Solutions to Environmental Finance Challenges

The Environmental Finance Center Network Approach

By Jeffrey Hughes and Lexi Kay

The Environmental Finance Center Network is a national network of university-based public service centers that focus on helping communities determine how to pay for diverse environmental programs.

What do the following have in common: A low-income family living in an energy-inefficient home, the pollution-impaired Chesapeake Bay, a wastewater treatment plant in a small town, a rural community with rising solid waste disposal costs, and a large urban water system with enormous debt and plummeting water sales due to drought restrictions? Each of these scenarios lies at the challenging intersection of environmental protection and finance.

To solve the country's diverse environmental challenges, such as reducing energy use and cleaning up polluted water bodies, communities must figure out how to mobilize financial resources in fair, efficient, and effective ways. While financing mechanisms may be vastly different, depending on the nature of the environmental problem, many of the underlying issues are similar. The financing sources needed to support a state agency charged with protecting wetlands may be very different than the sources needed to fund an urban water utility, but both entities require sustainable revenue streams to carry out their mission. The Environmental Finance Center Network (EFCN), a national network of university-based, public-service environmental finance centers (EFCs), focuses on helping communities determine how to pay for these types of diverse environmental programs.

WHAT IS AN EFC?

The Environmental Protection Agency began funding environmental finance centers in the 1990s to help communities protect and improve their environmental conditions at a time when federal and state funding for such efforts was beginning to decline. In response, the EFCs developed strategies and approaches that go beyond simply looking for grants. Even in cases where grant funding is available, it isn't the solution. It may even be part of the problem, as communities sometimes use grants to sustain projects or programs that won't be able to support themselves once the grant dollars run out. EFCs, on the other hand, help jurisdictions develop and implement sustainable financing mechanisms that can lead to extended partnerships, community participation, new fee and tax systems, and creative capital finance. More than 20 years later, the EFCN is helping thousands of communities across the country to plan, finance, and manage a wide variety of environmental programs and services.

Developing the financial solutions to environmental problems often requires understanding a host of other complex issues and disciplines. A typical EFC project is as likely to involve a legal analysis or community assessment as a cash flow analysis. And because environmental challenges rarely respect strict geographic or jurisdictional

boundaries, environmental finance solutions typically involve developing and supporting intricate partnerships. For example, a partnership may involve two small governments sharing resources or a collaborative consortium of dozens of individual governmental, non-profit, and private-sector entities.

The EFCN is currently supported by cooperative agreements with the EPA's Center for Environmental Finance. Though the EPA continues to provide essential partnership and funding support, each EFC uses this support to acquire additional funding from federal and state agencies, as well as through partnerships with local government, non-profit, and private-sector organizations.

The individual centers that comprise the EFCN are housed in a wide range of university programs, and each EFC has evolved to meet the specific needs of its region while taking advantage of their respective university resources, staff expertise, and experience. Some EFCs are housed within public administration programs that focus primarily on finance and governance, while others are housed within technical units focused on a specific environmental sector or discipline. EFC experts are as diverse as the environmental problems they address and include engineers, attorneys, sociologists, public administrators, environmental scientists, and communications specialists. Through their university connections, the EFCs are able to access a wealth of technical and academic resources. University ties also allow EFCs to provide students with hands-on training, many of whom eventually follow a career in environmental finance.

EFCs help communities through an integrated set of services that include:

- **Educational Events.** Events range from providing a presentation at a national conference to leading multi-day collaborative workshops.
- **Community Engagement Activities.** EFCs pride themselves on their ability to involve and engage community members. EFCs manage blue ribbon panels, carry out surveys, run focus groups, and implement charrettes.

> While financing mechanisms may be vastly different, depending on the nature of the environmental problem, many of the underlying issues are similar.

- **Customized Computer Applications and Tools.** Many EFCs develop decision-support tools including Excel cash flow models, mapping applications, and interactive dashboards as part of their project work.
- **Financial Analysis.** EFCs work with communities to analyze a wide range of rate and financial scenarios across environmental media.
- **Applied Research.** EFCs research many aspects of environmental finance, ranging from best practice to quantitative financial indicators.
- **Best Practice Publications and Guides.** One of the core principles behind the EFCN model is that the network's reach can be magnified by disseminating what is learned through on-the-ground work with communities. Each year, EFCs publish dozens of guides, how-to documents, case studies, blogs, and multimedia project publications.

