



Infrastructure Operations, Governance, and Adaptation to Economic Change: Public Utility Research Center Initiatives

Sanford Berg

***Distinguished Service Professor, Economics
Director of Water Studies, Public Utility Research Center***

sberg@ufl.edu



- ✓ **PURC: an internationally recognized academic center dedicated to industry research and to providing training for industry and regulatory professionals**
- ✓ **Founded in 1972 ,**
- ✓ **Located in the Warrington College of Business Administration**
- ✓ **Our aim: to enhance the understanding of issues confronting public utilities and regulatory agencies through:**
 - ✓ Conferences, seminars, training programs, research and advisory services covering the energy, telecommunications and water sectors, and
 - ✓ Preparing students for careers in infrastructure industries



PURC Mission:

- ✓ ***Expand the body of knowledge*** in public utility industry structure and practices, regulation, market reform, and infrastructure operations
- ✓ ***Teach the principles and practices*** that support effective utility policy, operations, and regulation
- ✓ ***Provide ongoing professional development*** for industry and regulatory professionals, shaping emerging regulatory and industry business and value paradigms

**Technical Training:
“Decision-makers
tend to manage what
they measure.”**





PURC Vision: Expanded deployment and efficient delivery of utility services in all countries. We realize this vision by providing innovative and balanced research, by teaching the core principles and best practices of utility regulation and management and by offering a forum for the free exchange of ideas.



Research: e.g. benchmarking studies of Peru, SE Asia, Uganda, Brazil and Central America)



Education: e.g. PURC/World Bank International Training Program on Utility Regulation and Strategy, January 2011



Service: e.g. training abroad and university collaborations



PURC Utility Research Capabilities

✓ **10 Faculty and Faculty Affiliates**

✓ **9 Senior Research Associates**

✓ **10 Research Associates**

✓ **14 Senior Fellows**

✓ **21 Visiting Scholars**

✓ **50+ International Research Partners**

(e.g., World Bank, USAID, NARUC, London Business School, Inter-American Development Bank, Center for International Business Education and Research, Cambridge Leadership Associates , UN-HABITAT and more)

The Body of Knowledge on Infrastructure Regulation





Illustrative PURC Activities

Climate Change Adaptation

Hurricane Hardening Project

Water Utility Benchmarking

“The fewer the facts, the stronger the opinion.”





Climate Change Adaptation

Ted Kury, Director of Energy Studies

William Feldman, “Annotated Reading List on International Greenhouse Gas Emission Policy”

Climate change is an international issue that should be met with cooperation and coordination between countries around the globe. Composed of various journal articles, Web sites, and research papers, this annotated reading list is focused on providing sources of information to assist in future research on international greenhouse gas (GHG) emission policy.



Climate-Related Research Areas

Governor's 2008 "Serve to Preserve Florida" Summit on Climate Change

- *Emissions Trading (Encyclopedia of Energy Engineering and Technology)*
- *Distributed Generation*
- *Renewable Energy Deployment*
- *Rate Design Considerations for Energy Efficiency*

If the rhythm of the drum beat changes, the dance step must adapt. (Kossi, Burkina Fasso)





Hurricane Hardening (2006-present)

FPSC Order No. PSC-06-00351-PPA-EI

- (1) research on undergrounding existing electric distribution facilities by surveying the current literature, performing case analyses of Florida underground projects, and developing a model for projecting the benefits and costs of converting overhead facilities to underground;**
- (2) data gathering and analysis of hurricane winds in Florida and the possible expansion of a hurricane simulator that can be used to test hardening approaches; and**
- (3) an investigation of effective approaches for vegetation management.**

**“Water that has been begged for
does not quench the thirst.”
(Soga ,Uganda Proverb)**

Telescoping Inclining Block Tariff

- Pay the low price for the first block and higher prices for successive blocks.
- Small consumers (in terms of total consumption) pay lower prices.
- Smooth price transition to consuming larger quantities for poorer consumers if they consume more than the first block.
- For example, if 1 kWh is consumed, the bill is $100 \times 0.031 = 3.152$.
- But larger consumers also benefit as they also benefit from lower prices in the first block!
- Only small consumers connected benefit! In many cases, the progress is quite low.





Water Utility Benchmarking

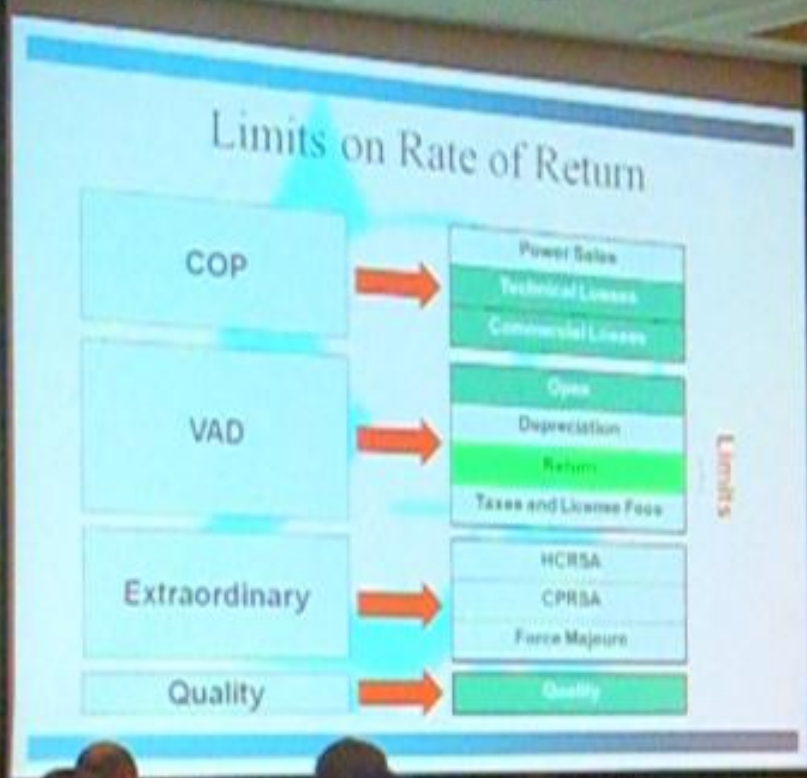
World Bank IBNET (Benchmarking methodologies)

Inter-American Development Bank (Central America)

UN-HABITAT (Caribbean)

- **Operating Efficiency (trends, comparative performance, targets)**
- **Governance and Incentives (technology necessary, not sufficient)**
- **Financial Sustainability (access, pricing, fairness)**
- **Water Resource Sustainability (hydrology, waste treatment)**

Adaptation to External Threats and Opportunities



“That which is good is never finished.”
 (Sukuma, Tanzania)

www.purc.ufl.edu