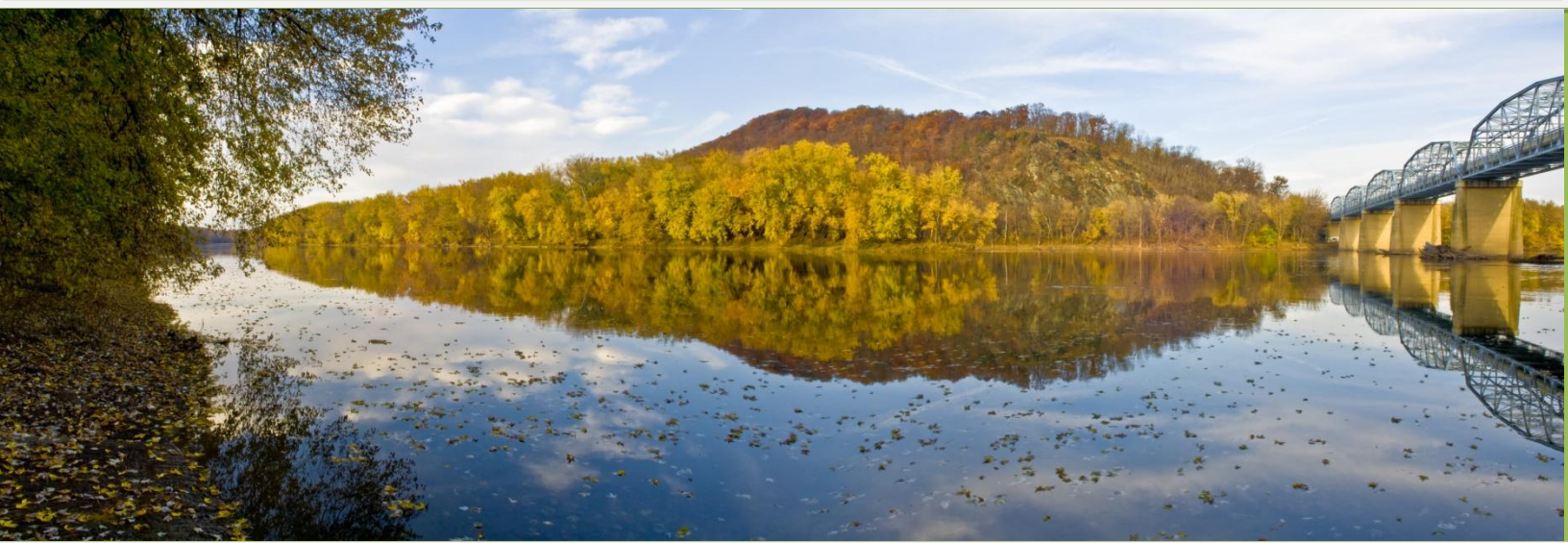




US ENVIRONMENTAL PROTECTION AGENCY

Environmental Finance Program

2010-2011 PROGRESS REPORT

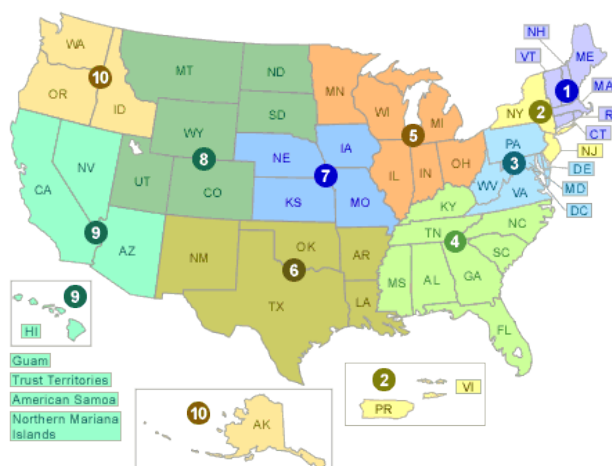


OFFICE OF THE CHIEF FINANCIAL OFFICER
ENVIRONMENTAL FINANCE PROGRAM
CENTER FOR ENVIRONMENTAL FINANCE

DECEMBER 2011

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MESSAGE FROM THE CHIEF FINANCIAL OFFICER

I am pleased to present the latest biennial *Environmental Finance Program Progress Report* from the Center for Environmental Finance. This report highlights the successful work of the Agency's Environmental Financial Advisory Board (EFAB) and the Environmental Finance Center (EFC) Network. Both EFAB and the EFC Network help governments, communities, and businesses find ways to finance the programs, projects, facilities, and activities that ensure continued environmental compliance and support environmental progress.

EFAB, an independent federal advisory committee, provides EPA with advice and recommendations on environmental financing issues. The Board consists of individuals from the finance and banking communities, business and industry, national and regional organizations, and all levels of government who volunteer their time and experience. EFAB focuses its advice and recommendations on promoting sustainability by reducing environmental costs; increasing public and private investment; and building state, local, and tribal financial capacity. The Board produced eight reports during this period, addressing a wide range of financing issues including: clean and drinking water state revolving fund investment options; cost estimation as a financial assurance tool; and reduction of greenhouse gas emissions. These policy and technical reports directly support EPA's strategic goals¹ and cross-cutting fundamental strategies².

The EFC Network, comprised of ten, university-based centers covering each EPA region, provides education, technical assistance, and outreach services to the regulated communities; i.e., state, local, and tribal governments, and the private sector. The EFCs accomplish their work by leveraging OCFO core funding secured through open competition with funding obtained from other public and private sources. EFCs expand the reach of the Agency as they are able to work with regulated parties in ways that EPA cannot. EFCs are neutral, non-governmental, non-regulatory centers of expertise, relatively low cost, innovative, multi-disciplinary, collaborative, and diversified. As a result of their assistance, a small sample of accomplishments include: created an initiative to assist in providing training and resources for communities to develop long-term energy management plans; formed a collaboration to develop skills and implement practical tools to support watershed protection efforts; and created a clean diesel program to reduce emissions and improve air quality.

I thank all of the committed EFAB volunteers and the dedicated staff at the EFCs who work to make these efforts a success and to advance the state of environmental protection. In addition, I thank the many headquarters and regional EPA managers and staff who support their work. EPA and the nation have been extremely fortunate to be the beneficiary of their advice, experience, creativity and commitment.



Barbara J. Bennett
Chief Financial Officer

¹ EPA Strategic Goals: Taking Action on Climate Change and Improving Air Quality; Protecting America's Waters; Cleaning Up Communities and Advancing Sustainable Development; Ensuring the Safety of Chemicals and Preventing Pollution; and Enforcing Environmental laws.

² EPA Cross-Cutting Fundamental Strategies: Expanding the Conversation on Environmentalisms; Working for Environmental Justice and Children's Health; Advancing Science, Research, and Technological Innovation; Strengthening State, Tribal and International Partnerships; and Strengthening EPA's Workforce and Capabilities.

EXECUTIVE SUMMARY

INTRODUCTION

This latest *Center for Environmental Finance (CEF) Progress Report* summarizes the work and contributions of EPA’s Environmental Financial Advisory Board (EFAB) and the activities and initiatives undertaken by the ten EPA-funded Environmental Finance Centers (EFCs) that comprise the EFC Network. Both EFAB and the EFC Network provide unique services to the nation, helping find ways to pay for sustainable environmental programs and promote responsible environmental stewardship. Together these CEF initiatives seek to lower costs, increase investments, and build the capacity of public and private parties to fund environmental needs.

EFAB is an independent advisory committee established to recommend ways EPA can address the growing environmental financing challenges facing the nation. First chartered in 1989 and operating under the authority of the Federal Advisory Committee Act (FACA), EFAB reports to the EPA Administrator and EPA offices on environmental finance issues, options, proposals, innovations, and trends. The Board is comprised of approximately 30 members appointed by the Agency’s Deputy Administrator. EFAB members represent diverse points of view – including state, tribal, and local governments; the banking and finance communities; business and industry; and public non-profit organizations. The Board provides policy and technical advice on a wide range of financial issues, with a particular focus on supporting EPA’s strategic goals and cross-cutting fundamental strategies.

The EFC Network, composed of ten centers located across the country, is the only university-based organization in the nation that provides innovative solutions to help manage the costs of protecting the environment and human health. The network works with both the public and private sectors to support responsible and sustainable solutions to environmental problems. The network is supported by EPA’s Office of the Chief Financial Officer and receives additional funding from other EPA offices as well as other public and private

entities. The centers in the network are currently located at the following universities:

- University of Southern Maine
- Syracuse University
- University of Maryland
- University of North Carolina at Chapel Hill
- University of Louisville
- Cleveland State University
- New Mexico Institute of Mining and Technology
- Wichita State University
- Dominican University of California
- Boise State University

EFAB and the EFC Network provide low cost, state-of-the-art financial experience and expertise outside of the Agency’s core competency of developing and implementing environmental programs. Moreover, while the EFCs provide services and advice directly to states, tribes, communities, and private parties on how to finance environmental protection, they also share with EFAB their real-world experience. For its part, EFAB members not only advise the EPA, but may also make their professional experience available to assist the EFCs in their work.

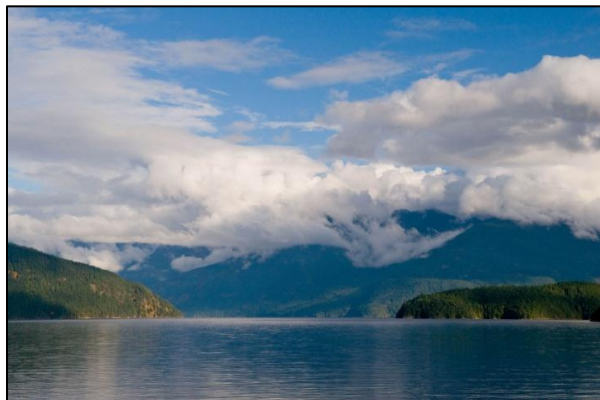
ENVIRONMENTAL FINANCIAL ADVISORY BOARD (EFAB) – HIGHLIGHTS

Through public meetings and workshops, EFAB develops independent reports on financing environmental programs and activities. Recently, EFAB issued reports making recommendations concerning programs and activities managed by EPA’s Office of Solid Waste and Emergency Response, Office of Water, Office of Air and Radiation, and Office of Enforcement and Compliance Assurance.

The following project summaries highlight important work efforts completed by the Board.

COMPLETED PROJECTS

Clean Water and Drinking Water State Revolving Fund (SRF) Investment Options: The SRFs have been capitalized or “endowed” with equity capital in excess of \$38.4 billion. This equity is invested in very conservative financial investments such as high-grade tax-exempt bonds with low interest rates. EFAB believes an investment strategy that is more typical for large endowed funds could increase the growth rate of SRF equity. EFAB presented the benefits and risks of an endowment-like approach to the investment of SRF funds, regulatory issues affecting the implementation of the approach, and the changes to debt issuance that would be required to implement it.



Improving Cost-Estimation as a Financial Assurance Tool: EFAB believes that good cost estimates are critical to good financial assurance and concluded that existing cost estimates for activities and actions under the Resource Conservation and Recovery Act (RCRA) are not uniformly accurate and up-to-date. EFAB suggested that EPA and its public and private partners need to improve cost estimation expertise/work by developing more standardized cost estimates, providing more education on best practices, and expanding existing coordinating mechanisms.

The Use of Independent Credit Ratings for Financial Assurance Instruments: EFAB has made a number of findings and recommendations on using independent credit ratings to evaluate financial assurance instruments available under RCRA. EFAB recommended that EPA

review the possible impacts of the Dodd-Frank Wall Street Reform and Consumer Protection Act (Dodd-Frank Act) on such use of credit ratings.

Financial Assurance for Underground Carbon Sequestration Facilities: The Board examined financial assurance issues associated with the injection of carbon dioxide (CO₂) in wells for the purpose of carbon capture and sequestration (CC&S). EFAB concluded that the Agency’s existing requirements for Safe Drinking Water Act Class I wells provides the best model for this new category of CC&S wells. EFAB recommended that because carbon sequestration technology remains developmental and needs addressed may be very long term, periodic reviews of the scope of financial obligations and the viability of the financial assurance instrument should be conducted.

Financing Mechanisms for Reducing Greenhouse Gas Emissions, and Other Air and Water Pollution Problems: EFAB recommended that EPA support programs to finance the installation of energy efficiency and environmental improvement devices at public and not-for-profit facilities such as local government buildings, colleges and universities, hospitals, schools, and churches.

Water Loss Reduction Financing Mechanisms for Drinking Water Systems: EFAB presented the current scope of water loss; practices, benefits, and obstacles for implementing water loss control programs; case studies of successful water loss control programs, and an overview of funding mechanisms available. EFAB recommended alternatives to detect and reduce leaks and to improve water and energy conservation in water distribution systems.

Commercial Insurance as a Financial Assurance Tool: EFAB considered the use of commercial insurance as a financial assurance tool for EPA programs, examining the strengths and pitfalls of insurance, the value of minimum ratings and capitalization requirements for insurers, and the feasibility and advisability of standard policy language for insurance used to provide financial assurance. The Board concluded that in many cases insurance is a viable, valuable mechanism for providing financial assurance, especially during times of economic difficulty when the use of other instruments may be

restricted. EFAB also found that all parties involved must have a common understanding of the obligations and limitations of insurance.

Voluntary Environmental Improvement Bonds (VEIBs): An Innovative, Local, Environmental Finance Concept: EFAB presented the concept of VEIBs which can provide a long-term, low-cost mechanism for installing improvements to reduce green house gas emissions, improve air quality and reduce non-point source water pollution. EFAB urged the Agency to encourage states and local governments to adopt VEIB programs that finance needed environmental improvements.

Financial, Underwriting, Risk Mitigation and Consumer Protection Considerations for the Adoption of Voluntary Environmental Improvement Bond (VEIB) Programs: EFAB outlined specific underwriting and risk management considerations that should be followed in properly implementing VEIB programs. The Board detailed the design structure, uses of VEIBs and recommended ways to safely underwrite their deployment and achieve real-world environmental benefits.

FUTURE WORK

EFAB plans to expand upon its long-standing record of supporting Agency programs in addressing EPA's strategic goals, and looks forward to providing on-going support for the Agency's cross-cutting fundamental strategies. Projects that EFAB has underway include:

- Examining and recommending transit-oriented development financing strategies and tools for the Office of Policy;
- Exploring financial mechanisms and incentives that will help industries to comply with the industrial Maximum Available Control Technologies (MACT) Standards by deploying next generation technologies for the Office of Air and Radiation; and
- Developing sustainable funding approaches that will support expanded and improved environmental programs for tribes across the nation for the Office of International and Tribal Affairs.

EFAB and the Center for Environmental Finance also expect to continue consultations with EPA program offices and regions to explore additional areas in which they might provide assistance.

ENVIRONMENTAL FINANCE CENTER (EFC) NETWORK – HIGHLIGHTS

EFCs provide advice and technical assistance to governments and the private sector on managing and financing environmental activities and infrastructure. Topics covered by the EFCs range from public-private partnerships to smart growth to urban clean-up and redevelopment to setting rates that ensure viable water and wastewater systems. The following activities and initiatives are just a few examples of the many valuable and unique services provided by the EFCs.

ACTIVITIES AND INITIATIVES

Coastal Adaptation Services and Outreach: The New England EFC at the University of Southern Maine developed and implemented a cutting edge software approach to financial analysis that municipalities can use to prepare for extreme weather events. This Coastal Adaptation to Sea Level Rise Tool (COAST) generates multiple sea level rise and storm surge scenarios. The tool's graphics boldly display the economic impacts of no action as well as a variety of adaptation actions such as hurricane barriers, dikes, and flood control mapped against the various weather scenarios. Users such as city officials, businesses, and property owners are able to select expectations of future conditions and visualize the environmental impacts as well as the costs and benefits of selected actions.

Green Infrastructure Technical Assistance: The Syracuse University EFC brought together green infrastructure stakeholders in Onondaga County, New York and helped secure a Sustainable Communities Partnerships pilot project for EPA. As part of this project, the EFC evaluated New York's Green Innovation Grant Program noting positive attributes and identifying areas needing improvement. The EFC also worked with New York State to encourage reinvestment and efficiency in infrastructure, incentivize smart growth, promote asset management, and stimulate the adoption of green infrastructure approaches. The EFC organized seven

quarterly forums where consulting engineers, technical assistance providers, and local government leaders met and discuss these and other related topics.

Port of Baltimore Clean Diesel Program: The University of Maryland EFC leveraged its record to take part in a \$3.5 million ARRA-funded emissions reduction project at the Port of Baltimore in Maryland. The EFC led the Port's Steering Committee, as well as sub-award programs involving dray trucks, cargo handling equipment, locomotives and harbor craft. In all, more than 80 pieces of equipment at the port were replaced, repowered, or retrofitted. Estimated emissions reductions in nitrous oxide (NO_x) and particulate matter (PM) from the project include: dray trucks -- 142 tons of NO_x and 4 tons of PM ; cargo handling equipment – 72 tons of NO_x and 11 tons of PM; harbor craft – 500 tons of NO_x and 20 tons of PM; and locomotive equipment – 67 tons of NO_x and 3.5 tons of PM.

Water and Wastewater Rates and Structures/Rate Tools: The University of North Carolina at Chapel Hill EFC partnered with the Georgia Environmental Finance Authority to collect and analyze water and wastewater rate structures from 90% of the public service providers in Georgia. The information was integrated into an electronic dashboard that can be used by local officials and staff to make rate and investment decisions. A team from the EFC developed a new revenue model for water rates and fees in Montgomery County, North Carolina. The model demonstrated the need to raise rates and presented the consequences of not doing so. The EFC also helped Chatham County, North Carolina develop a water utility impact fee structure where fees increase as the customers' impact on the water system capacity increase. The new structure provides an incentive for customers to engage in more sustainable practices.

Practice Guides: The University of Louisville EFC published the following environmental *Practice Guides* for local officials and citizens:

- Water Pricing and Rates Dashboards
- Sustainable Construction Policies in EPA Region IV
- Urban Agriculture and Soil Contamination: An Introduction to Urban Gardening
- Concentrated Animal Feeding Operations: What Are the Potential Community Costs?

