How you pay for it matters.
Our Mission
We work to build the capacity of governments and other organizations to provide environmental programs and services in fair, effective, and financially sustainable ways through applied research, teaching, program design, and partnerships.

Our Vision
Our vision is to create communities with healthy environments maintained and improved by sustainable financing.

Our Team
The EFC at UNC is an interdisciplinary group that works collaboratively with partners within and outside of the School of Government and the University of North Carolina.

Jeff Hughes  
Director

Mary Tiger  
Chief Operating Officer

Glenn Barnes  
Senior Project Director

Shadi Eskaf  
Senior Project Director

David Tucker  
Project Director

Stacey Isaac Baraheer  
Senior Project Director

Richard Whisnant  
Professor of Public Law & Government

Jen Weiss  
Senior Finance Analyst

Lexi Kay  
Marketing & Outreach Coordinator

Student Staff:
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Katie Bradshaw
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2014 By the Numbers

- 500+ Hours of Educational Programming
- 3700 Attendees at EFC events, workshops, and presentations
- 70 Training Events & Presentations (58 In-person workshops, 12 Webinars)
- 12 States Visited (+4 US Territories visited)
- 245 Communities Received Direct Technical Assistance
- 1,737 Surveys Collected (On water rate communication)
- 14 Students Supported Through Internships and Research Assistantships
- 41,151 Website Visitors
- 18,424 Blog Visitors (64 Blog Posts, 1988 Subscribers)
- 1,943 Rate Sheets Collected (1840 Water & Wastewater, 103 Electric)
2014 Program Highlights

Drinking Water & Wastewater

The EFC collaborated with the Water Research Foundation to produce a series of short educational videos designed specifically for water utility governing boards. The WaterClips Video Series describes the many challenges water utilities face, using engaging visualizations and clear explanations. The videos highlight important financial considerations for the water industry, including financial benchmarking, new business models, and credit rating agency considerations. The videos were recently used in a large scale customer engagement campaign by the Albuquerque Bernalillo County Water Utility Authority.

The EFC wrote a series of papers with Ceres, including “Measuring and Mitigating Water Revenue Variability: Understanding How Pricing Can Advance Conservation Without Undermining Utilities’ Revenue Goals” and “Assessing Water System Revenue Risk: Considerations for Market Analysis”.

Energy & Sustainability

In partnership with the Southeast Energy Efficiency Alliance and the American Council for an Energy-Efficient Economy, the EFC launched the Southeast Energy Efficiency Network in order to examine innovative ways to generate capital and financial support for energy efficiency projects throughout the Southeast. The EFC produced innovative financial resources, including best practices, trainings, and technical analysis that banks, community development institutions, credit unions, contractors, and nonprofits can use in order to encourage energy efficiency investments.

As part of an ongoing partnership between the EFC, Duke University’s Carbon Offset Initiative, and the Clinton Climate Initiative’s Home Energy Affordability Loan program, the EFC provided financial assistance and program management support to help Duke achieve its 2024 carbon neutrality goal. The EFC worked with DOII to launch an employee energy efficiency loan program.

Continuing its work in innovative financing strategies, the EFC helped launch the UNC Sustainability Seed Fund, which offers students, alumni, faculty, and outside donors an opportunity to advance green initiatives through direct donations. The fund will catalyze high-impact projects that lack existing funding options. Working with UNC’s Sustainability Advisory Committee, the EFC researched strategies to increase sustainability projects across campus, including sustainability courses, energy efficiency upgrades, waste reduction, and water conservation technologies.

Stormwater, Wetlands, Watersheds, & Green Infrastructure

As part of our Innovative Financing Strategies for Stormwater and Green Infrastructure project, the EFC carried out a series of technical research activities in order to identify financing mechanisms available to facilitate Green Infrastructure development. Participants included nonprofits, city and county stormwater services divisions, national advocacy groups, public administrators, academics from UNC and Duke, and local developers. The EFC produced a series of reports and case studies that reveal potential sources of capital, financial incentives, and revenue-generating opportunities that can be used to support the operation and maintenance of Green Infrastructure locally and nationally.

The EFC hosted a program designed to educate local government officials about opportunities for financing environmental programs through public private partnerships. The workshop highlighted contracting requirements, legal options for structuring partnerships, tips choosing productive team, and innovative case studies on stormwater management, waste management, energy efficient installations, and community enhancement projects.

International Environmental Finance

The EFC went global in 2014, leading a water finance and service learning class in Ecuador that addressed the perennial question of “how to pay” for water resources and included a week-long service component in which graduate students constructed an irrigated greenhouse system in Quito, Ecuador. EFC staff also presented a water and wastewater finance workshop at the International Water Symposium in South Korea.
Many of the region’s public officials know the EFC for our Water and Wastewater Rates and Financial Management Dashboard. Our dashboard visualizations and their underlying data help public officials and citizens understand and improve environmental service provision. The database is a resource to state and national interest groups and regulators in understanding the financial sustainability of the industry and is one of the center’s flagship resources. In partnership with the School of Government’s Information Technology Division and Topsail Technologies, we have begun to transition our dashboard technology to an integrated, relational database and nimble visualization strategy.

