

Energy Management Planning for Small Water Systems

David Tucker

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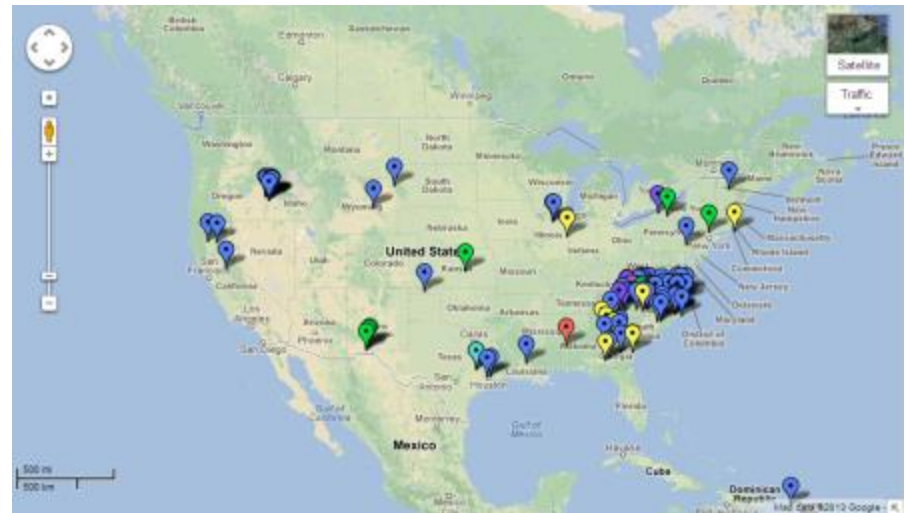
Dedicated to enhancing the ability of governments and organizations to provide environmental programs and services in fair, effective, and financially sustainable ways



Smart Management for Small Water Systems

***under a Cooperative Agreement with the US EPA**

- The EFCN will provide training and technical assistance to small public water systems in all fifty states and five territories to help local water systems achieve and maintain compliance with the Safe Drinking Water Act.
- Workshops and trainings will be provided in these areas:
 - Asset Management
 - Water Loss Reduction
 - Water System Collaboration
 - Fiscal Planning and Rate Setting
 - Energy Management
 - Funding Coordination, and
 - Managerial and Financial Leadership



Acknowledgments

- Wilson Community College
- All of our expert speakers
- My EFC colleagues
- All of *you* for being here!



Why are we here today?

- Rising energy costs
 - EPA estimates that the cost of energy as a percent of operating costs for drinking water system can reach as high as 40 percent and is expected to increase 20 percent in the next 15 years.
 - N.C: Duke Energy Progress 7.5% rate increase (2013)
 - N.C: Duke Energy 7.2% rate increase (2012)
- Energy management plans reduce costs!
- Renewable energy possibilities

Source: <http://www.newsobserver.com/2013/05/30/2928331/nc-approves-75-percent-rate-increase.html>



Energy-Water Nexus

- 2 trillion gallons of H₂O: estimated amount pumped each year by small systems.
- \$1 billion: estimated electric power costs per year for these small systems.
- \$10 million: annual electric bill savings from a 1% reduction in electric costs.
- \$100 million: annual electric bill savings from a 10% reduction in electric costs.

Source: Regnier and Winters, "Reducing electric power costs in small water systems," Journal AWWA, April 2013, 67-72.