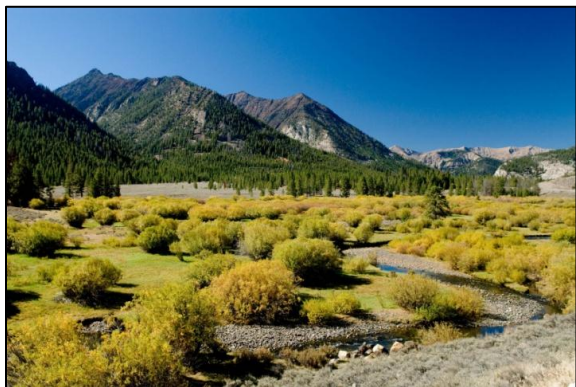
The number of *Practice Guides* published in this long-running series reached 24, and another 3 examining safe container gardening, policy barriers to urban agriculture, and financing urban agriculture projects are under development. Over the years, the EFC's numerous *Practice Guides* have been accessed by diverse organizations and people, including the Danish consulate in Chicago, small towns in eastern Kentucky, and individuals in many states across the country.

Environmental and Urban Redevelopment: The Great Lakes EFC at Cleveland State University broadened its long-term focus on brownfields clean-up and redevelopment to a larger urban environmental and redevelopment focus. The EFC worked with the Cuyahoga Land Bank to develop strategies to use the 42,000 vacant parcels of land in Cleveland and the surrounding inner-ring suburbs in Cuyahoga County to reduce the flow of stormwater into the sewer system. The EFC also initiated the Northeast Ohio Stormwater Training Council bringing together local officials and non-profits to develop a continuing source of environmental and finance training directed at this critical issue.

Water and Wastewater Management: The EFC at the New Mexico Institute of Mining and Technology is a long-time leader in providing water and wastewater infrastructure training and technical assistance to state, local, and tribal officials/system operators in EPA Region 6. The EFC has recently expanded its area of operations and now provides these and other valuable services in EPA Region 8. Specific areas of EFC expertise include utility asset management, capital planning and budgeting, utility rate setting, capacity assessments, energy efficiency, environmental regulations, and operator certifications. The EFC continues its work with public water systems representing Native American Tribes. For example, with the help of EFC's operator and other training, tribal water systems in Region 6 have reduced their federal Total Chloroform Rule Maximum Contaminant Level Violations approximately 85%.

Energy Management Initiative: Water and wastewater facilities owned and operated by local governments account for 30%-50% of municipal energy use annually, costing about \$4 billion nationally. Working with EPA Region 7 and public and private partners in Missouri and

Kansas, the EFC at Wichita State University conducted energy assessments of numerous water and wastewater systems in both states to establish energy use benchmarks. The EFC met with communities and energy companies to explore process and equipment changes, and develop energy management plans to cut energy use. Energy and monetary savings to date have been significant and have been accompanied by similar reductions in green house gases emissions (i.e., CO₂, NO_x, SO₂).



Tribal Sustainability: The Dominican University of California EFC worked tirelessly with tribal governments in California, Arizona, and Nevada (EPA Region 9) to promote environmentally sustainable business opportunities in support of tribal self-sufficiency. This tribal work included evaluating solar energy opportunities for the Torres Martinez Tribe in California and the Navajo Tribe in Arizona; identifying recycling and green business opportunities for 20 tribes in Northern Nevada; developing eco-lodge, waste services, and campground business plans for the La Jolla Indian Tribe in California; and building the capacity of a coalition of 20 tribes in Arizona to protect mountain areas from development.

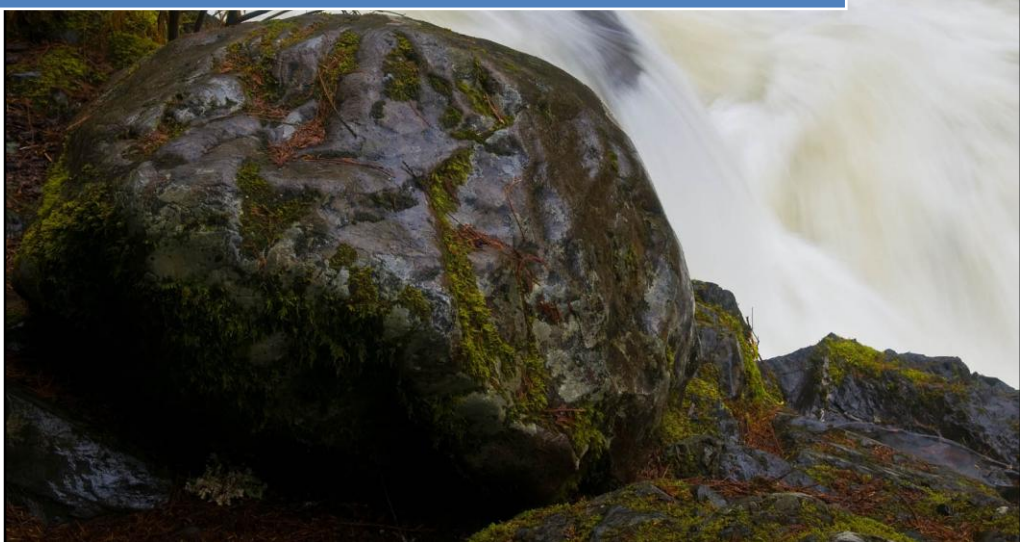
Web-Based Financial Tools: The Boise State University EFC added Wastewater and Stormwater Dashboards to its suite of online financial tools. These new interactive dashboards allow managers and operators to view their financial affairs in simple, easy to understand formats. The tools also allow users to input customer data, flow rates, NPDES permit information, rainfall and geographic data, influent levels, and other information on web forms that automatically populate the dashboards. Users then manipulate their rates, revenues, and expenses to see how different decisions financially impact systems. The dashboards present a range of rate structures, analyze revenue streams, and track changing environmental conditions in graphic form for presentation to decision-makers.

FUTURE PLANS

The EFCs will continue to provide many of these valuable services in the future and plan to broaden and expand their financial expertise and assistance. Some new areas of future work include implementation of a sustainable communities certification program in Maryland, development of wetlands financing models, analyses of clean energy financing mechanisms, development of safe soil guides, expanding support for the *EPA-HUD-DOT Partnership for Sustainable Communities*, providing technical assistance on source water protection, and promoting waste reduction, reuse and recycling in Puerto Rico and the Virgin Islands.

*For more information about the **Environmental Financial Advisory Board** and the **Environmental Finance Center Network**, visit our Web site at <http://www.epa.gov/efinpage>.*

Environmental Financial Advisory Board



Helping to answer the

EFAB

“How to Pay” question.

ENVIRONMENTAL FINANCE BACKGROUND

THE ENVIRONMENTAL FINANCING CHALLENGE IS GROWING

Since the creation of EPA in 1970, the nation has made huge investments in, and significant progress toward, controlling pollution and restoring environmental quality. Much of the credit for this success is due to EPA's use of traditional regulatory and enforcement tools, and to the transfer of resources from the federal government to state, local, and tribal governments to help develop environmental infrastructures.

Two trends now challenge our ability to maintain and improve our standard of environmental quality. First, the needs and expectations for environmental protection continue to grow. Second, limited revenues and growing overall demands on state and local resources increasingly constrain traditional sources of environmental funding. The result is a growing tension between the increasing costs of environmental protection and the resources available to meet those costs.

EPA MUST ADDRESS THE FINANCING CHALLENGE

Failure to address environmental financing challenges threatens past environmental gains and future environmental progress. It puts at risk ecosystems, human health, and community well-being – our quality of life.

To address these environmental and resource challenges in a sustainable manner, EPA will need to consider the full range of available finance-related alternatives. This effort includes a continuing review of traditional regulatory and enforcement tools and federal assistance programs. In addition, it will require an evaluation of innovative projects and technologies, improved efficiencies, creative financing techniques, and leveraged public-private partnerships.

EFAB WAS CREATED TO ADVISE EPA ON FINANCING ISSUES

The Environmental Financial Advisory Board (EFAB or the Board) was established in 1989 under the authority of the Federal Advisory Committee Act (FACA) to provide advice and recommendations to the EPA Administrator

on environmental financing issues, options, proposals, and trends. Through public meetings and workshops, the Board develops independent analysis and advice on financing environmental programs and activities. EFAB seeks practical ways of lowering costs, increasing public and private investments, and building state, local, and tribal capacity. The Board is sponsored and supported in its work by EPA's Office of the Chief Financial Officer.

EPA ENVIRONMENTAL GOALS AND EFAB ENVIRONMENTAL FINANCE OBJECTIVES

EPA GOALS

EFAB's activities and future plans in support of the Agency are carefully aligned with the five major goals contained in EPA's strategic plans. The five major goals contained in EPA's latest strategic plan (FY 2011-2015) are:

1. Taking Action on Climate Change and Improving Air Quality;
2. Protecting America's Waters;
3. Cleaning Up Communities and Advancing Sustainable Development;
4. Ensuring the Safety of Chemicals and Preventing Pollution; and
5. Enforcing Environmental Laws.

EFAB OBJECTIVES

In accordance with its charter, EFAB seeks to support EPA in meeting the aforementioned major EPA goals by pursuing the following finance-related objectives:

- Reducing the cost of financing sustainable environmental facilities, discouraging polluting behavior, and encouraging stewardship of natural resources;
- Creating incentives to increase private investment in the provision of environmental services and removing or reducing constraints on private involvement imposed by current regulations;
- Developing new and innovative environmental financing approaches and supporting and encouraging the use of cost-effective existing approaches;
- Identifying approaches specifically targeted to small community financing;

- Assessing government strategies for implementing public-private partnerships, including privatization and operations and maintenance issues, and other alternative financing mechanisms;
- Improving governmental principles of accounting and disclosure standards to help improve sustainability of environmental programs;
- Increasing the capacity issue of state and local governments to carry out their respective environmental programs under current Federal tax laws;
- Increasing the total investment in environmental protection and stewardship of public and private environmental resources to help ease the environmental financing challenge facing our nation; and
- Removing barriers and increasing opportunities for the U.S. financial services and environmental goods and services industries in other nations.

EFAB OPERATIONS AND MEMBERSHIP

EFAB OPERATIONS

The Board is comprised of approximately 30 members who serve as representatives of non-federal interests.

EFAB MEMBERSHIP

At the conclusion of the period covered by this report, the members of the Board were:

Bradley Abelow (EFAB Chair)
Chief Operating Officer
MF Global, Ltd

Scott Anderson
Consultant/Senior Policy Advisor
Environmental Defense Fund

John Boland
Professor Emeritus
The Johns Hopkins University

William Cobb
Vice President
Environmental Services &
Sustainable Development
*Freeport-McMoran Copper &
Gold, Inc.*

Don Correll
Environmental Finance Consultant
New Jersey

Rachel Deming
Director
International Transactions Clinic
University of Michigan Law School

Eric Draper
Deputy Director/Policy Director
Audubon of Florida

Mary Francoeur
Managing Director
Assured Guaranty

James Gephardt
Chief Financial Officer
*NY State Environmental Facilities
Corporation*

Ann Jennifer Grodnik
Assistant Vice President, Public
Finance
Seattle-Northwest Securities

Scott Haskins
Vice President
Global Water Business Group
CH2M Hill

Jennifer Hernandez
Partner/Co-Chair, National
Environmental Team
Holland and Knight, LLP

Members are appointed by the EPA Deputy Administrator and represent state, local, and tribal governments; the banking, finance, and insurance communities; business and industry; and public interest groups. The influence of any one interest is minimized through a careful balancing of the varying points of view represented by EFAB's membership.

The full Board convenes at least twice a year – once in the winter and again in the summer. In addition to the two full Board meetings, the Board hosts workshops and roundtables, as appropriate and necessary, to gather information for its reports and other work products. All Board meetings, workshops, and roundtables are open to the public and announced in the Federal Register as required by FACA.

The work of the Board is directed by its Designated Federal Official, officiated by a Chairperson, and staffed by EPA's Center for Environmental Finance. EFAB's current Designated Federal Official is Michael H. Shapiro, Deputy Assistant Administrator for EPA's Office of Water. The Center for Environmental Finance, located in the Office of the Chief Financial Officer, is managed by Joseph L. Dillon.

Keith Hinds
Financial Advisor
Merrill Lynch

Philip Johnson
President/CEO
Green Terra Energy Corporation

Deborah Livesay
Water Resources/Wetlands
Manager
*Torres Martinez Desert Cahuilla
Indian Tribe*

Thomas Liu
Managing Director
Bank of America Merrill Lynch

Gregory Mason
Chief Operating Officer
*Georgia Environmental Finance
Authority*

Karen Massey
Deputy Director
*Missouri Environmental
Improvement and
Energy Resource Authority*

Mathilde O. McLean
Treasurer, New York City Water
Board
*New York City Department of
Environmental Protection*

Lindene E. Patton
Chief Climate Product Officer
Zurich Financial Services

Sharon Dixon Peay
Financial Administrator
Office of the Treasurer
State of Connecticut

Cherie Collier Rice
Treasurer and Vice President of
Finance
Waste Management, Inc.

Andrew Sawyers
Program Administrator
Water Quality Financing
Administration
*Maryland Department of the
Environment*

Douglas P. Scott
Director
*Illinois Environmental Protection
Agency*

Jay Spector
Financial Advisor
Wells Fargo Advisors, LLC

Greg Swartz
Vice President
Piper Jaffrey & Co.

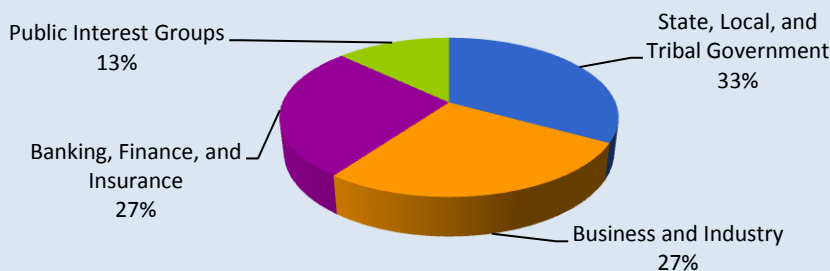
Steve Thompson
Executive Director
*Oklahoma Department of
Environmental Quality*

Leanne Tobias
Principal
Malachite, LLC

Chiara Trabucchi
Principal
Industrial Economics

Justin Wilson
Comptroller of the Treasury
State of Tennessee

EFAB Membership Composition



FORMER EFAB MEMBERS

EFAB members who have completed their terms but served during part of the period covered by the report include:

Terry Agriss

President

TAgriss Advisory Services

George Butcher

Managing Director

*ButcherMark Financial Advisors,
LLC*

Kelly Downard

Chairman

Louisville Metro City Council

A. James Barnes (Former EFAB Chair)

Professor of Public and

Environmental Affairs

Adjunct Professor of Law

Indiana University

Michael Curley

Executive Director

The International Center for
Environmental Finance

Towson University

Langdon Marsh

Fellow

National Policy Consensus Center
Portland State University

Jim Tozzi

Director

*Multinational Business Services,
Inc.*

SUMMARIES OF COMPLETED EFAB REPORTS AND LETTERS

The projects described in this section provide summaries of recent reports that were completed by the Board in response to specific Agency requests.

VEIB/PACE FOLLOW-UP (MAY 2011)

EPA Strategic Goals: Taking Action on Climate Change and Ensuring Air Quality; Protecting America's Waters

Primary Customers: Office of Air and Radiation; Office of Water

Report Summary: This effort follows up on two Board reports issued in June 2009:

1. *Voluntary Environmental Improvement Bonds (VEIBs): An Innovative, Local, Environmental Finance Concept for Mitigation of Climate Change Risk; Air Pollution Reduction; and*
2. *Reduction of Non-Point Source Water Pollution and Financial, Underwriting, Risk Mitigation and Consumer Protection Considerations for the Adoption of Voluntary Environmental Improvement Bond (VEIB) Programs.*

In this follow up to an earlier work, EFAB examined subsequent negative developments that have impacted the implementation of VEIB programs as well as related Property Assessed Clean Energy (PACE) Programs. The letter reiterates its support of these programs because they provide an important source of financial support for

crucial community-wide environmental and energy efficient improvements.

Report Recommendations: This letter contains previous observations and examples of the use of these tools in communities. The Board offered no formal recommendations to the Agency.

Outcome: While EFAB did not offer any specific recommendations, EPA shares the Board's strong support for innovative financing mechanisms for promoting residential energy efficiency and renewable energy applications for the benefit of communities and individuals.

EXPLORING CLEAN WATER AND DRINKING WATER STATE REVOLVING FUND (SRF) INVESTMENT OPTIONS (JANUARY 2011)

EPA Strategic Goal: Protecting America's Waters

Primary Customer: Office of Water

Report Summary: In a previous report on SRF leveraging, EFAB identified as an area for further study whether there are modifications to the current approaches used to invest SRF equity that might better meet the objectives of the Clean Water and Drinking Water SRF Programs, including making them more sustainable. The Board noted in its leveraging report that the SRFs have been capitalized or "endowed" with equity capital in excess of \$38.4 billion. This equity is invested in very conservative investments such as high-grade tax-exempt

interest rates. An investment strategy that is more typical for such large endowed funds would be expected to significantly increase the growth rate of SRF equity.

EFAB examined, in some detail, the equity investment question posed above. As part of this effort, the Board also plans to generally explore the benefits and risks of an endowment-like approach to the investment of Clean Water and Drinking Water SRF funds, any regulatory issues affecting the implementation of the new approach, and any related impacts, such as impacts on the approach to debt issuance that would be required to implement a new endowment-like investment approach.

Report Recommendations:

- EPA should identify and promote SRF state-of-the-art investment practices that support more productive utilization of SRF funds among headquarters and regional SRF staff.
- EPA staff should work with stakeholders and SRF administrators to develop interpretative guidance that clarifies existing investment authority and, to the extent deemed necessary, develop model language changes to the Clean Water and Safe Drinking Water Acts that broaden investment authority to include both fixed income and capital growth asset classes to the stable of permitted investments that SRF administrators can utilize.
- EPA should develop model regulatory language that would establish the parameters that would effectively govern SRF investment among asset classes.

Outcomes: EPA's Office of Water invited EFAB to present its findings and recommendations at the Council of Infrastructure Financing Authorities SRF Workshop on November 14, 2011. In addition to the Workshop, EFAB will present at the State/EPA Work Group meeting on November 15. These discussions are expected to generate an informative and helpful debate for all attendees and will expand the awareness of current investment practices and opportunities for future change and improvement.