EFCN PROJECTS

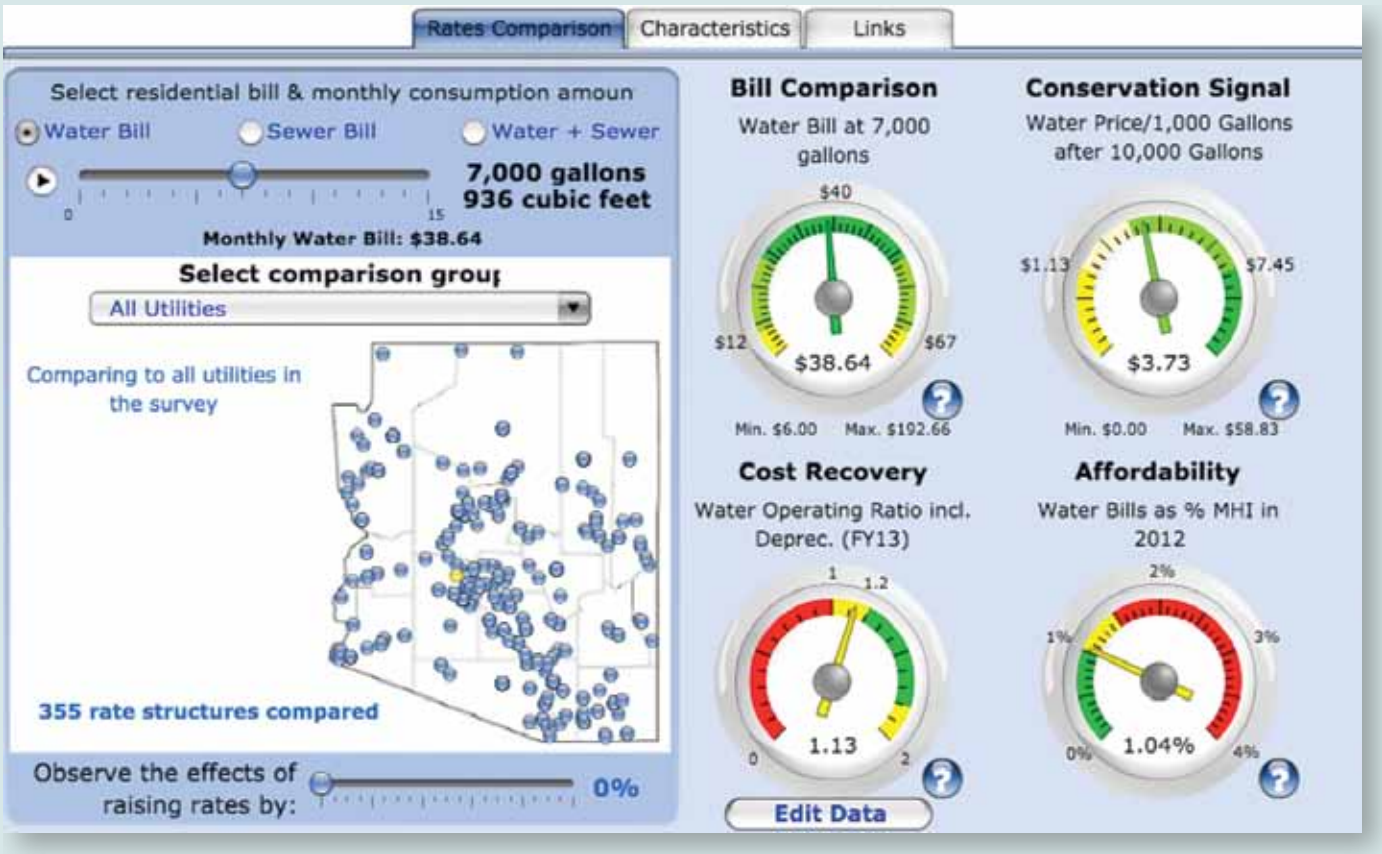
Some EFCN projects, such as the Smart Management for Small Water Systems project or the HUD Community Sustainable project, involve multiple EFCs working together, often in partnership with other national organizations. Many other projects comprise a single EFC working with an individual community.

Smart Management for Small Water Systems. The U.S. Environmental Protection Agency awarded more than $3.8 million to the EFCN to improve the country's smallest water systems — those serving fewer than 10,000 people. Small water systems are managed by a wide variety of organizations, ranging from local and tribal governments to shopping mall operators. The EFC at the University of North Carolina Chapel Hill and the Southwest EFC are project leads on a team that includes the Environmental Finance Center Network and the American Water Works Association to help educate and build financial and managerial capacity within small water systems. Throughout the first two phases of the project, the EFCN and its partners have provided training and direct technical assistance to communities in every U.S. state and territory on financial and asset management, leadership, water loss, funding, and other topics.

In addition to training and direct assistance, the Smart Management for Small Water Systems project supports the creation of water and wastewater rates dashboards that help towns and cities easily benchmark their financial data against data from hundreds of their peers. Many towns have used these dashboards to develop new more sustainable rates and revenue programs. Dashboards such as the Arizona state dashboard, shown in Exhibit 1, are free interactive tools designed to assist utility managers and local officials in analyzing water and wastewater rates against multiple characteristics.