Faster ● Integrated ● Responsive

Through this project, we are building data environment that will allow us to:

- Replicate our dashboards and expand our database
- Integrate our technology with the latest hardware and run the dashboard faster
- Conduct sophisticated analysis of environmental finance data across regions, services, and time from a high-powered relational database.

**Smart Management for Small Water Systems**

In 2014, the EPA awarded the EFC $2 million to lead the Environmental Finance Center Network and its partner, the American Water Works Association, to expand training and outreach to the country’s smallest water systems. This funding will help the EFC increase its financial and managerial assistance capabilities and expand outreach efforts to small water systems (like the examples highlighted below) in all 10 EPA regions, all 50 states, and all U.S. territories.

**Affordability**

When five small water systems in Hampton County, South Carolina consolidated to create the Low Country Water System (LCWS), they were forced to reconcile five different rate structures, a stagnant growth rate, and inadequate infrastructure. As part of the Smart Management for Small Water Systems project, the EFC worked with LCWS to assess its rate structure, with particular emphasis on affordability and the impact rate increase would have on low income customers. LCWS has continued to use the EFC’s economic analysis and tools to develop social safety net programs for customers while also designing a rate structure to cover the full cost of operations and long-term capital planning.

**Rate Analysis & Financial Sustainability**

The Hachita Mutual Domestic Water Consumer Association serves less than 80 people in an unincorporated community in Hachita, New Mexico. For years, the association had been operating with minimal financial reserves and unsustainably low rates. With the EFC’s help, Hachita realized it needed to more than double its rates in order to cover costs, a move that would place considerable financial strain on low and fixed income customers. The EFC worked with the system to address these equity issues, examining strategies to protect vulnerable customers while continuing to generate revenue. In the end, the EFC’s direct assistance set Hachita on a path towards a more sustainable business model for its water system.
In May 2014, the Environmental Finance Center hosted a panel of environmental experts in environmental finance to share their insights on the future of environmental finance. The experts approached the topic of environmental finance from the perspective of local government, state government, and the federal government, as well as non-profit, foundations, and business. Nearly 400 people participated in the event, through either in-person or virtual attendance. The event fostered discussion and identified emerging trends, strategies, and ideas that help answer the basic “how will we pay” questions at the heart of successful environmental protection. (Please see forthcoming white paper on the resounding themes of the discussion.)

After the Future of Environmental Finance Public Forum, the Environmental Finance Center and environmental finance experts turned the discussion to the future of the Environmental Finance Center. The group provided feedback and guidance on the strategic direction and programmatic goals of the EFC. By the end of the event, the EFC had a nice road map for the next three to five years. The surrounding annual report is demonstration that we are well on our way.

The following page is the result of the strategic planning effort. It summarizes the EFC’s goals and lays out a road map for the coming years.
**STRATEGIC GOALS**

**Water and Wastewater**

Overarching goal: Reduce the environmental impact of water provision and waste disposal and assure community access to safe water

- To be a leading national researcher and resource on water and wastewater utility pricing and business models
- To be a leading designer of dynamic education programs promoting sustainable finance and management practices among utilities and university students
- To be a leading national researcher and resource on methods of understanding and mitigating the adverse environmental justice implications of financing environmental protection (including ability to pay concerns and uneven access to environmental health for disadvantaged and minority communities)
- To be a regional and national resource on methods of paying for infrastructure needs related to climate change and other natural events
- Adapt and expand existing tools and approaches internationally
- Develop, host, and apply a water and wastewater finance data warehouse to drive sustainable decision making across the country
- Identify and pursue opportunities for commercialization of tools, analytics, and data
- Create, test, and evaluate alternative utility pricing and business model approaches

**Clean Energy**

Overarching goal: Reduce the environmental impact of energy production and use

- To be a leading regional researcher and resource on identifying and understanding the impacts that pricing and other financial incentives have on reducing energy use and increasing clean energy sources
- Design and evaluate energy finance systems (e.g. PACE, on-bill, loan programs) involving significant partnerships between the public, non-profit, and finance sectors
- Conduct service-learning clean energy demonstration projects and education programs in schools and universities that promote energy finance literacy and reduce environmental impact
- Design and evaluate financing mechanisms that support compliance with governmental regulations and policies on climate change.

**Wetlands, Watersheds, Stormwater**

Overarching goal: Protect and improve surface waters and minimize the environmental impacts associated with rain events on the built environment

- To be a leading regional researcher and resource on local and regional financing mechanisms for distributed green/stormwater infrastructure and systems
- Design and evaluate state and regional financing mechanisms (e.g. loans, incentives, targeted grants) that help aggregate “beneficiaries” and “polluters” and lead to sustainable regulatory programs and financial partnerships
- To be a national and regional researcher and resource on methods of paying for infrastructure needs related to climate change and other natural events
**FY 2014 Funding**

- Duke Carbon Offset Initiative
- EPA Green Infrastructure
- NC Urban Water Consortium
- SEEA Energy Efficiency Finance Network
- Ceres Water Pricing and Finance
- WRF Waterflips
- GEFA Water and Wastewater
- EPA Small Systems, Phase 1
- EPA Small Systems, Phase 2

**Federal**

**Non-profit**

**Foundation**

**State**

**Other**

*Each segment represents a unique project; examples are highlighted for illustrative purposes.*

**Total $1,053,789**

**Expenses**

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