IMPROVING COST-ESTIMATION AS A FINANCIAL ASSURANCE TOOL (DECEMBER 2010)

EPA Strategic Goals: Cleaning Up Communities; Advancing Sustainable Development and Enforcing Environmental Laws

Primary Customers: Office of Solid Waste and Emergency Response; Office of Enforcement and Compliance Assurance

Report Summary: This report examines existing cost-estimation practices for RCRA closure, post closure, and corrective action. Based on this work, EFAB finds that good cost estimates are critical to good financial assurance; i.e., any financial assurance instrument is only as good as the accuracy of the cost estimate that it secures. The Board concludes that cost estimates for activities and actions under RCRA are not uniformly accurate and up-to-date. EFAB believes that EPA and its public and private partners need to improve cost estimation expertise/work by developing more standardized cost estimates, providing more education on best practices, and expanding existing coordinating mechanism.

Report Recommendations: The report recommends improving cost estimation expertise and the cost estimates that underpin the use of all financial assurance instruments. Specific actions that EFAB suggests EPA should take include:

- creating standard checklist templates that clarify definitions, ensure completeness, and streamline reviews;
- creating a web-based platform to disclose and improve the state of knowledge regarding good cost estimation;
- developing in EPA and the states a body of experts who can use these tools; and
- committing Agency resources to translating information into best practices and providing improved ongoing training to regulators.

Outcome: EPA's Office of Solid Waste and Emergency Response shared the Board report with the Association of State and Territorial Solid Waste Management Officials and is exploring with that group the best ways to implement the report's recommendations.

THE USE OF INDEPENDENT CREDIT RATINGS FOR FINANCIAL ASSURANCE INSTRUMENTS (DECEMBER 2010)

EPA Strategic Goals: Cleaning Up Communities; Advancing Sustainable Development and Enforcing Environmental Laws

Primary Customers: Office of Solid Waste and Emergency Response; Office of Enforcement and Compliance Assurance

Letter Summary: This EFAB letter discusses past findings and recommendations that the Board has made regarding the use of independent credit ratings in EPA's evaluation of financial assurance instruments (including the financial test/corporate guaranty, captive insurance, and commercial insurance) under the Resource Conservation and Recovery Act (RCRA). In the letter, the Board then directs the attention of the Agency to the possible impact of the Dodd-Frank Wall Street Reform and Consumer Protection Act (Dodd-Frank Act) on any such use of credit ratings.

Letter Recommendation: The Board recommends that the Office of Solid Waste and Emergency Response work with the Office of the General Counsel to review the Dodd-Frank Act and monitor the rulemaking process to determine the application of the Act, particularly Section 939 and 939A, to the Agency's financial assurance requirements.

Outcome: As recommended by EFAB, the Office of Solid Waste and Emergency Response is working with the Office of the General Counsel to determine the applicability of the Dodd-Frank Act to Agency financial assurance requirements.

FINANCIAL ASSURANCE FOR UNDERGROUND CARBON SEQUESTRATION FACILITIES (MARCH 2010)

EPA Strategic Goals: Protecting America's Waters; Taking Action on Climate Change and Improving Air Quality

Primary Customers: Office of Water; Office of Air and Radiation

Report Summary: This report identifies and examines financing issues related to implementing a carbon dioxide (CO₂) underground injection control program. Such a

program would include the provision of the financial assurance needed to address potential current and future liabilities associated with the underground injection of CO₂ in storage wells for the purpose of carbon capture and long-term sequestration.

Report Recommendations:

- The EPA should use a blend of the RCRA subtitle C financial assurance requirements and the SDWA financial assurance requirements for Class I wells as the model for establishing financial assurance for new Class VI wells.
 1. The EPA should extend the RCRA acceptance of a party with a "substantial business relationship" to the guarantee provisions for SDWA.
 2. The EPA should allow the SDWA Class I bankruptcy notification provision be applied to the Class VI wells.
 3. The EPA should allow the SDWA Class VI regulations extend the RCRA provisions to include bankruptcy or loss of authority of the trustee.
 4. The EPA should consider adding a new category of financial assurance to the Class VI program that provides the Agency with the flexibility to approve a "functional equivalent" to the established RCRA financial tests.
- The EPA should periodically review the scope of obligations covered by financial assurance as well as the continued viability of financial instruments being used. The Agency could link the amount of financial assurance required to cost estimates that are upgraded on a regular basis (e.g., every five years).

Outcome: The Office of Water's guidance document, "Financial Responsibility for Underground Injection Control Program Class VI Geologic Sequestration Wells," was informed by the Board's recommendations. The guidance will be published with the GS rule after the public comment period is completed.

FINANCING MECHANISMS FOR REDUCING GREENHOUSE GAS EMISSIONS, AND OTHER AIR AND WATER POLLUTION PROBLEMS (MARCH 2010)

EPA Strategic Goals: Taking Action on Climate Change and Improving Air Quality; Protecting America's Waters

Primary Customers: Office of Air and Radiation; Office of Water

Report Summary: The report looks at ways to create finance mechanisms to address the reduction of greenhouse gas emissions and other air and non-point source water pollution problems. The report calls for the implementation of programs at the state and local levels to finance the installation of energy efficiency and environmental improvement devices at public and not-for-profit facilities such as: local government buildings; colleges and universities; hospitals; schools; and churches.

Report Recommendations:

- EPA should urge the States to adopt programs to facilitate the financing of both energy efficiency and environmental improvement projects for the benefit of public agencies as well as not-for-profit organizations.
- EPA should urge the States to enact statutes either: a) to create Air Quality Finance Authorities which, as conduit bond issuers, can access the municipal bond market to finance such programs, or b) empower counties and other units of local government to issue bonds for such purposes.
- EPA should encourage the States to enact statutes to enable localities: a) to enter into voluntary contracts with homeowners and farmers (the VEIB program), with local government agencies, and with not-for-profit organizations, including churches, to finance energy efficiency and environmental improvement projects on their premises, b) to finance such projects through the issuance of taxable or tax-exempt bonds, as applicable, and, c) to secure such financings by liens and assessments against the program participants' real property.
- EPA should initiate discussions with the Department of Energy, the Department of Housing and Urban Development, the Department of Transportation, the Department of the Treasury, the Office of Management & Budget, and any other relevant agency to determine whether the Administration should recommend to the Congress that Section 503(b)(3) of the Internal Revenue Code be amended to recognize applicable tax credits for energy efficiency and environmental improvement projects which are undertaken and used for the benefit of not-for-profit organizations such as private schools, churches and private hospitals.
- EPA should work closely with individual States that are developing and implementing their own new and innovative programs to finance energy efficiency, air quality improvement, and non-point source water pollution projects.

Outcomes:

- EPA is encouraging state and local air agencies to implement innovative financing options for homeowners that want to replace older biomass appliances with more efficient, less polluting units. The Agency is aware of suggestions to explore biomass as an energy efficiency option for the Department of Energy's Property Assessed Clean Energy (PACE) program. As states implement legislation to allow the PACE program, EPA is encouraging them to broaden this legislation to include other environmental projects.
- EPA is exploring a Voluntary Environmental Improvement Bond pilot with a state air agency to help homeowners finance the replacement of older woodstoves along with improved weatherization. This pilot has the potential to serve as a testing ground for the feasibility of a VEIB approach to financing.



WATER LOSS REDUCTION FINANCING MECHANISMS FOR DRINKING WATER DISTRIBUTION SYSTEMS (MARCH 2010)

EPA Strategic Goal: Protecting America's Waters

Primary Customer: Office of Water

Report Summary: This report addresses the current scope of water loss; practices, benefits, and obstacles for implementing water loss control programs; case studies of successful water loss control programs, and an overview of funding mechanisms available. The EFAB examined financing alternatives to detect and reduce leaks and to improve water and energy conservation in water distribution systems.

Report Recommendations: Based on its review, EFAB made the following findings and recommendations:

- Improved business focus and effective water loss control will make the best use of the financial resources available to water utilities. EPA should encourage utilities to initiate practices to improve asset management and implement environmental management systems.
- Increased utility funding will be necessary to initiate, implement, and continue water loss control programs. This can be accomplished through existing funding mechanisms such as user charges; federal, state, public, and private grant and loan programs; and revenue bonds.
- Obstacles to implementing utility full cost rate pricing should be addressed. By maximizing the use of reasonable financing mechanisms and incorporating a household affordability rather than community affordability focus to rate making practices, communities can better meet their capital requirements and minimize the cost burden on their low income residents.
- EFAB endorses water audit and asset management programs as excellent tools to assist in decreasing water losses. However, whether a state mandates or provides incentives to perform water audits and asset management programs as part of the SRF funding process, should be determined on a state by state basis. EFAB notes that where Green Project Reserve qualification requires that a business case for improved efficiency be demonstrated, a water audit and an on-going asset management program are the best means to accomplishing a successful business case. States may consider ranking strategies for SRF funding applications that provide an incentive for projects that include implementing water loss control and for systems with existing, successful water loss control programs.
- States should be encouraged to implement or clarify requirements for water loss reporting and control. Further, state regulatory agencies should provide assistance for implementing water audit practices, especially for small water supply systems.
- Water projects that do not automatically meet categorical criteria for “green project” status should still be able to qualify for the Green Project Reserve program provided that a sufficient business case for improved efficiency can be established.
- Small water utilities experience additional challenges in obtaining sufficient financing to implement water loss control projects. Regionalization, consolidation, and cooperative partnerships are mechanisms that can assist small utilities to improve their economies of scale, decrease expenses, and provide better access to limited funding sources. Where feasible and appropriate, regulatory agencies should facilitate small utility consolidation or other service provider relationships, usually with larger neighboring utilities

that can provide infrastructure management and financing more efficiently.

Outcome: EPA acknowledges that the findings and recommendations support its ongoing efforts for water loss reduction and substantiate the need for water loss reduction projects.

FINANCIAL ASSURANCE: COMMERCIAL INSURANCE AS A FINANCING ASSURANCE TOOL (FEBRUARY 2010)

EPA Strategic Goals: Cleaning Up Communities and Advancing Sustainable Development; Enforcing Environmental Laws

Primary Customers: Office of Solid Waste and Emergency Response; Office of Enforcement and Compliance Assurance

Report Summary: This report addresses the use of commercial insurance as a financial assurance tool. The report examines the strengths and pitfalls of insurance, the value of minimum ratings and capitalization requirements for insurers, and the feasibility and advisability of standard policy language for insurance used to provide financial assurance.

Report Recommendations:

- EPA should augment the existing minimum requirement that an insurer who provides policies for finance assurance be licensed in one or more states with a requirement for an objective third-party analysis of the insurer’s capacity to meet its obligations.
- In this regard, EPA should consider minimum requirements to evidence the strength of an insurer providing financial assurance such as the use of a minimum acceptable rating from AM Best or a similar national rating agency. The Board could not agree on an appropriate minimum acceptable threshold rating.
- EPA should not require mandatory language for insurance policies for purposes of RCRA financial assurance. The Board supports insurance policies that contain specifically negotiated provisions that meet the specific characteristics of each insured and each facility.
- EPA should adopt procedures that encourage all involved parties (the insured, the insurer, and the regulator) to explicitly express their expectations when using insurance as a financial assurance tool. In particular, the Agency should adopt procedures

under which the regulatory authority can specifically agree to or reject limitations contained in the insurance policy before the carrier becomes legally obligated to issue the policy.

Outcome: The Agency is developing financial responsibility rules under Section 108(b) of the Comprehensive Environmental Response, Liability, and Compensation Act (CERCLA). The Charge specifically states that EFAB limit its evaluation to financial assurance as provided under the Resource Conservation and Recovery Act (RCRA). However, since many of the same questions concerning commercial insurance as a financial assurance tool will arise in developing the CERCLA 108(b) rules, EPA plans to also consider these recommendations in developing these rules.

SUMMARIES OF ONGOING EFAB PROJECTS

The projects described in this section are being examined by the Board. At the request of the EPA, EFAB is exploring innovative alternatives for financing clean air technology, tribal environmental programs, and transit-oriented development.

CLEAN AIR TECHNOLOGY

EPA Strategic Goal: Taking Action on Climate Change and Ensuring Air Quality

Primary Customer: Office of Air and Radiation

Project Summary: The purpose of this project is to explore ways for industries to comply with the industrial Maximum Available Control Technologies (MACT) Standards by deploying next generation technologies, wherever possible. These next generation technologies are desirable because they not only comply with the new MACT standards but also reduce CO2 emissions and provide other additional environmental benefits.

The Board has been asked by EPA to make recommendations regarding creative financing structures that will encourage industries to choose to comply with the new standards through the implementation of new technologies. EFAB is focusing its work on financing mechanisms and incentives for a carefully selected group of new technologies and on industries that would be most likely to implement new technologies.

TRIBAL ENVIRONMENTAL PROGRAMS

EPA Strategic Goals: Taking Action on Climate Change and Improving Air Quality; Protecting America's Water; Cleaning Up Communities and advancing Sustainable Development; Ensuring the Safety of Chemicals and Preventing Pollution

Primary Customer: Office of International and Tribal Affairs

Project Summary: The purpose of this project is to identify and evaluate approaches for sustainable funding by tribes of tribal environmental programs. The Board plans to identify mechanisms that tribes can use to fund their environmental program implementation on an on-going basis and to help reduce and/or eliminated the need for permanent EPA capacity building investments. This project will help tribal governments improve their overall financial capabilities and achieve a greater degree of independence and self-reliance.

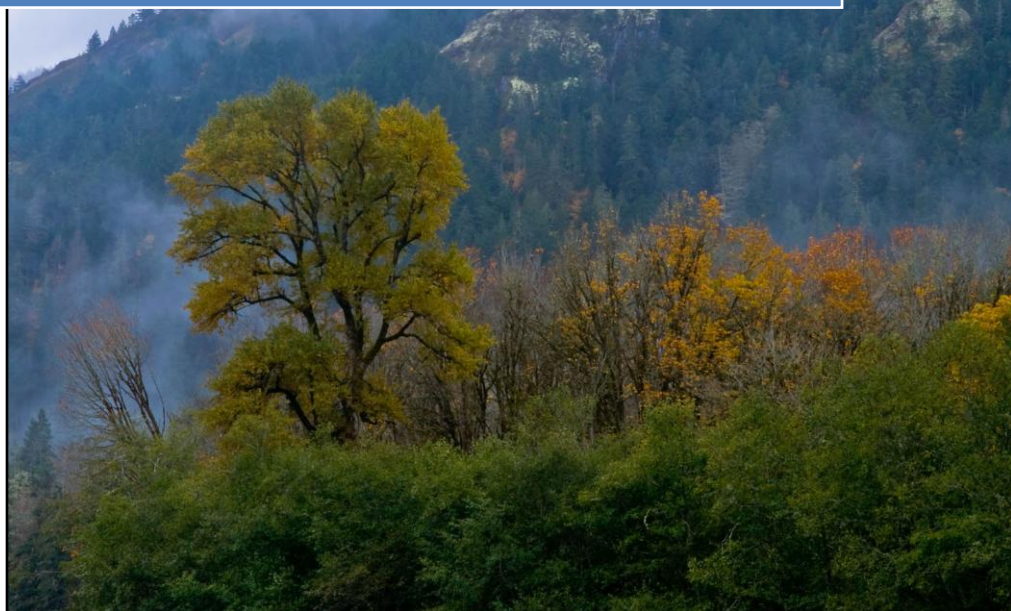
TRANSIT-ORIENTED DEVELOPMENT

EPA Strategic Goal: Cleaning Up Communities and Advancing Sustainable Development

Primary Customer: Office of Policy

Project Summary: EFAB is exploring a range of public and private financing strategies and models that could be used to address a variety of transit-oriented development scenarios. The development scenarios to be considered will vary from a single transit station, existing and planned, to multiple-station transit lines, existing and planned. The Board plans to describe what entities (public, private, and/or public-private) and what financing approaches would be best suited for each of the four. EFAB plans to note any situations that might require legislation, state and/or federal that might be necessary for successful implementation.

Environmental Finance Center Network



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ENVIRONMENTAL FINANCE CENTER AT THE UNIVERSITY OF SOUTHERN MAINE

BACKGROUND & SUMMARY

The Environmental Finance Center (EFC) at the University of Southern Maine, located at the Muskie School of Public Service in Portland, Maine serves the six states of EPA's Region 1. The primary purposes of the New England EFC are to:

- advance the understanding of *quality of place* and practice of *smart growth*;
- assist EPA in the mitigation of, and adaptation to, *climate change*; and
- assist in the development of *renewable energy* resources.



In each case, the New England EFC strives to build *local capacity* to deal with these and related issues, and to develop and apply techniques that go *beyond compliance* with government regulation.

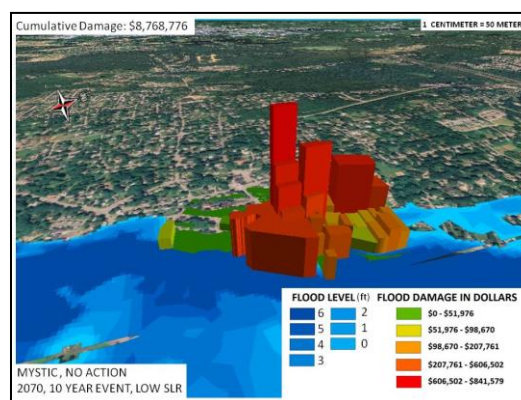
Examples of the New England EFC's accomplishments include:

- Completed a series of over ten smart growth leadership case studies.
- Developed a cutting-edge software approach to financial analysis that municipalities can undertake in preparation for extreme weather events.
- Chaired six-state commissions and authored numerous publications through the New England Governors' Conference, regarding regional initiatives to enhance large-scale land protection, economic development, and quality of place.
- Completed several analytic projects for state and local governments in New England regarding climate change mitigation and adaptation issues.

ACTIVITIES & ACCOMPLISHMENTS

COMPLETED PROJECTS & INITIATIVES

Coastal Adaptation Services and Outreach: Using its Coastal Adaptation to Sea level rise Tool (COAST) in Groton, CT, the New England EFC developed sea level rise and storm surge scenarios as part of a climate adaptation process. This was a first-of-its-kind effort that brought together federal, state, and local government interests in strategizing about actions necessary to protect vulnerable assets in the Town. The included graphic shows a no-adaptation-action scenario for 1 m of sea level rise and a 10 year flood event in the year 2070. The z-axis polygons represent expected lost real estate and building contents value of over \$8 million.



Economic impact visualization of a flood scenario in Groton, Ct.

Adaptation actions subsequently modeled in this location included installing a hurricane barrier, elevating a road, and building dikes, each of which could provide some protection to the vulnerable areas. The tool then displays

maps with reduced or eliminated polygons, for each adaptation action being considered. The tool also allows modeling of ranges of sea level rise and storm surge frequency and intensity. This provides an opportunity select expectations of future conditions and visualize costs and benefits of action versus no-action scenarios.