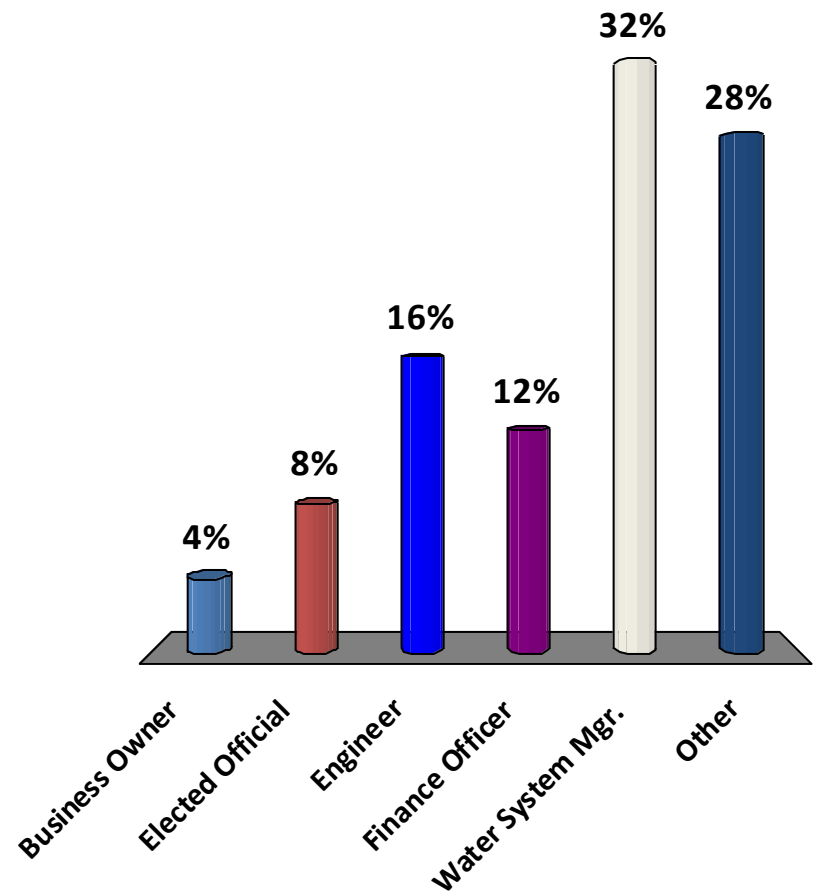


Turning Point exercise



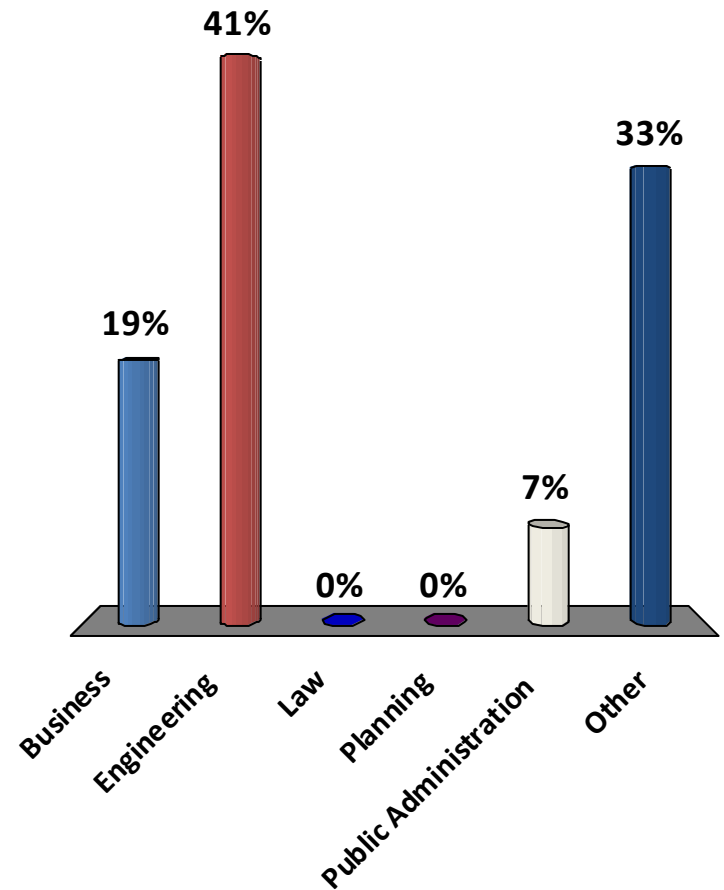
What is your role at your organization?

- A. Business Owner
- B. Elected Official
- C. Engineer
- D. Finance Officer
- E. Water System Mgr.
- F. Other



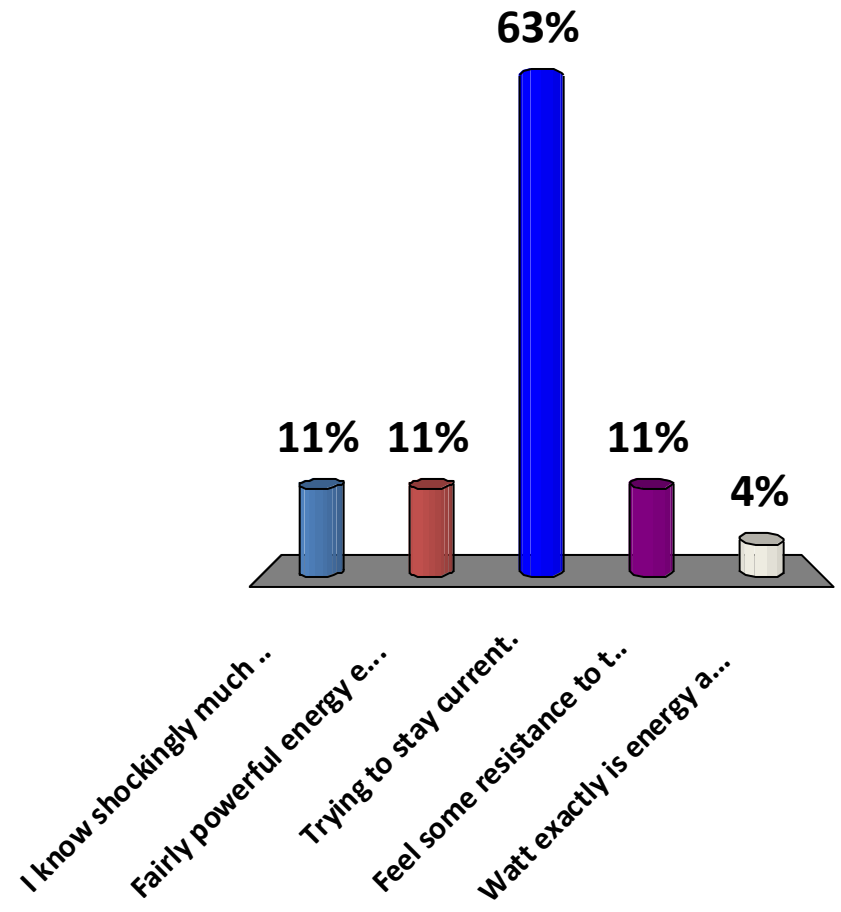
What was your area of study in school?

