After completing the course, YOU will be able to:

- Understand why benchmarking is essential for improving the performance of infrastructure organizations
- Analyze the implications of partial, limited, or incorrect information
- Assess how information on key performance indicators helps decision-makers
- Understand how model specification and data outliers affect performance comparisons
- Identify the strengths and limitations of alternative quantitative methodologies and how to communicate results

How can utilities be benchmarked for efficiency? Which types of comparisons are valid and which are invalid, possibly leading to significant errors? This advanced infrastructure course answers these questions and more, as participants analyze the benefits, best practices, and pitfalls of benchmarking utilities. Join us!

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### PURC Advanced International Practices Program – Benchmarking Infrastructure Operations

**August 6 – 9, 2018 – Gainesville, Florida**

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| **Overview of Program**  
Sanford Berg  
Understanding the political economy of benchmarking; who supports benchmarking; who is threatened by comparisons; how can studies be misused; sources of conflict and sector performance: the role of evidence | **Alternative Methodologies for Measuring Performance**  
Sanford Berg  
Beyond key performance indicators; Metrics and productivity trends; statistical analysis (OLS and COLS); data envelopment analysis (DEA), and Stochastic Frontier Analysis (SFA); Strengths and Limitations of alternative methodologies. | **Case 5: Utilizing Available Software--DEA**  
Ted Kury  
Using data from cases 1 and 3, participants will develop performance indicators; results will be shared and evaluated; what are the strengths and limitations of statistical methods?; how sensitive are results to selection of inputs and outputs? | **Performance Assessment and Performance Improvement**  
Sanford Berg and Ted Kury  
Data acquisition and validation; best practice examples; pre-analysis (clustering, sensitivity analysis, KPIs); tables, scatter diagrams, figures; studies with data from participants. Implications for different stakeholders. Service quality and cost. Awards: top performers most improved. |
| **Case 1: Selecting Data**  
Ted Kury  
Productivity, efficiency and effectiveness; identifying inputs and outputs, stocks and flows; prioritizing data needs; implications of partial, limited or incorrect information; conditioning and environmental variables. Legal authority for data collection. | **Case 4: Utilizing Available Software: Statistical Analysis**  
Ted Kury  
With data from cases 1 and 3 participants will utilize the Analysis ToolPak in Microsoft Excel to estimate productions and cost functions; evaluating analyses; what are the strengths and limitations of statistical methods?; how sensitive are results to model specifications? | **Case 5: Continued – Group Work**  
Ted Kury  
Participants will utilize DEA software to compute performance scores for the sample utilities; specifications of cost and production relationships will be evaluated | **Action Plans**  
Araceli Castaneda  
Presentation of individual Action Plans; think strategically about your relationships; develop a system of accountability: give and receive critical feedback |
| **Case 2: Confidence in Performance Comparisons**  
Sanford Berg  
Additional inputs and outputs; additional years (trends); context and governance variables; introduction to robust comparisons. Moving from KPIs to Overall Performance Indicators. | **Case 4: Continued – Group Work**  
Ted Kury  
Each participant will practice using Analysis ToolPak in Microsoft Excel to analyze the efficiency of utilities in the sample; results of different specifications will be used to strengthen abilities to interpret empirical results | **Benchmarking Studies: Engaging Stakeholders**  
Sanford Berg and Ted Kury  
Participants will develop stakeholder maps, identifying high/low interest in improving sector performance. Opponents of change will be identified. | **Next Steps and Key Lessons**  
Sanford Berg  
Current capabilities; adequacy of data system; developing strategic plans for engaging allies, opposition and other important players; next steps for your organization; prerequisites to successful benchmarking; planning the next study |
| **Case 3: Back to the Basics**  
Sanford Berg  
Data definitions; Total Factor Productivity (TFP); evaluating company information systems (sensors, data capture, data consistency, storage, analysis, decisions); checklist for conducting benchmarking studies  
Review of Software Resources  
Ted Kury  
Review of Excel, ensure participant laptops are configured with necessary plug-ins used throughout the course | **Review of Statistical Analyses**  
Ted Kury  
Determining scale economies; economic vs. statistical significance; evaluating the robustness of results | **Using Benchmarking Results**  
Sanford Berg and Ted Kury  
Public awareness (transparency and incentives (efficiency)); regulatory incentives (effectiveness); price reviews (x-factors); baselines, trends and targets | **-** |