The Library of Smart Growth Leadership Case Studies: Working in collaboration with municipal leaders in each profiled case, the New England EFC completed a library of over ten case studies to enhance educational efforts for land use educators, outreach, and extension agents. This was included as part of the “Next Communities Initiative,” a three-day workshop series on improving local land use outcomes, delivered numerous times by the New England EFC.

The New England EFC by the numbers...

- Gave more than 20 presentations to audiences ranging from 10 to 500 at local and regional conferences of municipal officials, planners, state officials, federal agency representatives, and others
- Hosted more than 10 conferences
- Published more than 10 substantive works, including peer-reviewed articles, technical reports, and guidance documents for municipal officials.
- Provided detailed and ongoing technical assistance to several communities regarding adaptation to climate change.
- Developed online tools to support local agriculture and increased their exposure and use by local food producers and buyers.

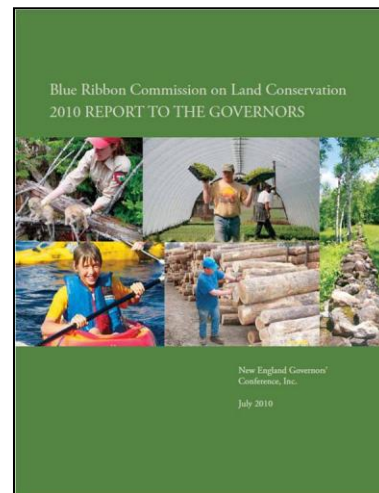
Quality of Place: After extensive public outreach and vetting through the press, public meetings, and formal public hearings, as well as prolonged negotiation with the legislative committee of oversight, Public Law Ch. 483 LD 1389, 124th Maine Legislature, “An Act to Create Regional Quality of Place Investment Strategies for High-value Jobs, Products and Services in Maine,” became law in July 2010, formally establishing the Maine Quality of Place Council. New England EFC Senior Fellow Richard Barringer chaired the council that will now oversee

implementation of this alternative, regional approach to landscape conservation, community and downtown revitalization, historic and cultural preservation, workforce development, and sustainable economic growth.

ONGOING PROJECTS & INITIATIVES

New England Governors Conference (NEGC)

Assistance: In September 2009 the New England Governors approved their Commission on Land Conservation’s (CLC) first report, established the CLC as a standing commission of the NEGC, and directed the Chief State Officials from all six states to work with the CLC to develop five national demonstration projects to: Keep Farmlands in Farming, Keep Forests as Forest, Connect People to the Outdoors, Protect Wildlife Habitats, and Safeguard Coastal & Estuarine Lands. At a July 2010 meeting the New England Governors accepted the CLC report (cover shown) and voted unanimously to support NEGC Resolution 200, directing the CLC and the Chief State Officers to develop the five national demonstration projects proposed, in collaboration with the federal government, affected private partners.



Cover page from an EFC-led report for the NEGC.

NEW PROJECTS & INITIATIVES

Coastal Adaptation Services and Outreach: The adaptation finance toolset being used by the New England EFC is being further developed. Work completed in Groton, CT and other areas will be replicated in other parts of the country. The software and public process components of the approach will be customized for each

new location, to allow evaluation of adaptation actions and economic impacts according to the needs of each municipality, under a range of extreme weather event scenarios such as coastal storm surge.

BENEFITS & RESULTS

As a result of the Center's ongoing activities and accomplishments, outcomes have included the following benefits:

In Groton, CT among other towns, the Center provided Town staff with visualizations of economic benefits from adaptation actions they might undertake in response to sea level rise and storm surge events. Sample feedback received for workshops given on climate adaptation finance included "Words cannot express our gratitude for your contributions to the workshop series!!"

The Center's climate mitigation activities expanded to include assisting municipalities with payback analyses on new renewable energy generation facilities they were considering.

For work with the New England Governors' Conference, the Center was pleased to guide the unanimous Resolution 200 of the six New England Governors (dated July 12, 2010) to pursue, through their Chief State Officers, five national demonstration projects to: Keep Farmlands in Farming, Keep Forests as Forest, Connect People to the

Outdoors, Protect Wildlife Habitat, and Safeguard Coastal & Estuarine Lands in the face of climate change. The Center negotiated agreement among the six Chief State Officers (and in the case of the Forests initiative, New York, as well), responsible federal officials, and interested local, private parties on the content of these national demonstration projects and the process for their development, and secured commitments from federal partners within the USDA, the NPS, the USF&WS, and NOAA to development of the projects.

For work on Quality of Place initiatives, the Center was pleased to see enactment in Maine law of the Quality of Place & Jobs Creation legislation initially developed by the NE/EFC in collaboration with public and local, private partners, after extensive and successful negotiation with the Legislature's Business, Research & Development Committee. Additional work in this area produced awards to six local non-profit organizations in the amount of \$750,000 by the Environmental Funders Network - the first year of three years of awards - in support of local Quality of Place education, mobilization, and marketing efforts.

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ENVIRONMENTAL FINANCE CENTER AT SYRACUSE UNIVERSITY

BACKGROUND & SUMMARY

The Environmental Finance Center at Syracuse University (Syracuse EFC), located in the SyracuseCoE Center for Sustainable Community Solutions, serves the states, tribes, and territories of EPA's Region 2. Building upon almost seventeen years of success, the Syracuse EFC continues its mission to enhance the administrative and financial capacities of state and local government officials, as well as the non-profit and private sectors, to improve local environmental quality and maintain environmental infrastructure. The primary purpose of the Syracuse EFC is to provide trainings, resources, tools and technical assistance to the regulated community.



Syracuse EFC accomplishments include:

- Expanded its programs into New Jersey, Puerto Rico and the US Virgin Islands, as well as previously underserved regions of New York State. Programs promoted sustainable materials management.
- Published and disseminated numerous publications and hosted more than 20 training events and forums.
- Developed new programming in green infrastructure outreach and sustainable materials management, as well as the Greenprojectexchange.org and NYAgTrader.org.
- Analyzed the effectiveness of the New York State Environmental Facilities Corporations' Green Innovation Grants Program (GIGP) and their Clean Water State Revolving Fund (CWSRF) scoring pilot project.
- Brought together stakeholders in green infrastructure in Onondaga County and helped secure New York State (NYS) as a pilot state for the Sustainable Communities Partnership initiative.

ACTIVITIES & ACCOMPLISHMENTS

COMPLETED PROJECTS & INITIATIVES

Green Innovation Grants Program: The Syracuse EFC conducted an evaluation of New York State's Green Innovation Grant Program (GIGP). The GIGP was administered by the New York State Environmental Facilities Corporation (NYSEFC) as a means to distribute at least \$86 million dollars to "green" water and wastewater infrastructure projects, as directed by Congress under the American Recovery and Reinvestment Act of 2009 (ARRA). The primary purpose of the Syracuse EFC's study was to identify positive aspects and areas needing improvement regarding the GIGP application, selection, and implementation processes and to assist NYSEFC in improving future

rounds of GIGP. The Syracuse EFC conducted a multifaceted review of GIGP, including surveys, demographics, spatial analysis, and research on practices in all fifty states.

GreenProjectExchange.org: Recently, the Syracuse EFC launched greenprojectexchange.org (GPE), where local leaders can share information on innovative projects that support sustainability in NYS communities. The site features case studies on a variety of environmental topics, such as water quality, waste management, sustainable food, energy efficiency, infrastructure, and conservation. Visitors to the site can browse the database, borrow ideas, and network with project leaders.

ONGOING PROJECTS & INITIATIVES

Syracuse EFC Provides Technical Assistance for EPA Pilot Program:

The Syracuse EFC received a grant to provide technical assistance to New York State's Environmental Facilities Corporation (NYSEFC) for an EPA Pilot Technical Assistance Program. The program is part of the recently formed HUD-DOT-EPA Sustainable Communities Partnership. With the Syracuse EFC's assistance, New York was one of three states chosen by the EPA to participate in this pilot project. The project will promote more widespread adoption of practices that encourage reinvestment and efficiency in infrastructure systems. To do this, the New York State partnership will identify opportunities to incorporate these practices into the priority systems and intended use plans, to incentivize smart growth, energy efficiency, asset management and green infrastructure through the Clean Water State Revolving Fund (SRF).

Smart Management for Small Communities: The Syracuse EFC has expanded its elected official training conferences to reach a larger geographic area. These two-day conferences include training and discussions on topics such as: asset management, state/federal program updates, water/wastewater infrastructure funding, project development, rate-setting tools, public engagement in decision-making, and meeting facilitation.

Technical Assistance Partnership Forum: Syracuse EFC staff organized seven quarterly forums covering various water and wastewater technical topics. The forums provide a venue for getting important funding updates from state and federal agencies while also allowing consulting engineers, technical assistants and local government leaders to meet and discuss project development. Forum topics include water/wastewater infrastructure planning and funding, state and federal funding updates; and, presentations on topics such as smart growth, green infrastructure, and agricultural best management practices.

Asset Management Trainings: Together with its partners—the New York Water Environment Association, NYS Department of Environmental Conservation, RCAP Solutions, and the Southern Tier West and Central New York Regional Planning and Development Boards, as well as the EFCs at the University of North Carolina at Chapel Hill and Boise State University—the Syracuse EFC continues to offer regular water and wastewater

Asset Management trainings which include rate setting, locating and mapping assets, software tools such as CUPSS, and public education.

NYFoodtrader.org: The Syracuse EFC launched NYFoodtrader.org, a virtual farmer's market that connects New York producers, consumers and traders with local food fresh from the field. NYFoodtrader.org provides farmers with a no-cost, easy and unique venue for marketing their products year-round. Farmers can post items for sale, barter or donation. As rural communities in New York face challenges to sustain their local agriculture, supporting local food infrastructure is a first step toward decreasing energy use and supporting our local economy. There were more than 7,000 unique visits to the site during the reporting period.

The Syracuse EFC by the numbers...

- Reached at least 1,200 newsletter readers
- Presented at 23 domestic and international conferences and training events
- Hosted 17 training events throughout EPA Region 2 regarding environmental infrastructure, asset management and project development
- Facilitated sustainable materials management meetings in Puerto Rico with more than 80 leaders in partnership with the Governors of both Puerto Rico and the US Virgin Islands, as well as meetings in support of the Sustainable Communities Partnership
- Attracted more than 10,000 visitors to NYFoodTrader.org and NYAgTrader.org
- Attended sessions, networked, and collaborated with partners at 21 conferences and more than 50 events about green building, science and policy, water resources management, sustainable materials management, energy development, Smart Growth, and water and wastewater infrastructure
- Co-hosted two symposiums on environmental and energy systems, reaching more than 2200 attendees



Workers separate paper at one of Puerto Rico's recycling centers

NEW PROJECTS & INITIATIVES

Puerto Rico and Virgin Islands Sustainable Materials Management: EPA Region 2 Administrator Judith Enck established the Puerto Rico Recycling Partnership (PRRP) and a similar group in the US Virgin Islands to promote waste reduction, reuse, recycling and clean composting. This working partnership, facilitated by the Syracuse EFC, includes government (at all levels), non-profit organizations, citizens, environmental groups, and the private sector. The PRRP uses a distinctive Collaborative Governance/Problem Solving process to lead the activities of the Partnership. The Collaborative Governance model is recognized as an optimum leadership and management tool best suited for facilitating and operating in multi-organizational arrangements. Some Collaborative Governance methods that are employed by the PRRP include working groups, task forces, monitoring committees, process facilitation, advisory groups, and joint fact-finding.

USDA Solid Waste Management Grant: With support from USDA's Solid Waste Management Technical Assistance and Training grant, the Syracuse EFC is developing new programming to assist rural communities as they adopt practices that reuse post-consumer materials, including solid waste management training, assistance with drafting local resolutions, and citizen outreach and education.

"Save the Rain"—Green Infrastructure Outreach and Education in Onondaga County: The Syracuse EFC was awarded a Green Infrastructure (GI) Outreach and Education grant from Onondaga County (New York) to revitalize and grow the "Save The Rain" campaign, which teaches residents and businesses about the importance of capturing stormwater. Onondaga County is the first

municipality in the country to be mandated by an amended consent judgment (ACJ) to use GI to address its combined sewer overflow (CSO) problems. The project team will host rain barrel educational workshops, utilize social media tools, create curriculum for Syracuse City School District classrooms, host design charettes, work with the Onondaga (Youth) Earth Corps, create experiential learning opportunities for community members and green jobs trainees, and more.

Agricultural Mini-grants: The Syracuse EFC offered mini-grants to researchers and technical assistance providers to study agricultural practices and water quality in New York State. Reports produced included:

Analysis of New York State Agricultural Environmental Management Program Results, NYS Soil & Water Conservation Committee in partnership with Schenectady County SWCD

Agricultural Land Use Effects on Water Quality in the Skaneateles Lake Watershed: A Habitat Assessment Using Benthic Macroinvertebrates, Dr. Russ Briggs, SUNY ESF

Handbook for Treatment Wetlands in the Agricultural/Urban and Suburban Environments, Dr. Richard Smardon, SUNY ESF

NYAgtrader.org: NYAgTrader.org allows farmers throughout New York State to advertise and trade any material that can be used on a farm, such as hay, manure, equipment, and livestock. Farmers visiting the website can search by item category and location, and can also post their own "wanted" items. By connecting farmers, farm products will be transferred to people who can use them, which decreases waste. There were more than 3,200 unique visitors to the site during the reporting period.



Ecosystem Analysis at the Watershed Scale: Together with the Southern Tier West Regional Planning and Development Board, the Syracuse EFC will undergo multi-year process that will lead to the development of a Watershed Analysis that is sensitive to the transportation (highway, rail) network, while also considering all other impacts.

BENEFITS & RESULTS

The Syracuse EFC is active in all of the states and territories it serves. The EFC continues to build upon foundational work in the Virgin Islands and Puerto Rico as well as reach areas and communities in New York and New Jersey that it has not served before.

The Syracuse EFC has secured a contract with Onondaga County, NY to perform public outreach and education about green infrastructure. The EFC's expertise with sustainable materials management and facilitation has led to work in Puerto Rico and the Virgin Islands, and will likely lead to further programming there.

The Syracuse EFC helped a number of communities enact Asset Management plans for their water/wastewater operations. One such community is the Village of Wellsville in southwestern New York. Very few communities in New York State utilize Asset Management and Rate-setting software, but many more are beginning to use these tools as a result of Syracuse EFC trainings.

Puerto Rico has been able to start to plan a public education campaign for the Puerto Rico Recycling Program utilizing research done by Syracuse EFC staff on similar case studies of communities learning to recycle throughout the US.

Awards received: Leadership Award from GreeningUSA; Appointments to Onondaga County Resource Recovery Agency Board, Executive Team of National Recycling Coalition, ICLEI's STAR Community

Index Technical Advisory Committee and Board of US Green Building Council NY Upstate Chapter; CenterState CEO Economic Champion Award, USGBC Leadership Award

Feedback received:

"A good real life report of how projects and funding/use & funding being implemented." —*Mark D. Colopy, Fiscal Advisors*

"Good variety of interesting topics." —*Kathy Bertuch, Central New York Regional Planning & Development Board*

"The partnership represented by the EFC, OEI, SUNY ESF, Baltimore Woods, the Onondaga Earth Corps, and the POC has the expertise to provide superior education and outreach with the breadth and depth required to ensure green infrastructure awareness and acceptance within all segments of the Syracuse community." —*Lenore Seeley, CNY Works*

"The Syracuse EFC's efforts to help move recycling forward in Puerto Rico and the U.S. Virgin Islands have been essential." Judith Enck, EPA Region 2 Administrator

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ENVIRONMENTAL FINANCE CENTER AT THE UNIVERSITY OF MARYLAND

BACKGROUND & SUMMARY

The Environmental Finance Center (EFC) at the University of Maryland, College Park, serves the five states in EPA's Region 3 and the District of Columbia. The primary purpose of the University of Maryland EFC is to assist local governments, communities, and watershed organizations in fulfilling their role(s) in effectively and responsibly managing natural resources at a watershed scale.



The University of Maryland EFC accomplished the following:

- Expanded the knowledge base of decision-makers and conservation professionals through graduate courses, seminars and conferences on subjects including environmental finance policy and law, energy conservation and renewables, and financing stormwater management and green infrastructure.
- Analyzed the capacity of local governments and watershed organizations to address resource protection issues in a sustainable manner, providing recommendations for reducing costs, developing revenue streams, and maximizing return on investment.
- Supported local food systems and the viability of agriculture in the region through the continued development of *Foodtrader.org* and *Agtrader.org*, websites that facilitate the local market of farm products and equipment.

ACTIVITIES & ACCOMPLISHMENTS

COMPLETED PROJECTS & INITIATIVES

Eastern Shore Agricultural Collaborative (ESAC):

The implementation of new regulations had strained the dialogue between the Eastern Shore's farming community and environmental organizations. To help improve this situation, The EFC worked with over 50 stakeholders from Maryland and Delaware's Eastern Shore region to facilitate collaboration among these groups, with a focus on identifying more effective ways of improving water quality in the Chesapeake Bay watershed. The EFC provided an avenue for this diverse set of stakeholders to work together to reach realistic solutions in the area of agriculture education, policy, and outreach, with a focus on sustainability and a strong agriculture economy.

Sustainable Financing for Renewable Energy: The EFC organized and presented a full-day conference in September 2009 at the University of Maryland, College

Park. Speakers shared their expertise on a variety of financing issues related to the use of wind, solar, waste, and geothermal energies. The nearly 100 participants included representatives from all levels of government, as well as nongovernmental organizations and the private sector. All presentations were uploaded to the EFC's website in an effort to further expand the reach of the conference. Respondents to the post-event survey unanimously indicated that they can put the information and tools provided into practice.

Port of Baltimore Clean Diesel Program: The EFC was able to leverage its position in the Mid-Atlantic to take on an ARRA funded emissions reduction project at the Port of Baltimore. The EFC led the Port of Baltimore Steering Committee, as well as four sub-award programs related specifically to dray trucks, cargo handling equipment, locomotives, and harbor craft. The EFC provided project management services including coordinating two truck financing seminars, providing meeting facilitation for the Port of Baltimore Steering Committee and sub-award programs, development and administration of the grant

application process, coordination of program partners, and quarterly and final reporting. In all, more than 80 pieces of equipment at the Port were replaced, repowered, or retrofitted to reduce emissions.



