of the Future have the opportunity, and the obligation, to “become the change we seek” and do our part to help save the planet by providing environmental and community service leadership for our ratepayers and our industry

Thanks for Listening!

If you would like more information, please contact:

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