- A. Business
- B. Engineering
- C. Law
- D. Planning
- E. Public Administration
- F. Other



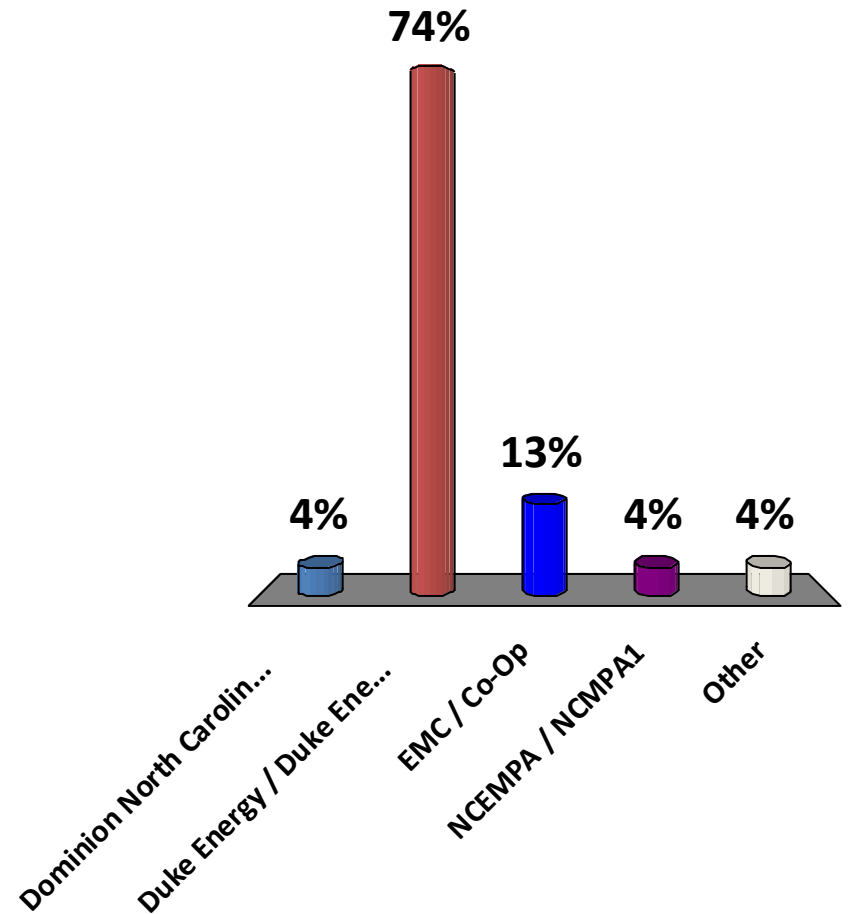
What is your level of experience with energy management?

- A. I know shockingly much on electricity!
- B. Fairly powerful energy expert.
- C. Trying to stay current.
- D. Feel some resistance to the topic.
- E. Watt exactly is energy anyway?



Who is your electric power provider?

- A. Dominion North Carolina Power
- B. Duke Energy / Duke Energy Progress
- C. EMC / Co-Op
- D. NCEMPA / NCMPA1
- E. Other



Introductions

- Name
- Organization
- Role at organization
- One or two sentences about energy management at your utility



Morning Agenda

Start Time	Topic
9:00	Welcome, Introductions, and Why We're Here (D. Tucker)
9:30	Energy Management Planning and NYSERDA (M. Tiger)
10:00	Establishing a Baseline + Introduction to Portfolio Manager (L. Hoey)
10:30	Break
10:45	Energy Management Case Studies and Energy Audits (C. Meyer)
11:45	Break
12:00	Working Lunch Presentation: Performance Contracting for Energy Management Projects (F. Shepard and L. Hoey)



Afternoon Agenda

Start Time	Topic
12:45	Understanding Electric Bills + Duke Energy's Energy Efficiency Rebates and Incentives (M. McGowan)
1:30	Water Loss and Energy Management (R. Harris)
2:00	Break
2:15	Project Economics and Financing (M. Tiger)
3:00	Funding Panel Presentation (A. Paintal, S. Robertson, D. DeLong)
4:00	Developing an Implementation Plan and Tracking Progress (D. Tucker)
4:30	Wrap-Up Session (D. Tucker and F. Stefan)
4:45	End Day



Energy Management Post-Workshop Opportunities

- Contact the EFC to request direct technical assistance under the Small Systems grant in developing your utility's new energy management plan.
- Contact our expert speakers / their organizations for help.
- Get an energy audit.
- We'll contact you in a month to follow up!



Thank You

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