Diesel truck

ONGOING PROJECTS & INITIATIVES

Watershed Assistance Collaborative: The EFC is a founding partner in the Watershed Assistance Collaborative. This effort, lead by Maryland's Department of Natural Resources (DNR), better coordinates some of the State's key technical service providers, including Maryland Sea Grant and the Chesapeake Bay Trust in addition to DNR and the EFC. The assistance provided to Maryland communities and watershed organizations has improved local government and NGO capacity to implement watershed protection efforts

Green Infrastructure Training: The EFC promotes a green infrastructure approach to planning and resource protection because it enables communities to realize multiple community priorities with a few strategically placed investments. This approach creates efficiencies that allow communities to stretch local budgets and optimize the return on their resource protection investment. To this end, the EFC routinely offers sessions on green infrastructure financing for local government officials, watershed organizations, and land trusts. Active participation in the Green Infrastructure Community of Practice has ensured that the EFC is able to bring the most innovative best practices and their associated financing mechanisms to training participants.

The University of Maryland EFC by the numbers...

- Provided direct and intensive technical assistance to three Chesapeake Bay communities through our participation in the Watershed Assistance Collaborative
- Assisted in building the capacity of six land trusts and watershed organizations and three local governments in Virginia, West Virginia, and Maryland
- Reached more than 100 graduate students through environmental finance courses offered by UMD's School of Public Policy
- Facilitated the replacement, repower, or retrofit of more than 80 vehicles and pieces of equipment at the Port of Baltimore to reduce diesel emissions in a leveraged Recovery Act project
- Gave eight presentations on green infrastructure financing reaching close to 300 resource conservation professionals
- Hosted three conferences on sustainable infrastructure financing on subject areas including water systems, renewable energy, and goods movement
- Attended more than ten collaborative roundtables on issues including source water protection, green infrastructure, smart growth, and air quality improvement
- Provided a virtual marketplace for farm products and equipment of close to 1,000 vendors and buyers in Delaware and Maryland through our family of Agtrader/Foodtrader websites
- Helped more than 125 drivers learn how to address vehicle maintenance issues that degrade air quality and reduce fuel efficiency
- Addressed more than 300 local officials, utility managers, land preservation professionals, watershed group staff, and community organizers at conferences across the Mid-Atlantic

Building Market Opportunities for the Farming Community: The EFC manages two websites that provide a virtual marketplace for farm equipment and products. The Foodtrader.org and Agrtrader.org sites facilitate the purchase of local foods and provide an additional marketplace for agricultural products. The EFC also manages a similar set of websites for Delaware and has worked with three other EFCs to build similar websites across the country.

Stormwater Financing Feasibility Study – The EFC convened and facilitated a stormwater work group in Ocean City, Maryland. This group, composed of Ocean City stakeholders like the Hotel, Motel & Restaurant Association, Maryland Coastal Bays Program, Chamber of Commerce, homeowners associations, and key town staff, gathered three times to discuss stormwater infrastructure needs and outreach strategies. The EFC leveraged core funding for these meetings with state money from DNR that will fund the project for an additional year.



Sign used on buses in Ocean City, MD

Building Capacity for Mid-Atlantic Land Trusts: Spurred by a core-funded financing presentation at Maryland's annual land trust conference, the EFC partnered with Defenders of Wildlife and the National Park Service to collaborate on a project designed to build both the organizational and conservation capacity of land trusts in the Chesapeake Bay region. With funding from the NFWF, this partnership worked with a land trust on Maryland's Eastern Shore and a land conservancy in Richmond, Virginia to develop strategic plans for moving conservation priorities forward.

Clean Car Clinics: The EFC's work with the Port of Baltimore Clean Diesel Program lead to additional work with program partner, the Maryland Department of the Environment (MDE). MDE brought the EFC in to

manage a series of Car Care Clinics aimed at helping drivers better understand the connection between air quality, fuel economy, and a well-maintained vehicle. Seven clinics have been held to date with more than 125 drivers participating.

NEW PROJECTS & INITIATIVES

Sustainable Maryland Certified: Sustainable Maryland Certified is a new EFC initiative designed to support Maryland municipalities as they look for cost-effective and strategic ways to protect their natural assets and revitalize their communities. This free and voluntary program will help communities choose a direction for their greening efforts, complete their chosen actions with help from program tools, trainings, case studies, and other resources, and be recognized for their accomplishments. Using best practices in resource areas like water, air, waste, energy, equity, and economy, a municipality can earn points toward sustainability certification. The EFC intends to replicate success in the other Mid-Atlantic states.



Logo created for Sustainable Maryland initiative

BENEFITS & RESULTS

As a result of the ongoing activities and accomplishments of the Maryland EFC, outcomes have included the following benefits to communities and individuals:

As a result of EFC assistance through the Watershed Assistance Collaborative, the Middle Chester Partnership was awarded \$880,000 to continue their work to implement watershed restoration action strategies through a collection of innovative agricultural practices, septic upgrades, and wetland restoration.

The lifetime emissions reductions for the equipment addressed in the Port of Baltimore Clean Diesel program is estimated to be 780 tons of NOx and 38.5 tons of PM removed. The experience gained through participation in this program has expanded EFC's opportunity to address air quality in the region in several ways: (1) The EFC led efforts for a regional workshop that brought together key experts in the trucking industry from Maryland, Virginia, New York, and Pennsylvania which focused on information sharing and future regional collaboration; (2) the EFC is communicating with the Mid-Atlantic Regional Air Management Association (MARAMA) to build the framework for an innovative, longer-term truck financing program that would serve Mid-Atlantic port communities; and (3) the EFC is also building on its strong relationship with MDE to develop a potential project upgrading diesel engines for Maryland's watermen.

EPA approval of the Sassafra Watershed Action Plan, which was developed with assistance from the EFC as a part of the Watershed Assistance Collaborative, makes the Sassafra River Association (SRA) eligible for additional

funding. SRA is pursuing implementation funding through the NFWF and various state agencies, and is now better positioned for an award.

Approximately 20% of Maryland's municipalities have already committed to be a founding community or have indicated an interest in registering for the Sustainable Maryland Certified at the time of its 2011 launch. The EFC believes this demonstrates the significant resource gap that exists at the local level and suggests the extent to which Sustainable Maryland Certified will be able to assist communities in moving sustainability actions forward. In addition, this multidisciplinary approach to decision-making enables communities to gain efficiencies and maximize the return on local investments.

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ENVIRONMENTAL FINANCE CENTER AT THE UNIVERSITY OF NORTH CAROLINA AT CHAPEL HILL

BACKGROUND & SUMMARY

Located in the School of Government, the Environmental Finance Center (EFC) at the University of North Carolina at Chapel Hill (UNC), located at the School of Government, serves the states of EPA's Region 4. The primary purpose of the UNC EFC is to increase the capacity of public and private parties to address the financial aspects of environmental protection and service delivery.

The center works to enhance the ability of governments to provide environmental programs and services in fair, effective and financially sustainable ways. It assists communities; provides training and policy analysis services; and disseminates tools and resources on topics such as environmental cost accounting, rate setting, and developing sustainable cost recovery and institutional managements systems.



The UNC EFC accomplished the following:

- Completed more than 100 training events
- Developed new financial tools for local government water and energy managers
- Analyzed utility practices across the Southeast
- Worked toward environmental protection with public and private organizations

ACTIVITIES & ACCOMPLISHMENTS

COMPLETED PROJECTS & INITIATIVES

Energy Efficiency Retrofit Revolving Loan Programs:

The UNC EFC developed demand analyses to support Abundant Power's administration of CharlestonSAVES™ and AlabamaSAVES™, two Energy Efficiency Retrofit Revolving Loan Programs. The analyses identify customers and geographies in the respective regions with potential demand for the Energy Efficiency Retrofit Revolving Loan Fund Programs. The analyses' conclusions aim to guide the ultimate structuring of the Programs and will be used as sales management tools and roadmaps for targeted marketing campaigns in the program rollout and implementation phases.



Representatives from each SERWQAN community gathered in Asheville, NC and presented the highlights of their projects. They shared their experiences in addressing stormwater, watershed planning, quality growth, stream restoration, and other water quality

Southeast Regional Water Quality Assistance Network (SERWQAN):

Under the Targeted Watersheds Grants Program, the UNC EFC collaborated with the Southeast Watershed Forum, North Carolina State University and the Alabama Cooperative Extension System to provide assistance to 14 communities throughout the Southeast. SERWQAN worked with community leaders, watershed organizations and other stakeholders to develop skills and implement practical tools to support watershed protection efforts.

Irrigation Pricing, Policies and Practices in North Carolina: In the summer of 2008, the North Carolina General Assembly passed the 2008 Drought Bill, requiring water systems operated by local governments and large community water systems to take certain measures in order to better prepare for and manage drought conditions. There are management and financial implications of this legislation that have yet to be fully explored. UNC EFC research addressed some of those implications by comparing the irrigation practices, policies and pricing of twelve of North Carolina's largest utilities.

Adjusting Water Utility Impact Fees in Chatham Co., NC: In May 2010, the UNC EFC helped Chatham County develop a water utility impact fee structure in which fees increase depending upon the expected impact of the individual customer on the county's water system capacity. The new structure provides incentive for citizens to engage in more sustainable practices.

Developing a New Revenue Model for Water Rates in Montgomery Co., NC: A team from the EFC worked with Montgomery County to reevaluate water rates and fees for the County. The analysis took into account the costs to reserve capacity and provide treated water to bulk service customers. The EFC developed a model that clarified the need for raising rates and presented the consequences of not doing so.

Promoting Inter-local Water Partnerships in Surry County, NC: A team from the UNC School of Government and the UNC EFC worked with the local government units of Dobson, Elkin, Mount Airy, Pilot Mountain and Surry County, NC to examine the challenges and opportunities for water system partnerships within the County.

Expanding North Carolina Energy Efficiency and Renewable Lending Programs: Market Snapshot: The UNC EFC interviewed more than 20 stakeholders in North Carolina to gather ideas and insights that could inform lending policies. Through interviews and research, the EFC provided key findings for the overall NC energy efficiency and renewable energy lending program.

UNC EFC by the numbers...

- Co-sponsored or assisted in organizing more than 30 training events
- Delivered more than 100 presentations
- Taught more than 200 hours
- Developed 9 tools for utility managers and local officials as well as educational purposes.
- Provided technical assistance to more than 45 communities
- Published 10 articles on water and wastewater utility practices

Clean Energy Durham's Home Energy Share and Compare Tool: The UNC EFC supported the development of an online tool that allows Durham, NC residents to track and compare the energy use of their home and vehicles. This tool is unique in that it enables people to compare energy use for a particular month of weather in a specific town.

Assistance for Energy Efficiency and Conservation Project Funding: The UNC EFC provided training and direct assistance to local governments, state agencies, UNC system institutions, public schools and community colleges interested in applying for NC State Energy Office EECBG funds.

Financing Options for Boiler Retrofits and Replacements: The UNC EFC investigated financing options for boiler owners across the U.S. who will be affected by the new Boiler Maximum Achievable Control Technology (MACT) requirements. The rules will reduce emissions of toxic air pollutants such as mercury, dioxin, cadmium, and SO₂.

Georgia Water Taskforce: UNC EFC served on the technical advisory panel of the Governor's Water Contingency Planning Taskforce in Georgia. The Taskforce was charged with creating a contingency plan to address Georgia's water issues arising from a federal judge's July 2009 ruling on Lake Lanier. Judge Paul Magnuson ruled that water supply was not an authorized purpose of Lake Lanier, a water source that the Metro Atlanta area has come to depend on. The Taskforce analyzed measures for replacing this water supply, including building new reservoirs and extensive systems of reuse water lines. Increasing utility rates in the Metro Atlanta area is an option being considered to meet the shortfall in water supply that would result from the Lake Lanier ruling.

ONGOING PROJECTS & INITIATIVES

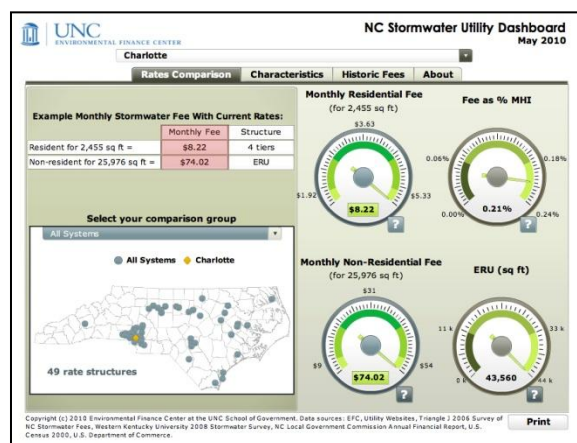
Georgia Water and Wastewater Rates and Rate Structures: The UNC EFC and the Georgia Environmental Finance Authority collected and analyzed water and wastewater rate structures from almost over 90% of public service providers in Georgia. This information was integrated into a dashboard, and can assist elected officials and staff as they make decisions related to water and wastewater services during budget preparations.

Rates Dashboard Tools: The UNC EFC updated its dashboard tools for North Carolina, South Carolina, Georgia and Virginia. The North Carolina dashboard, for example, allows users to compare residential and non-residential stormwater fees charged in 2010 by all of the NC stormwater utilities. Comparisons are made across subgroups of utilities with similar characteristics, such as location, EPA phase, rate structure, and customer income levels.

North Carolina Water and Wastewater Rates and Rate Structures: Every year, the EFC and the NC League of Municipalities collect rate schedules from hundreds of local government and not-for-profit utilities across the state. The rate schedules are used to determine what residential and commercial customers of these utilities are billed for their water and wastewater service, at various consumption levels. This information assists elected officials and staff as they make decisions related to water and wastewater services during budget preparations.

Healthy Watersheds through Healthy Forests Initiative: The UNC EFC is developing a funding model for the Conservation Trust for North Carolina, one of three partners on the \$6 million national "Healthy Watersheds through Healthy Forests Initiative" that advances the connection between forest management and water quality and quantity.

Water System Capacity Development Support: The UNC EFC is analyzing the forms of water system partnerships and interlocal agreements that exist in North Carolina, and has authored guidelines, tools and maps to assist water system managers in their capacity to partner with their neighboring systems.



The rates dashboards help utility managers and local officials analyze water and wastewater rates against multiple characteristics, including utility finances, system characteristics, socioeconomic conditions, geography, and history.

NEW PROJECTS & INITIATIVES

Sustainable Finance for Wetlands Programs: The UNC EFC is researching ways that states and tribes across the nation fund wetland permitting and protection programs. The research will result in a model of sustainable finance to help wetlands programs develop more consistent funding in times of uncertain grant prospects and state budget cutbacks. The UNC EFC will compile and share this information in seminars, supplemented with relevant skill instruction.

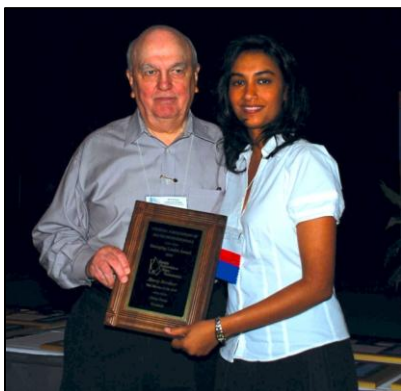
Technical Assistance for Clean Energy Financing: The UNC EFC joined a national team, including the entire Environmental Finance Center Network, to provide financial mechanism support for clean energy to state and

local recipients of American Recovery and Reinvestment Act of 2009 (ARRA) funding.

BENEFITS & RESULTS

Feedback:

“The specialized financial assistance provided by the EFC has been invaluable in our efforts to provide accurate and reliable financial information and policy advice to the Board of County Commissioners. The EFC’s expertise in governmental financing has resulted in several recommendations regarding financial assumptions and responsible financial management practices for enterprise funds.” —*Gayle Wilson, Solid Waste Management Director at the Orange County Solid Waste Management Department*



Stacey Isaac Berahzer, Senior Project Director at UNC EFC, received The Georgia Association of Water Professionals Emerging Leaders Award.

“I want to praise you guys for a wonderful job. Previously, trying to do a rate comparison on water rates throughout the state of GA was a tedious and cumbersome task. You have made it easy, and much more informative.” —*Kyle R. Young, of Notla Water Authority, regarding the Georgia Rates Dashboard*

“I really enjoyed the workshop and learned quite a bit about stormwater utilities.” —*Kim Hammond from the Top of Alabama Regional Council of Governments following a stormwater workshop in Auburn, AL*

Program expansion: The UNC EFC has been expanding its geographic reach by participating in the Delta Environmental Summit at Mississippi State Valley University in July 2010. Sessions discussed key environmental issues confronting communities in the Delta, innovative financing and funding opportunities for environmental projects, building local capacity through partnerships with local universities, and how to access federal funds.

The UNC EFC has also expanded its focus into the energy sector, working with both public and private organizations.

Community Achievements due to the EFC’s work: As a result of the work that the EFC has done on water/wastewater rate surveys, and other rate making tools such as the dashboards and guidebooks, several utilities have amended their rate structures, resulting in increased funds for water projects.

Several communities across the country have instituted new funding strategies for renewable energy and energy efficiency retrofits through assistance provided by the EFC.

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ENVIRONMENTAL FINANCE CENTER AT THE UNIVERSITY OF LOUISVILLE

BACKGROUND & SUMMARY

The Environmental Finance Center (EFC) at the University of Louisville, located within the Department of Sociology, serves the states of EPA's Region 4. The primary purpose of the Louisville EFC is to implement innovative approaches to answer the "how to pay" questions regulated entities and communities face when addressing environmental issues. The Louisville EFC provides technical assistance, education, and expertise to local, state and tribal governments, businesses, and non-profit organizations.



The Louisville EFC accomplished the following:

- Published four practice guides and worked toward the publication of three additional practice guides.
- Published seven reports and handbooks.
- Published two academic publications and one academic working paper.
- Co-sponsored/co-organized six Louisville-based *Sustainable City Series* lectures.
- Launched the *Kentucky FoodTrader* on-line farmers' market.
- Assisted the Metro Louisville's Green City Partnership in the development of a Climate Action Report.
- Facilitated workshops at the national and local level.
- Assisted the National American Sociological Association in developing 'green' practices for national and regional conferences and Association activities.
- Assisted the *Forecastle Festival*, one of the nation's top 15 outdoor festivals, in advancing and adopting green practices to support environmental activism.
- Assisted the Louisville-based Festival of Faiths by chairing a community garden committee that resulted in two new gardens being established in poverty-stricken neighborhoods identified as local food deserts.
- Assisted the University of Louisville in its Sustainability Plan.