Sustainable Communities Capacity Building. The EFC at the University of Louisville served as lead capacity builder for the EFCN under the HUD Sustainable Communities Initiative Capacity Building Grant. Working closely with EFCs at the University of Southern Maine, the University of Maryland, and the University of New Mexico, the team provided technical assistance to communities across the country. This initiative supported the creation of a national learning network of grantees and assisted grantee consortium members on topics such as including equity, environmental justice, water infrastructure, climate and hazard mitigation, food systems, and sustainable financing as tools of economic development and community planning. This work was accomplished through a variety of publications, webinars, in-person training events, and one-on-one assistance. Most recently, the University of Louisville EFC is collaborating with the Metropolitan Institute at Virginia Tech to develop a brownfields community benefits assessment tool that will increase communities' ability to track and prioritize investments in brownfields redevelopment in a more comprehensive and equitable

Exhibit 1: Water and Wastewater Rates Dashboard for the State of Arizona



fashion than traditional market analysis models can.

Rural Community Energy and Eco-nomic Capacity Building Program. The EFC at UNC Chapel Hill and its partner, the Southeast Energy Efficiency Alliance, recently launched the Rural Community Energy and Economic Capacity Building Program with support from the U.S. Department of Agriculture. They are developing training materials and technical assistance resources that will enable local workforce development organizations in North Carolina to educate building owners about the benefits of energy efficiency, develop a qualified contractor workforce, and provide viable financing alternatives. The EFC, together with community organizations, will use these materials to support the energy-efficiency initiatives of three rural towns in eastern North Carolina with customized training, technical assistance, and contractor training. The resources and training materials produced through this project will be shared as models with other local government and non-profit organizations throughout the Southeast.

Sustainable Materials Management. The Syracuse EFC provides education and outreach on sustainable materials management, which includes training on implementing solutions for waste reduction, reuse, recycling, and organics management. These training sessions are conducted with a range of audiences, from municipal leaders to schools and universities in New York, Puerto Rico, and the U.S. Virgin Islands. The Syracuse EFC helps stakeholder partnerships divert waste from the waste stream and waterways by engaging local experts and residents with sustainable materials management, innovative finance, education, and infrastructure development. As part of its training efforts, the Syracuse EFC produced a funding guide for capital projects in sustainable materials management. This reference tool takes some of the guesswork out of funding research for capital projects in sustainable materials management. It was created to help guide local governments and non-profits in New York State in search of federal, state, and third-party financing for sustainable capital projects.

The financing sources needed to support a state agency charged with protecting wetlands may be very different than the sources needed to fund an urban water utility, but both entities require sustainable revenue streams to carry out their mission.

Water Infrastructure Affordability Assessment Project. Rural communities are faced with a number of challenges, including population decline, which dramatically affects their ability to pay for environmental infrastructure. The Wichita State University EFC developed a Community Affordability Assessment Tool for more than 1,000 rural communities in the states of Missouri and Nebraska. The project involved an extensive national literature review to determine which factors are determining factors and to predict rural population change as well as significant data analysis. The factors were then built into an assessment tool that shows the data on every rural community and a comparative score for sustainability. The environmental regulatory agencies in both states will use the tool to identify communities that may have challenges, now or in the future, in paying for water and wastewater infrastructure improvements, and to develop innovative solutions for those communities.

Chesapeake Bay Watershed Implementation Plan Financing Workshops. The EFC at the University of Maryland is working in partnership with the EPA Chesapeake Bay Program Office and the Maryland Department of Nature Resources to expand the capacity of communities to develop and advance water resource restoration and protection programs. The Maryland EFC is developing and implementing capacity development tools to address water quality issues in both urban and rural landscapes, including financing boot camps with local leaders, multi-media communications and outreach programs, financing workshops, and direct technical assistance. The goal is to provide communities with innovative options for addressing stormwater and agricultural nutrient management issues. Financing topics include developing stormwater system asset management programs, creating efficiencies through regionalization and cross-community financing, and using market-based financing systems and

public-private partnerships as a way of integrating public and private resources and revenues.

Rural Stormwater Resiliency and Finance. The Syracuse EFC works closely with the EFC at the University of Maryland to offer training and technical assistance to communities, particularly rural communities and/or those in the Chesapeake Bay Watershed, regarding planning, financing, and implementing programs or projects that enable communities to better manage stormwater and thus enhance community resiliency and improve water quality in the face of increased stormwater intensity caused by climate change.

CONCLUSIONS

EFCs are committed to working with communities in order to build capacity for addressing environmental challenges in fair, effective, and sustainable ways. Throughout all of its services and applied research, the network works to drive innovation and expand communities' understanding of social and economic issues related to the environment. Local governments are encouraged to contact the EFCN to discuss the specific environmental finance challenges they face and how the EFCN can assist in addressing those issues.

The individual centers that comprise the EFCN are housed in a wide range of university programs, and each EFC has evolved to meet the specific needs of its region.

For More Information:

- *To learn more about the EFCN and to find contact information for each of the centers, please visit http://efcnetwork.org/home/*
- *Also see the EPA Center for Environmental Finance website at http://www2.epa.gov/envirofinance/efcn*
- *The new Water Infrastructure and Resiliency Finance Center is available at http://water.epa.gov/infrastructure/waterfinancecenter.cfm*

JEFFREY HUGHES is director of the Environmental Finance Center at the University of North Carolina School of Government. **LEXI KAY** is outreach coordinator for the Environmental Center at UNC-Chapel Hill.