ACTIVITIES & ACCOMPLISHMENTS

COMPLETED PROJECTS & INITIATIVES

Reports and Technical Assistance

The Louisville EFC completed the following reports, which were partially funded by grants and contracts outside of the core EFC grant funding. The technical assistance in each of these areas continues and is ongoing:

- Vick, J. (2010). *2010 State of Metropolitan Housing Report: A Housing Policy Roadmap for Louisville*
- Vick, J., McCoy, M., Piuma, P., Heberle, L., Dyer, J., Coomes, B., Bourassa, S., (2010) *Schoolyards as Resources for Learning and Communities: A Design Handbook for Kentucky Schools*.
- Piuma, P., McCoy, M., Vick, J., and Dyer, J. (2010). *Portland Elementary Schoolyard Report*

- Piuma, P., McCoy, M., Vick, J., and Dyer, J. (2010). *Cane Run Elementary Schoolyard Report*
- Arnold, C., Norton, C., and Wallen, D. (2009). *Kentucky Wet Growth Tools for Sustainable Development*
- Vick, J., Norton, C., and Nordin, G. (2009). *Jeffersonville (IN) Housing Inventory Study*
- Vick, J. and Norton, C. (2009). *2009 State of Metropolitan Housing Report*

Practice Guides

The EFC continues to produce practice guides and develops new topics each quarter, often upon request. The Louisville EFC completed the following practice guides:

- #23 *Water Pricing and Rates Dashboards*
- #24 *Sustainable Construction Policies in EPA Region IV*
- #25 *Urban Agriculture and Soil Contamination: An Introduction to Urban Gardening*
- #26 *Concentrated Animal Feeding Operations: What Are the Potential Community Costs?*

The University of Louisville EFC by the numbers...

- Reached more than 2,000 people and organizations through quarterly newsletters
- Gave 16 presentations at 11 different conferences and workshops
- Attracted an average of 300 people to each of its Sustainable City Series
- Published and posted four new Practice Guides
- Published a statewide handbook on water conservation and quality
- Published two regional housing reports
- Published two schoolyard design reports
- Published one statewide schoolyard garden handbook.
- Had over 4,000 unique visitors to its Kentucky Food Trader website
- Attended 16 conferences covering an array of topics on sustainable practices and policies

Publications

Meyer, P.B., Heberle, L. (2010). *Local Climate Change Initiatives in the United States: The Primacy of Short-Term Economic Returns in Local Governments and Climate Change: Sustainable Energy Planning and Implementation in Small and Medium Sized Communities*. van Staden, M. and Musco F (eds). *Advances in Global Change Research Volume #39*. Springer Dordrecht, Heidelberg, London, New York. Pp 181-190.

Arnold, C. and Norton, C. (2010). *A Voice is a Terrible Thing to Waste*. American Planning Association's *Planning*, Volume 76, Number 7. Pp 38-42.

Working Paper: Martin-Rutherford, J., Rausch, S., Norton, C., Lacy, P., and Meyer, P.B. (2009) *Effects of Public Sector Interventions on Adjacent Land Values: Waterfront Park in Louisville, Kentucky*.



Brownfields Institute

Brownfields Institute: The Louisville EFC completed the Brownfields Institute that increased community participation in brownfield redevelopment in socio-economically distressed neighborhoods. This project was funded outside the core EFC grant. The project held 30 workshops for local stakeholders attracting 40-50 participants to each session. The stakeholders were exposed to federal, state and local brownfields policy, financing strategies, methods of augmenting community participation, land use inventories, debates about how clean is clean, planning techniques and tools, as well as economic and community development strategies. The stakeholders were named to a city driven master planning task force to develop an economic development implementation plan for the Park Hill Corridor. Activities that develop tools for community participation in environmental decisions will become part of the EFC

mission. Two projects developing from this effort include providing technical assistance with financing options and environmental safety for stakeholders developing community gardens and public art initiatives in the urban core.

ONGOING PROJECTS & INITIATIVES

Practice Guides and Reports: The EFC will develop new practice guides and reports. Currently we are looking at a new series on safe soils that will include information about safe container gardening, financing urban agriculture projects, policy barriers to urban agriculture, and a design and safe soil guide for religious organizations who wish to transform their property into gardens for local residents and members to be modeled on the guide for schools.

NEW PROJECTS & INITIATIVES

Schoolyard Planning and Design Services: The Louisville EFC is collaborating with UofL's City Solutions Center on a Schoolyard Project. The project involves assisting schools facilitate a community-based process to redesign their property. The intent is to extend the learning environment to the school grounds (outdoor classrooms) and link the design to the schools' environmental curriculums, as well as promote community development and investment through the redesign process. Each schoolyard report includes a completed conceptual design plan for a shared outdoor learning and community space. These schoolyards will enhance an environmental studies curriculum at each school, as well as serve as a meeting, recreation, and event space for the surrounding community. To date we have completed two reports and one state level handbook on the subject. We intend to continue to reach out to additional schools.



Safe Soils

Urban Agriculture Technical Assistance: The Louisville EFC is focusing attention on urban agriculture policies and practices. As such, the Louisville EFC has provided technical assistance to EPA Region 5 regarding policy development for safe soils and urban agriculture/community gardens by participating in the development of two webinars and one onsite work shop with the goal of creating a decision tree for policy makers and program developers.

This new initiative is important in that there are no consistent recommended levels of safety for many contaminants commonly found in urban soils. The goal is to assess the state of knowledge, identify holes, and communicate this information in a usable fashion to lay people engaged in a wide variety of urban agriculture. In addition, the Louisville EFC will provide technical assistance and capacity building services for individuals, organizations, and agencies wishing to develop urban agriculture, community garden and public art projects in urban areas where environmental maintenance and safety are of concern.



Urban agriculture

BENEFITS & RESULTS

Communities and individuals have benefitted from the EFC's activities in a variety of ways. Our practice guides have been accessed by people from across the country and have proven to be useful to them in understanding sustainable development, energy efficiency, land-use planning and revitalization, utility management, and safe soil practices. They have been cited on many different environmental resource websites including the EPA. Our reports provided many communities with succinct

summaries and resources for addressing housing, transportation, land use codes, utility costs, watershed protection and safe, environmental schoolyard designs. Workshops we have held or sponsored produced new community connections, increased knowledge of how to address climate change, sustainability, and urban agriculture.

As a result of the national reach of their practice guides, the EFC @UL receives calls for technical assistance from all over the country ranging from the Danish Consulate in Chicago wishing to understand how the U.S. handles environmental contaminant records to small towns in

eastern Kentucky wishing to brainstorm about financing structures to help them address their commitments under a CSO consent decree, to individuals who want to know what to do about a neighbor who has sprayed diesel fuel on their yard as a weed killer.

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Maxine Goodman Levin
College of Urban Affairs

ENVIRONMENTAL FINANCE CENTER AT CLEVELAND STATE UNIVERSITY: GREAT LAKES ENVIRONMENTAL FINANCE CENTER

BACKGROUND & SUMMARY

Since 1995, the Great Lakes Environmental Finance Center (GLEFC) of the Maxine Goodman Levin College of Urban Affairs at Cleveland State University has served the six states of EPA's Region 5. As its overarching mission, the GLEFC helps communities develop innovative, cost-effective and quality financial and operational strategies for improving environmental and sustainable economic development. The GLEFC provides applied research, technical assistance, and training on emerging issues in innovative environmental finance, reduction in transportation-related carbon emissions, land-banking strategy development, urban revitalization, lead abatement, and drinking water and wastewater infrastructure asset management and financial health.



The Great Lakes Environmental Finance Center accomplished the following:

- Conducted applied research studies for federal, state and local government, and not-for-profit clients
- Provided technical assistance to public and not-for-profit organizations on issues of urban redevelopment, state and local government finance, innovative finance, and infrastructure finance and management
- Facilitated the urban redevelopment strategy for the State of Ohio
- Conducted economic impact analysis for state and local government and not-for-profit organizations
- Convened the Northeast Ohio Storm water Training Consortium
- Conducted storm water training for elected and appointed public officials

ACTIVITIES & ACCOMPLISHMENTS

COMPLETED PROJECTS & INITIATIVES

Environmental Finance White Paper Series: The GLEFC in partnership with the International Center for Environmental Finance conducted a series of applied research projects for the U.S. EPA, for both the Clean Water State Revolving Fund Branch in the Office of Wastewater Management and for the Smartway Transport Partnership. The whitepaper series produced reports on innovative financial strategies for SRFs and the Smartway Transport program. Those white paper reports include:

- *The Untapped Potential of Using Guaranties in the Clean Water State Revolving Fund (SRF) Program:* explores the use of SRF funds as loan guarantees/credit enhancements to improve the bond rating on publically issued debt and to reduce the cost of capital. The white paper relates to EPA Goal 2: Protecting America's Waters by expanding the

supply of capital to increase the investment in aging infrastructure.

- *Nutrient Trading:* explores new strategies to enhance the market based approaches to nutrient trading in watershed based geography (e.g. Chesapeake Bay Watershed across all state, not just the current program in Pennsylvania). The white paper also relates to EPA Goal 2 by expanding the supply of capital.
- *A Strategy for Financing New State Air Quality Finance Authority Programs through the Clean Water State Revolving Funds:* recommends the use of Clean Water State Revolving Funds to leverage the financing of State Air Quality Finance Authorities in reducing (diesel emission generated) nitrogen in bodies of water.
- *Smartway Transport Finance:* explores new strategies to build financial mechanisms to assist trucking fleets or individual truckers in retrofitting aging diesel trucks (and stationary equipment) with Smartway type equipment to reduce the diesel

emissions from operating or idling equipment. The paper explores the use of financial intermediaries, such as regional organizations or enterprises, including port authorities, truck stops, to help underwrite or facilitate the financing of Smartway type retrofits. .



Satellite image of the Great Lakes from NASA's Earth Observatory

Ohio Urban University White Paper Series: The GLEFC in partnership with the Ohio Urban University Program (UUP) published a white paper series resulting from a series of government finance forum sessions in the state capitol, Columbus, Ohio. Each white paper is composed of the comments made by the forum participants, including GLEFC staff. The white paper series included the following reports:

- *Fixing A Broken System: A Case of Ohio Leadership in Innovative Bond Finance:* explores the post-2008 state of the municipal bond market and the implications for the replacement and maintenance of infrastructure.
- *Priming the Pump: An Analysis of the Nation's Water Needs:* The white paper explores the need, cost, capacity and willingness to finance the nation's network of water infrastructure.
- *Can Long-term Gain Come from Budgetary Pain?:* The white paper explores the budgetary climate of state governments and implications on the finances of state and local governments. The white paper relates to all of EPA's Strategic Goals.

Technical Assistance Projects: The GLEFC provided technical assistance to public and not-for-profit organizations on issues including urban redevelopment,

state and local government finance, capital planning and finance, infrastructure finance and management, and strategic planning. Those projects include:

- *Aerotropolis Feasibility Study* for a consortium of 7 local governments in northeast Ohio, to test the feasibility of an economic development strategy centered around the Cleveland-Hopkins International Airport. The strategy links all transportation, infrastructure, cargo, new business development and corporate relocation related activities to a region with an airport serving as the geographic hub as well as the center of the product development, supply chain transportation and shipping/cargo strategies.
- *Chesapeake Fund Nitrogen Trading Market,* environmental finance technical assistance for the establishment of a nutrient trading system for the Chesapeake Bay area. Provided technical assistance in defining best practices analysis of the attributes of a nutrients trading market.
- *Land bank and Storm Water,* the City of Cleveland has 22,000 vacant parcels of land, the surrounding inner-ring suburbs in Cuyahoga County have an additional 20,000 vacant properties. The GLEFC has provided information and analysis for the Cuyahoga County Land Bank, which is the transitional owner of many of the properties, and the regional sewer authority to define strategies to utilize the vacant land to reduce the flow of storm water into the sewer system.
- *Build Up Greater Cleveland Strategic Plan,* for the northeast Ohio infrastructure advocacy organization focused on planning and financing road and bridge, water, sewer/water treatment, and transit infrastructure.

Economic Impact Analysis: *Economic Impact Analysis of the Development of the Medical Mart and Convention Center,* The GLEFC conducted an economic impact analysis of Chicago Based Merchandizing Mart Properties, Inc. (MMPI) development in Cleveland, the Medical Mart and Convention Center redevelopment in downtown Cleveland.

Historic Preservation Tax Credit Economic Impact Analysis, The GLEFC has conducted an economic impact analysis of the Ohio Historic Preservation Tax Credit program for Heritage Ohio, the historic preservation advocacy organization in Ohio. The impact analysis

considered the quantitative impact as well as the catalytic effect on urban redevelopment.

Provided Training: *The GLEFC initiated the Northeast Ohio Storm Water Training Council*, consisting of public and not-for-profit sector organizations providing environmental training, including storm water/NPDES training, to local elected and appointed public officials across northern Ohio. The GLEFC initially convened the Training Council to develop a regularly scheduled offering of storm water related training courses, with a consistent curriculum, strategies for seeking training funding, and with a defined network of training resources including facilitators and speakers. The Training Consortium meets on a regular basis throughout the year.

The GLEFC offered/and or partnered on 6 storm water related training events providing professional training, in the classroom and on a development site, to over 500 elected and appointed public officials, private sector engineers and planners, and developers.

Provided public finance training to city and county councils (Cleveland, Wooster, and Cuyahoga County) including budgeting, debt markets and debt financing, capital budgeting and finance, and council roles in the process.

The Great Lakes EFC by the numbers...

- Averaged 159 daily hits to their website and their reports were downloaded more than 8500 times
- Hosted 3 Public Forums, Speaker in 2 of the Forums, MC in 1 Forum
- Hosted 6 Storm Water Training Sessions, attracting more than 500 participants
- Worked with over 400 Google News Alerts on print, radio and television news media
- 15 print media interviews, 7 radio show interviews, and 4 television interviews
- Provided technical assistance to 15 communities

Participated in strategy sessions with EPA Region 5 staff: The GLEFC actively participated in the following EPA Region 5 activities:

- Sustainable Development Committee (with commercial bankers, investment bankers, developers, insurance executives, et.al.), defining obstacles to sustainable real estate development. Relates to EPA Goal 3.
- Region 5 conference/discussion of venture capital and environmental inventors and the commercialization of environmental products. Relates to EPA Goal 3.
- Region 5 Green Venues planning and demonstration projects, for recycling at major venues including stadiums, arenas, hospitals, museums, universities, etc.

ONGOING PROJECTS & INITIATIVES

Sustainable Development: The GLEFC has been working with EPA Region 5 on defining the obstacles to sustainable development, as an ongoing conversation as well as participating/participating in Chicago based sustainability meetings and conferences. The GLEFC will continue to convene the Northeast Ohio Storm Water Training Council, providing environmental training, including storm water/NPDES training, to local elected and appointed public officials across northern Ohio. The Training Consortium meets on a regular basis throughout the year to design and coordinate sessions.

Training: The GLEFC will continue to offer and partner on 6 storm water related training events providing professional training, in the classroom and on a development site to elected and appointed public officials, private sector engineers and planners, and developers.

NEW PROJECTS & INITIATIVES

Redevelopment strategy for the City of Rittman, Ohio: Assisting the City of Rittman in developing alternative strategies to facilitate the remediation and redevelopment of a large industrial property in the city.

Clean Ohio Revitalization Fund, Economic Impact Analysis: The economic impact analysis of the eight funding cycles of the environmental remediation financing agency will consider the direct, indirect, and induced impacts that have resulted from the state's

leveraged investments in the redevelopment of challenged real property.

Beyond Planning: Developing Financial and Institutional Capacity for Community Development Project Implementation for the EPA-DOT-HUD Partnership for Sustainable Communities. Assist the Region 5 and Headquarters staff in development of a strategy to increase the rate of success in EPA funded local remediation projects through planning and technical assistance.

BENEFITS & RESULTS

The GLEFC's expertise in development, capital/infrastructure, and bond financing has attracted clients from Region 5 and throughout the country, including providing technical assistance and speaking at national conferences and meetings.

The GLEFC has a significant base of repeat clients, including the Ohio Department of Development, who has hired the GLEFC for several projects since the creation of the Clean Ohio Revitalization Fund (CORF). Work included developing the policies for the administration of the CORF program, the decision rules for the dissemination of grants and loans, an evaluation of the first year of operation, an evaluation of the first complete (4 year) funding cycle of CORF, and state-wide focus

groups to determine the perception of effectiveness after the second completed funding cycle. They have recently engaged the GLEFC to conduct an economic impact analysis of CORF's two completed funding cycles.

The GLEFC has been hired to work (outside of the core grant) by the U.S. EPA, U.S. Department of Labor, U.S. Department of Education, and with repeat engagements by the U.S. Department of Housing and Urban Development, the U.S. Department of Commerce: Economic Development Administration and the National Oceanographic and Atmospheric Administration.

The GLEFC's development of a Land Bank Strategy for greater Cleveland is considered one of the most innovative land bank operations in the U.S. The quick foreclosure process sets it aside from all other land banks by taking foreclosed and vacant properties before speculators can attach those properties, and by utilizing an increment of the real property transfer tax as the principal revenue source.

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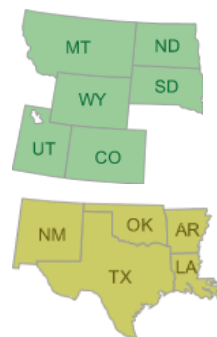
ENVIRONMENTAL FINANCE CENTER AT NEW MEXICO INSTITUTE OF MINING AND TECHNOLOGY

BACKGROUND & SUMMARY

The New Mexico Environmental Finance Center (NM EFC) at New Mexico Tech, serves the eleven states of EPA's Regions 6 and 8. The primary purpose of the NM EFC is to assist state, local and tribal governments in meeting environmental infrastructure needs and achieving regulatory compliance through state and local capacity building, effective management, and technical information transfer.

The NM EFC accomplished the following:

- Provided asset management training and assistance at national, state, and local levels
- Began work on a video-based interactive asset management training manual for use by state and local governments in learning, teaching and implementing asset management
- Improved compliance and public health protection in Tribal drinking water systems
- Worked directly with communities to increase technical, managerial, and financial capacity
- Assisted communities with analysis and implementation of leak detection strategies
- Facilitated coordination between state and federal agencies to improve services to small water and wastewater systems with compliance issues



ACTIVITIES & ACCOMPLISHMENTS

COMPLETED PROJECTS & INITIATIVES

Promoting Sustainability through Asset Management:

The NM EFC presented interactive workshops on developing asset management plans and utility rate setting for communities throughout New Mexico. In 2010, the NM EFC hosted the first meeting of a new state-wide asset management user group and sponsored a visit to New Mexico by Ross Waugh, a prominent asset management consultant from New Zealand. Mr. Waugh met with the Albuquerque Bernalillo County Water Utility Authority, the NM Asset Management User Group and numerous NM state agencies. In addition, the NM EFC worked with state agencies in New Mexico, Texas and Arkansas to assist with streamlining regulatory and funding functions.

Asset Management Training and Assistance: The NM EFC, under funding from the NM Department of Finance and Administration, provided asset management trainings

to communities seeking additional points for asset management on CDBG applications. In addition, under multiple contracts, the NM EFC provided direct assistance to several small communities in New Mexico in completing asset management plans.



Ross Waugh, asset management expert from New Zealand, speaking to asset management user group in Albuquerque, NM

Management Training for Tribal Managers: In 2009, under a contract with the Indian Health Service, the NM EFC presented two 3-day management workshops in Arizona and Washington. These trainings for tribal utility

managers covered asset management, capital planning and budgeting, utility rate setting, and regulations.

The New Mexico Tech EFC by the numbers...

- Examined leak data on 14,000 fire hydrants for Albuquerque Bernalillo County Water Utility Authority
- Held 18 training events for communities in New Mexico, attracting over 400 participants representing 175 communities
- Performed 10 capacity assessments for Texas water systems
- Held 18 training events for tribal water operators and managers, with over 375 participants, including representatives from over 46 tribes from 7 states
- Assisted 98 tribal water systems in the preparation of Consumer Confidence Reports
- Administered 9 tribal operator certification exams
- Performed 24 Multiple Barrier Evaluations at Tribal water systems in New Mexico
- Performed 31 Sanitary Surveys for drinking water systems in Wyoming
- Conducted 2 stakeholder meetings to facilitate regional compliance with 60 attendees
- Facilitated meetings with 57 attendees resulting in the establishment of the Texas Water Infrastructure Coordinating Council
- Hosted asset management user group with 37 participants representing 16 communities
- Gave presentations at 17 conferences, attracting over 1200 conference participants

Identifying Solutions for Small Water Systems in Texas: The NM EFC, under a contract with Parsons, conducted capacity assessments for small water systems in order to evaluate the ability of the water systems to achieve regulatory compliance. The NM EFC also facilitated stakeholder meetings in the Waco, TX area to explore regionalization options to address compliance issues in thirteen water systems.

Sanitary Surveys in EPA Region 8: In 2009 and 2010, under a task order agreement with EPA Region 8, the NM EFC conducted sanitary surveys for public drinking water systems in Wyoming.

ONGOING PROJECTS & INITIATIVES

Appropriate Solutions to Environmental Challenges:

Under the core grant, the NM EFC continues to assist state and local governments with capacity building using tools such as asset management and energy efficiency and promotes sustainable approaches across the country at meetings, training and conferences. In addition, the NM EFC is creating uniform financial reporting forms and standards to evaluate funding applications and user rates.

Assistance to the ABCWUA in Asset Management and Leak Detection:

Under two contracts with the Albuquerque Bernalillo County Water Utility Authority, the NM EFC continues to provide assistance and training with their asset management program. In addition, NM EFC works with the Authority to evaluate potential leak detection strategies and to develop a strategic water loss reduction program.



Digging up leaking water lines in Albuquerque, NM

Development of Kansas Asset Management CD: Under a contract with the Kansas Department of Health and Environment, the NM EFC is developing a video-based, interactive asset management training manual. The EFC has interviewed representatives from 13 water and wastewater systems in 6 states, discussing their experience with asset management. The manual is intended to help water and wastewater systems with asset management and energy efficiency and to assist agencies in providing training.



Video production for interactive asset management guide in Cincinnati, OH

Tribal Drinking Water Program for EPA Region 6:

The NM EFC has been working with public water systems representing Native American Tribes since 1996. Under a continuing contract with EPA Region 6, the NM EFC assists Tribal water systems in promoting public health through safe drinking water by providing compliance monitoring, technical assistance, managerial and financial capacity building, public education, voluntary plan review, training, information management and water operator certification.



Multiple Barrier Approach training at Acoma Pueblo, NM

Environmental Document Review: Under a contract with the New Mexico Finance Authority, the NM EFC evaluates environmental documents submitted by communities seeking funding (including ARRA funding) through the Drinking Water State Revolving Loan Fund.

NEW PROJECTS & INITIATIVES

- Energy Efficiency at Water and Wastewater Facilities (Goal 1)
- Region 8 Training and Tribal Assistance (Goals 2, 3 & 5)
- Climate Change Adaptation for Tribes (Goals 1, 2 & 3)
- Source Water Protection Website (Goal 2)

BENEFITS & RESULTS

Tribal Operator Training: The NM EFC provided training to tribal water system personnel, resulting in improved compliance with drinking water regulations and increased operator and manager competency.



Putting together a chlorine pump—tribal training on disinfection, Albuquerque, NM

Examples of feedback from trainings:

“Let everyone know at the EFC to keep up the great work and assure them that they have been doing us a big service.” —*Strallie Edaakie, Sr., Utility Manager, Pueblo of Zuni*

“You folks are doing a good job of keeping us up to date on the regs.” —*participant at Understanding Compliance Monitoring Training*

Asset Management: The NM EFC has become recognized as a leader in the area of asset management for water and wastewater infrastructure. After actively promoting asset management and its benefits in New Mexico for several years, the NM EFC is now advancing asset management across the country. The benefits of this

work include improved operations, compliance and management.



Participants at the organizing meeting for the Texas Water Infrastructure Coordinating Council in Austin, TX

Specific training examples:

- **Workshop Training:** The NM EFC has trained over 400 people from 175 communities. Many of these communities are now helping others via the asset management user group initiated by the NM EFC.
- **Training Feedback:**

“...wonderful, not only for asset management, but also for annual budget planning” –*participant at Asset Management for CDBG Applicants training*

“...with limited resources a rural water system can provide a good sustainable water system and good customer service in implementing an asset management plan” –*participant at Asset Management for CDBG Applicants training*

- **Video-Based Interactive Training:** The videos created for the asset management training manual have already been shown at over 15 meetings and conferences and have sparked enthusiastic interest across the county.

Small System Compliance Assistance: The NM EFC has been a leader in assisting states with bringing small water systems into regulatory compliance. Some examples include:

- **Texas Water Infrastructure Coordinating Council (TWICC):** NM EFC facilitated 2 meetings of state and federal funding agencies in Texas which resulted in the formation of this council to coordinate funding efforts in Texas.
- **Water System Regionalization:** NM EFC
- Facilitated meetings in Waco, TX to initiate regionalization efforts that will result in thirteen systems achieving regulatory compliance.
- **Arkansas Water and Wastewater Small Systems:** NM EFC worked to help the state of Arkansas to address non-compliance in small water and wastewater systems.

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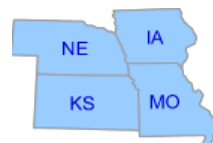
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ENVIRONMENTAL FINANCE CENTER AT THE HUGO WALL SCHOOL, WICHITA STATE UNIVERSITY

BACKGROUND & SUMMARY

The Environmental Finance Center (EFC) at Wichita State University (WSU), located in the Hugo Wall School of Urban and Public Affairs, serves the 4 states of EPA's Region 7: Iowa, Kansas, Missouri and Nebraska. Established in 2010, the EFC at the HWS is the newest EFC in the Network. The mission of the EFCN is a perfect fit with the current activities of the Hugo Wall School, including water resource policy development, capacity building, community engagement and public finance.



The primary purpose of this newly created EFC is to provide education and training to assist communities to better understand environmental issues; and provide resources and technical assistance to manage and pay for environmental projects. In particular, the center promotes financial capacity on environmental issues through on-site technical assistance and training, conference/seminar presentations, and other outreach activities such as hosting workshops and developing guidance documents.

The EFC at Wichita State University accomplished the following:

- Instituted itself as the Environmental Finance Center for Region 7 by working to make its presence known throughout the Region through meeting with government, non-profit, and business sectors
- Conducted sessions with key stakeholders in Region 7 to gain input on regional service needs and areas the EFC's expertise can be best utilized
- Attended meetings and conferences to inform organizations about the services the Environmental Finance Center can provide, as well as gain a perspective on what assistance they feel is needed in the Region
- Developed partnerships with technical providers in the Region to provide assistance with current programs and initiatives, as well as future projects
- Presented at a variety of environment and finance related meetings/conferences for state, local and non-profits on the services the EFC provides
- Served as an educational resource for local and state governments on water and wastewater projects



ACTIVITIES & ACCOMPLISHMENTS

NEW PROJECTS & INITIATIVES

Energy Management Initiative for Water and Wastewater Utilities: Wastewater and water utilities require a lot of energy. With rising energy costs and implications for climate change, energy management is one of the most salient issues facing wastewater and water utilities today. A systematic approach for managing the energy challenges water and wastewater utilities face is the best way to address these issues while remaining financially and environmentally sustainable. The initiative will provide training and resources to allow communities to develop energy management plans to reduce their energy use by at least 15%. Money saved can then be used to improve the aging infrastructure of water and wastewater plants. The EFC will facilitate partnerships among participating municipalities, state water and energy organizations, electric utilities, and specialty training providers. The EFC will also help communities identify funding sources for their energy efficiency projects. This initiative assists in accomplishing two of EPA goals. Goal 1 is met by encouraging system energy use reductions, resulting in fewer greenhouse gases emissions thus improving air quality and reducing impacts to climate change. Goal 2 is met through encouraging better utility management which decreases the chances of system failures that could result in negative water quality impacts.

Nonpoint Source Revolving Loan Fund Development:

The Kansas Department of Health and Environment (KDHE) asked for EFC assistance in researching effective and efficient options of conducting a revolving loan program for relatively low-dollar non-point source projects. In order to find the best options for KDHE, the EFC will look into the potential benefits and downsides, as well as financial nuances of approaches taken by other states, and offer recommendations. The revolving loan fund, through KDHE, will be a large step to assist landowners to implement non-point source projects. Nonpoint source pollution is widely viewed as one of the most serious threats to our nation's water quality. By helping individuals pay for remediation projects, it will help prevent contaminants from entering the water supply which is an EPA goal.

Wichita State EFC by the numbers...

- Hosted 75 stakeholders at a press event to announce the new EFC
- Provided an overview of the new EFC and the services offered to more than 200 people at 6 separate meetings
- Presented at three separate local government association conferences reaching more than 400 people, covering topics on water service deliveries, environmental dispute resolutions, and water rate setting concepts
- Participated in over 20 conference calls to inform public sector officials and organizations about the services the EFC offers
- Attended three national events/conferences to gain information on current environmental and financial issues
- Provided technical assistance to four communities on utility management and land use planning
- Collaborated with other organizations to coordinate three environmental related events
- Developed a website including a grant resource page highlighting opportunities for regional stakeholders

John Garland Park Revitalization: EPA Region 7 requested help from the EFC to assist with the revitalization of John Garland Park in downtown Kansas City, KS. The park is located on a capped landfill and has been an issue of concern for the community for decades. Efforts now focus on revitalizing the land so that it is an asset to the community. Several entities are assisting with this effort, including KDHE and the Unified Government of Wyandotte County. The EFC is providing assistance with identifying ways to finance the project. The EPA identifies the restoration of contaminated areas as an important goal for the agency within the EPA strategic goal to clean up our communities. The project also helps the EPA promote sustainability and healthier communities in disadvantaged populations.

Regional Energy and Sustainability Conference: To educate the public, government officials and the business community about the importance of sustainability and energy efficiency, the EFC is assisting the City of Wichita and other regional stakeholders to coordinate and host a regional energy conference and fair in January of 2011. The event was started 3 years ago and has grown each year in scope and participation which is anticipated to be over 250. Assisting in the coordination of this conference helps to promote all five EPA strategic goals as sessions are offered throughout the event on all topics.

Economic Impact Analysis Projects:

- **Analysis of Agreements between Cities and Rural Water Districts:** The EFC is working with the Regional Economic Area Partnership (REAP) to develop an economic impact analysis of recent financial agreements reached between cities and rural water districts in the state of Kansas. The study is focused on determining the financial costs of territorial disputes and how they affect both cities and rural water districts. This analysis is aimed at promoting cooperation between the systems to see that money is spent on providing quality service and not legal fees. This project relates to EPA's goal to protect America's waters.
- **Ozone Non-attainment for Wichita MSA:** The Wichita MSA is facing potential ozone non-attainment and contacted the EFC to assist in the research of the economic impact of ozone non-attainment status for the four county region. The EFC will work with local, state and federal officials to determine service needs the EFC can provide should the community go into non-attainment and work with the development of a State Implementation Plan. This project directly relates to EPA's strategic goal to improve air quality by providing information for decision makers as they work through air quality issues.
- **Building Asset Management and Capacity Development:** Staff have been identifying and developing resources to provide educational training and workshops to communities on asset management, and financial and managerial capacity development. The EFC plans to provide municipalities with the necessary tools and training to handle the financial and infrastructure needs of their utility systems. Increasing community capacity on water and

wastewater system management assists in the accomplishment of EPA's strategic goal to protect America's waters.

Water and Wastewater Rate Setting Assistance:

- **Wichita Water Utilities Advisory Committee:** The City of Wichita asked EFC staff to assist with the Wichita Water Utilities Advisory Committee. The committee was created to assist the Water Utilities department in its efforts to ensure a long-term water supply for the community. The committee will also review the Wichita Water Utilities' future financial commitment to the Aquifer Storage and Recovery project, a large recharge project the City has undertaken to provide water capacity for the region through 2050. Assisting the City of Wichita correlates with EPA's goal to protect America's waters, as this project not only restores water resources it also provides funding for future water resource protection.
- **Water/Wastewater Rate Analysis:** The EFC is assisting small systems with setting appropriate water and wastewater rates. Staff analyzes current and past financial information on the systems and provides recommendations for future rates and other financial capacity issues. Small systems are most likely to have system violations due to a lack of capacity. Working with systems to set appropriate water rates relates to the EPA's priority to protect America's waters by ensuring financial capacity is available to provide safe drinking water and system improvements.

BENEFITS & RESULTS

The following outcomes have been accomplished as a result of the new activities and initiatives of the WSU EFC:

- **Built the capacity of the regulated communities to develop and support sustainable water systems.** The EFC provided a presentation on basic water rate setting practices at the Kansas Rural Water Association conference in 2010. The audience included almost 100 water and wastewater system operators and management personnel from systems across the state and of a variety of sizes. The presentation provided the steps and information needed to set appropriate rates to full cost price the

activities of the system. The presentation also resulted in several systems contacting the EFC for additional rate setting assistance.

- **Assisted regulated communities to support cleaner/greener business through source reduction, pollution prevention, energy conservation, resource recovery, reuse, and recycling.** The EFC participated in coordinating and executing the Wichita Regional Energy Conference and Fair in 2009 and 2010. The event brings together citizens, government officials, and business leaders to learn about the latest green and energy efficient technology for the office, home and vehicles. While working on this conference, staff built contacts and gained knowledge on how to bring additional opportunities regarding sustainability and energy efficiency to other areas of Region 7.
- **Worked with state agencies to support environmentally sustainable infrastructure, growth management and land use planning.** EFC staff provided research assistance to the Kansas Department of Health and Environment (KDHE) to assist with the expansion of the Kansas Water Pollution Control Fund; a revolving fund for nonpoint source projects. EFC staff researched revolving loan fund programs for NPS projects in 5 other states that have successful and diverse programs.
- **Assisted regulated communities to improve their water and wastewater utility energy efficiency, management, and capital planning.** The EFC coordinated efforts for communities in Missouri and Kansas to participate in the *Energy Management Initiative for Water Utilities*. The effort occurs through a partnership with EPA Region 7 as well as industry partners and applicable state associations. The initiative provides workshops to municipalities in the Region to provide training and assistance in developing a customized energy management plan

for their water and wastewater utilities. The initiative's goal is for each participating community to reduce energy use by at least 15%.

- **Formed strategic partnerships with technical assistance providers to further expand the EFCs reach and impact.** The Wichita EFC and the Kansas Municipal Utilities Association (KMU) developed a partnership to provide asset management training to cities in Kansas using materials created by the New Mexico EFC. The materials were created under contract by the Kansas Department of Health and Environment (KDHE) as well as the training series. Trainings will be conducted in all 6 regions of the state and will be partnered with follow-up on-site technical assistance for communities that wish to move forward with implementing an asset management program.
- **Work with regulated communities to address climate change through GHG reductions, developing decision tools, and financial strategies.** EFC staff assisted with recruitment and provided presentations for the *Resourceful Kansas* program. This DOE grant funded program is a cooperative between K-state, GBA associates and Riley County. The program's goal is to engage communities to make a fundamental shift toward a less energy intensive, more efficiency economy through education and technical assistance. The EFC was asked to provide information on the financing opportunities availability for energy efficiency and renewable projects.

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ENVIRONMENTAL FINANCE CENTER AT DOMINICAN UNIVERSITY OF CALIFORNIA

BACKGROUND & SUMMARY

The Environmental Finance Center at Dominican University of California, located at the School of Business and Leadership, serves the four states and two territories of EPA's Region 9. The primary purpose of this EFC is to promote sustainable healthy communities through cleaner business, by advancing pollution prevention, source reduction, and energy conservation. The Dominican University EFC works with the private and public sectors to: 1) encourage industry to implement sustainable business practices, 2) educate and encourage consumers to choose green business products and services, and 3) help communities, Tribes and government promote sustainable self-supporting business.



The Dominican University EFC has accomplished the following:

- Completed Northern Nevada Tribal Recycling report
- Completed La Jolla Campground Operations Management Analysis
- Completed La Jolla Ecology Business Plan, Market Survey, and Campsite Presentation
- Completed La Jolla Climate Showcase Proposal and Luiseño Waste Services Business Plan
- Held Navajo Introductory Meeting and Solar Installation Workshop
- Prepared solar analysis for Torres Martinez casino
- Held Save the Peaks Coalition Introductory Meeting and Capacity Building Workshop
- Prepared the Southern California Biodiesel Report and the Mapping the Nail Care Industry Report
- Coordinated preparation of Greenhouse Gas Inventory for Dominican University
- Convened Marin nail salon workers meeting
- Prepared Mapping the Nail Care Industry Report and established healthy nail salon certification standards
- Completed Healthy Hair Guide and hosted three Hair Guide events

ACTIVITIES & ACCOMPLISHMENTS

COMPLETED PROJECTS & INITIATIVES

Evaluation of Opportunities for Solar Energy at the Torres Martinez Tribal Casino: the EFC prepared a report on solar opportunities for the Torres Martinez Tribe in which we recommended various solar options to help power their casino and other Tribal businesses.

Increasing Recycling and Related Green Business Opportunities for Northern Nevada Tribes: This report, prepared for 20 Tribes in Northern Nevada, identified a variety of recycling options to reduce the financial strain of recycling programs. Due to the plummeting prices of recycling commodities and the lack of a mandated market for recycling by the State of

Nevada, individual tribal recycling businesses are not profitable at this time.

Luiseño Waste Services Business Plan: The Luiseño Waste Services Business Plan was completed by a GreenMBA intern in July 2009. Since that time the intern has continued to work with the La Jolla on implementing the business plan and in developing their Integrated Solid Waste Management Plan (ISWMP).

Navajo Introductory Meeting and Solar Installation Workshop: In 2010, the Dominican EFC visited the Navajo based Black Mesa Water Coalition, and held meetings with members of the Navajo Green Economy Commission, and has been working with the Commissioners, other Navajo partners and the Women's Earth Alliance to develop a business plan for a grid connected solar installation at Black Mesa.

Save the Peaks Coalition, Introductory Meeting and Capacity Building Workshop: Also in 2010, the EFC met with the Save the Peaks Coalition devoted to protecting the San Francisco Peaks Mountains, located outside Flagstaff Arizona. The Coalition, comprised of 14 area Tribes including the Navajo, Hopi, Havasupai, Hualapai and Apache, has been engaged in protecting the Peaks from the use of reclaimed wastewater for snowmaking. The EFC provided a capacity building workshop to the Coalition emphasizing a systemic approach.

Greening Dominican University: The EFC helped coordinate a Greenhouse Gas Emissions Inventory Report for Dominican University. The Report determined that in fiscal year 2009, Dominican University of California emitted approximately 2,333 Metric Tons of Carbon Dioxide Equivalents (MTCDE). This amounted to 1.7 MTCDE per student. Recommendations for continual improvement of operations in the areas of energy cost savings and GHG emissions included creation of campus green building guidelines, installation of advanced metering, lighting upgrades, and capitalizing on PG&E, Federal, State and County incentives for energy conservation.

Dominican University EFC by the numbers...

- Hired 11 Green MBA Interns
- Attended over 30 conferences and workshops.
- Sponsored 3 healthy hair events
- Distributed approximately 500 Healthy Hair Guides
- Prepared 8 Tribal Green Business reports
- Held site visits with 8 Tribes and Tribal Associations to discuss Tribal green
- Authored 2 personal care product industry reports and one biodiesel industry report
- Participated in three major California Healthy Nail Salon Collaborative meetings

Biodiesel Initiative: The EFC prepared a research report focusing on case studies of Southern California fleets that use biodiesel. to inform fleet managers in Southern

California about the pros and cons of using biodiesel made from waste oil and how to make the transition.

Marin Convening: Staff assisted in the convening of nail salon workers and environmental health advocates in Marin County to identify and address their needs. Sixty individuals from the nail salon community and the Collaborative attended as well as representatives from the State Board of Barbering and Cosmetology, California Occupational Safety and Health Administration, and the State Insurance Compensation Fund.

Mapping the Industry: The EFC completed a report entitled “Mapping the Nail Care Industry: Personal Care Industry Information and Profiles of Leading Cosmetics, Beauty Store and Nail Care Product Companies” in March 2010. The purpose of the report was to identify barriers and opportunities to developing greener and healthier products.

African American Hair Care Guide: In early 2010, the EFC and US EPA staff launched their joint publication “Techniques for Achieving Healthy Hair,” a user friendly guide that promotes green hair styling products and shares tips on selecting safe, less toxic ingredients. The Guide was launched at a free event sponsored by Black Women for Wellness in Los Angeles. There were approximately 80 attendees and about 100 Guides were distributed. The EFC also sponsored a Bay Area launch of the Hair Guide in Oakland on May 24th. The EFC developed a slide presentation to accompany the Guide which is available for download on our website.

California Green Business Program Coordination: The Dominican University EFC has been working with the Bay Area and California Green Business Programs since 2000 and has acted as the Region IX Coordinator since 2003. The EFC has helped the California Programs develop their own bylaws and meeting guidelines.

ONGOING PROJECTS & INITIATIVES

Proposal for a Future La Jolla Indian Reservation Campground: Working with the La Jolla Campground management staff, the EFC identified the necessary improvements to this Tribally-owned facility that would guarantee a steady income stream over the long-term. After numerous site visits, it was determined that camper frustration and anger stemmed from two root causes – there was no reservation system in place for campsites

and there was no limit on the number of cars (or number of people) that could park on each site. Since the completion of this report the La Jolla have 1) delineated the number of campsites suitable for the environment, 2) agreed on a new pricing structure, 3) added deposits and changes to operations to ensure that reserved sites are occupied by the reserving parties and 4) added a recycling program.



Current La Jolla Campground Admission Fees

La Jolla Ecolodge Business Plan and Market Survey:

The Ecolodge Business Plan and Market Survey were completed by Dominican's EFC and GreenMBA interns in 2010. The Market Survey determined that there is a strong market for this type of operation in Southern California and little existing competition. Assuming the Tribe continues to apply the campground recommendations mentioned above, the proposed Ecolodge development could generate \$800,000 in revenue by year five and over \$341,000 in net income.

California Nail Salons Initiative: The Dominican University EFC serves as a member of the National Nail Salon Alliance and participates in the Industry, Outreach, Building Bridges and Policy Subcommittees of the California Healthy Nail Salon Collaborative. Staff also participated in a major meeting entitled "Framing a Research Agenda to Advance Worker Health and Safety in the Nail Salon and Cosmetology Communities" hosted by the Collaborative.

NEW PROJECTS & INITIATIVES

Strategic Planning: Native American Environmental Protection Coalition (NAEPC): NAEPC, a coalition of 20 Southern California Tribes, was created to assist member Tribes in establishing their own environmental offices, train staff and assist in grant writing. EFC staff will guide the NAEPC strategic planning process to help them develop a better approach to fundraising and nonprofit and board management.

Washoe Tribe Green Economy Development: EFC staff will work with the Washoe Tribe of Northern Nevada to help them develop ecotourism and renewable energy initiatives through workshops and business planning support.



Site Visit to Washoe Tribe of Nevada

Tribal Finance: The EFC will prepare a research report on Tribal Renewable Finance and will also work with EFAB to explore financial opportunities and barriers to tribal self-sufficiency.

Climate Adaptation for Disadvantaged Communities: The EFC will prepare a report on adaptation tools and strategies to help lay the foundation for future work with economically disadvantaged communities.

Green Nail Salon Certification Support: Through site audits, the EFC will evaluate the proposed Nail Salon Certification Program to identify barriers and opportunities to greening salons. This project will also include a feasibility assessment of a program to enable nail salons to purchase safer, less-toxic products through purchasing pools.

Teach With Africa (TWA) Partnership: Working with TWA in the United States and the LEAP School, Singita Game Reserves and Amakhala Game Reserve in South Africa, EFC staff will provide leadership and sustainable enterprise training to rural communities, townships and refugees.

International Guidebook on Environmental Finance: In a project supported by the United Nations Development Program (UNDP) and EPA Office of International Affairs, Dominican's EFC will prepare a guidebook on environmental finance in the developing world. The Guidebook will include chapters on Protected Areas, Sustainable Agriculture, Sustainable Forestry and Pro-Poor Energy.

BENEFITS & RESULTS

As a result of the ongoing activities and accomplishments, outcomes have included the following benefits to communities and individuals.

As a result of efforts to help tribes understand financial opportunities to develop renewable energy, both the Torres Martinez of California and the Navajo of Arizona are pursuing solar strategies.

Because of business planning efforts with the La Jolla Tribe, they are now strengthening their campground management and increasing their revenue stream. They are also better able to develop their transfer station and recycling center and establish appropriate waste fees and payment structures. As a result of the EFC's work, the tribe can achieve greater self-sufficiency and long-term sustainability.

Through efforts to identify the barriers for biodiesel derived from waste grease, industry stakeholders,

including EPA, can now better understand the limitations to industry growth and begin addressing the obstacles.

As a result of the Greenhouse Gas Emissions Inventory prepared for Dominican, the University is now developing a campus-wide transportation plan that will help reduce overall GHG emissions and conserve energy resources.

Through various Nail Salon Initiative efforts described above, the EFC has helped educate hundreds of stakeholders from the public, private and nonprofit sectors, and helped produce broad industry partnerships to reduce toxic chemical use in nail products. The project has also brought much needed education to an industry that is largely dominated by a non-English speaking immigrant community.

The production of the African American Hair Guide has created greater awareness of healthy hair practices throughout the African American community in California and beyond. More importantly, the Guide has provided education on toxic hair care ingredients to an environmental justice community that has been overlooked in the personal care product discussion.

With help from the EFC for over ten years, the California Green Business Program is now thriving with twelve programs throughout the State and over 2,600 certified green businesses.

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ENVIRONMENTAL FINANCE CENTER AT BOISE STATE UNIVERSITY

BACKGROUND & SUMMARY

The Environmental Finance Center (EFC) at Boise State University, located within the College of Social Science and Public Affairs, serves the four states of EPA's Region 10. The primary focus of the Center is the development of broadly applicable, practical tools and training that improve the efficiency and effectiveness of environmental systems in meeting the challenges of protecting the environment and public health. Their mission is to help local communities determine how to pay for protecting the public's drinking water, create financial capacity for sustainable drinking water and waste water systems and managing watersheds for functional long-term ecosystem sustainability.



ACTIVITIES & ACCOMPLISHMENTS

COMPLETED PROJECTS & INITIATIVES

The Wastewater Dashboard: The EFC added another web based tool for small systems to complement our existing suite of tools. The Waste Water Financial Dashboard is an interactive, web based planning and financial tool that allows managers and operators to see their current state of financial affairs in a simple, easy to understand format. This new tool allows decision-makers to input their current customer data, flow information and NPDES permit information into web forms that automatically populate the Dashboard. From here, they are able to manipulate different aspects of their system's rates, revenues, and expenses. This allows the users to see how different financial decisions will change the financial capacity of their system. It also displays the effects what changes in wastewater influent levels have on their system.

The Stormwater Dashboard: The EFC released its newest financial model, the Stormwater Dashboard, in January of 2011. Municipalities are dealing with an increase in regulatory demands concurrent with a decline in available financial resources to implement an effective abatement system. The Stormwater Dashboard will assist leaders in appropriate rate setting structure, analysis of current revenue streams for future management infrastructure as well as tracking rainfall and flood stage in a graphic form from presentation to boards and councils.

EFC Financial Dashboard Update: This updated dashboard brings together two valuable pieces of financial management software including all the features of our popular **CAPFinance** tool³. Users are now able to plan ahead and decide whether to debt finance or save for capital improvements and see how each decision will affect their financial picture for the next fifty years. Also in the update, we added a function to bring asset information from **CUPSS**⁴ to reduce the amount of time invested by city clerks and managers for asset management and financial planning.

Financial Management Survey for Washington Department of Health: The EFC is completing a web based survey tool for Washington Department of Health (WDOH) to rank all of their water and waste water systems by strength of financial management capacity. The tool blends their sentry data⁵ with survey questions to provide basic statistics on state wide system performance. With the tool completed in 2010 the training will spill over into FY 2011. As Washington gains experience with

³ A capital asset inventory and reinvestment analysis software program for drinking water and wastewater systems

⁴ An asset management tool for small drinking water and wastewater utilities that provides a simple, comprehensive approach based on EPA's highly successful Simple Tools for Effective Performance (STEP) Guide Series).

⁵ SENTRY data is WDOH's internal data set for each system with information on system capacity and violations.

the tool it is hoped that other states within Region 10 will renew their interest in the project's potential to measure performance of efforts to improve financial and management capacity of their water and waste water system.

New Meadows: New Meadows is a small town located at the gateway to the central Idaho Seven Devils Mountain Range. New Meadows, like other northwest communities transitioning from resource to recreation based economies, struggles with a small population, high unemployment and a minimal tax base to support necessary government functions. The community leaders had submitted a federal appropriations request seeking financial assistance for upgrades in its drinking water, wastewater, and transportation infrastructure systems. The EFC accepted the case study because the study can serve as a rural community demonstration project of a watershed approach to funding several federal infrastructure projects and the citizens were engaged in the decision-making process. The EFC helped the community apply the principles of prioritization needs and wants for infrastructure dollars against a community's ability to pay.

Crystal Creek: The EFC engaged its resources to assist private property owner George Kirk with the Crystal Creek Preserve (CCP) project during FY 2010. The EFC accepted the project as a demonstration project that combined restoration, conservation, agricultural use, and sustainable private land development. While applying its cache of tools, the EFC was able to determine that adaptations to the Plan2Fund tool were necessary in order for the tool to become more effective in determining actual costs for a users' watershed project. Thus, the EFC modified its Plan2Fund tool to meet the objectives of a land development project.

Pend Oreille Clean Water Association: The EFC determined that the goals of the Pend Oreille Clean Water Association (POCWA) met its mission and provided technical assistance to help POCWA to regionalize its goals and consolidate its administrative operational functions. The EFC assisted in refining the by-laws and mission statement to clarify POCWA's goals as an organization. Also, the EFC developed a workbook for the member systems that replicated the information required for the EFC Wastewater Financial Dashboard. POWCA has asked that the EFC continue to assist them

with the how-to-pay issues of watershed management in FY2011.



The Boise River's banks are preserved with a 25 foot no disturbance and 50 foot no building ordinance

City of Ontario: The EFC was asked to evaluate the City of Ontario's water and wastewater utilities and adapt the web based tools for their utility systems. Our evaluation focused on the financial reporting of the water utility and wastewater utility systems. The EFC created custom versions of its standard workbooks for the City including an analysis worksheet. The new financial management system will help Ontario predict the remaining useful life of its capital facilities and create an asset replacement schedule that will drive the cost-of-service forecasts for its capital budgets.

ONGOING PROJECTS

Directory of Watershed Resources: In January 2009, the EFC launched a new version of The Directory of Watershed Resources. The majority of the feature changes are designed for those administering grants and loans, such as a "My Programs" section they can use for managing an unlimited number of programs in one concise area. Program administrators will find a more user-friendly experience with simpler navigation and a more intuitive input process.

EFC Training On Demand: Training on how to finance and manage multi-million dollar investments is a necessity for those that are responsible for environmental systems. This evolving programming element helps system operators, consultants and agency staff to attend training on their schedules without the cost of traveling. Users pick a date and time (daytime, evening or even Saturday workshops) for a webinar workshop on a topic

of their choice. The center is constantly evaluating the program to improve its value to our clients.



The Environmental Research Building, home of the Boise State EFC

Updating Financial Dashboard Technology: All web based tools require maintenance to insure broken links are repaired, data sets are backed up, and user recommendations are incorporated to improve the functionality and performance of the tools. For example, in 2010 the EFC was able to make the modifications that enhance the Plan2Fund tool by giving users the ability to “drag and drop” goals, objectives and tasks to change the order of these plan elements.

Alaska State Revolving Fund Financial Management Capacity Analysis: Since 2001, the EFC has worked with the State of Alaska Department of Environmental Conservation to offer third-party finance and management capacity reviews of applicants. Capacity reviews have been performed for both the Alaska Clean Water Fund and the Alaska Drinking Water Revolving Fund. The EFC completes approximately 10 reviews annually.

NEW PROJECTS & INITIATIVES

Comprehensive Watershed Planning: Region 10 agencies, general purpose governments, business interests, recreational stakeholders, tribes, and utility districts are coming to understand the interconnectedness of each other’s responsibilities within the watershed in which they operate. The EFC has tools that address many of the issues associated with watershed management. The center will be looking for opportunities to expand the knowledge base on watershed management, create educational opportunities for teaching BMPs and improve its web based tools to for better comprehensive basin planning. The center is watching the City of Boise Idaho’s

initiative to remove non-point source (NPS) nutrient pollution downstream from its waste water treatment plant as a credit trade for its total daily maximum load (TDML) discharge from its treatment plant⁶. This initiative has rural and urban stakeholders working together.

The Boise State University EFC by the numbers...

- Reached more than 1,000 people through EFC website registration
- Gave 12 presentations in various locations throughout region 10 on various subjects including free tools we created and posted on our website
- Spoke at 2 conferences about the EFC Tools
- Attracted over 100 people to our free Training on Demand Sessions
- Provided technical assistance to 15 communities about various subjects including EFC tools and financing for different types of water systems
- Developed 1 new educational tool regarding wastewater and updated our watershed financing tool¹⁴ Alaska Department of Environmental Conservation State Revolving Fund Capacity Reviews
- Attended 2 conferences about Project Management and Economic Development
- Held three workshops on Non-Point Source and Watershed Financing Technical Assistance in Bend Oregon, Boise Idaho, and via webinar for Alaska

Plan2Fund and Plan2FundOPT for Funders: The EFC has been working with the Office of Wetlands Oceans and Watershed (OWOW) to modify the strategic planning software to allow funders the same flexibility in prioritizing grant and loan applications based on best management practices (BMP). It is anticipated that this enhancement will be completed in FY 2011.

Energy Efficiency Cost-Benefit Calculator: The EFC recognizes that many environmental initiatives are interrelated. The search for funding water and waste water

⁶<http://www.cityofboise.org/Departments/Mayor/PDF/DixieDrainProjectConcept.pdf>

facilities involves implementing the best practices for the least cost. Today we understand that capital life cycle costs are a better reflection of a piece of equipment's true cost than simply the purchase price. The EFC has been researching how to incorporate a calculator for determining the potential savings of employing energy efficiency technologies for its clients. The EFC is currently building an energy efficiency cost calculator application to its water, wastewater, and stormwater financial dashboard models. Originally scheduled for release in January 2011, the center wants to evaluate how its calculator can be incorporated into the EPA's Check Up Program for Small Systems (CUPSS) to explore how to integrate the energy calculator into the asset management program through CUPSS before final programming is completed.

BENEFITS & RESULTS

The EFC has been focused on meeting the needs of its clients through the development of web based tools to help them answer the question of how to pay for their infrastructure. The center is developing several feedback tools to better quantify the impact of its activities.

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