Elements Determining the Success of Infrastructure Regulation

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I am honored to be part of your Celebration for Twenty Years of Regulation. Others in this room have a far better sense of the ups and downs of the journey that brings us together today. You are the ones who deserve our applause for creating agencies that are transparent, professional, and credible—recognized as providing leadership throughout Latin America.

However, as an outsider, I am in a position to direct your attention to factors that have made your efforts so successful. I hope that during conversations and other presentations, you will provide specific examples of how particular factors have promoted or hindered performance in the energy and water sectors. That way, this event serves as a focus for re-dedicating your efforts to strengthening regulation and improving your energy and water sectors. Here are six elements that (in my opinion) are necessary for strong infrastructure performance:

Information—*Information matters*: the collection and authentication of data is necessary to identify trends, understand current patterns of performance, and determine realistic targets for utilities; technical skills and on-going capacity-building can support such initiatives. You know when data collection became a priority and how information has been applied to

Institutions—*Organizations matter*: the sector regulatory commission is one component of the regulatory (and governance) system, which includes the legislature, courts, utilities, unions, and the laws that establish roles and responsibilities for these institutions; inter-institutional collaboration is essential for improved sector performance.

Incentives—*Incentives matter:* decision-makers behave in accordance with payoffs associated with different outcomes; every regulatory rule rewards or penalizes actions affecting utility performance.

Ideas—*Ideas matter*: each of us brings a conceptual framework to our decisions; new perspectives can serve as catalysts for activities that improve the operation and financial sustainability of water utilities.

Ideals—*Values matter*: when we are clear about our objectives and communicate those priorities to stakeholders, the resulting dialogue can clarify our goals and promote greater consensus regarding sector objectives.

Individuals—*People matter*: ultimately, leadership is essential for improved sector performance; no matter how dysfunctional or inefficient current arrangements are, someone is benefiting from them—which implies that overcoming institutional inertia requires strong leadership.

Policies are not self-implementing. They require leadership. Some of the leaders who have made a difference in Colombia's economic and social growth have participated in the PURC Training Programs. Hopefully, the discussions equipped them to be more effective when they returned home. And now I can only wish that you continue the ***initiatives*** identified by Colombia's leaders and by the stakeholders who depend on excellence within their regulatory system. Congratulations.

Appendix: Focus on Information and Incentives

Some of these points are developed more fully below—a more comprehensive listing of key lessons that has emerged from past Advanced Courses:

1. **Data analysis involves both subjective and objective elements:** The subjective part arises from placing weights on the different dimensions of performance (for example, expanding network coverage versus improving service quality). Social values, as translated into laws, determine the weights to be given to different performance goals. The objective component relates to the application of appropriate methodologies for evaluating performance over time and across decision-making units.

2. **Benchmarking represents a valuable management tool that enables decision-makers to identify and reward top performing units:** "Executives manage what they measure." The absence of data is evidence of weak managerial processes. Of course, not all that is important is easy to measure, but it is better to have an approximation of an important indicator than a precise calculation of an irrelevant indicator.

3. **Information helps different stakeholder groups understand the performance of different units:** The affected communities deserve to be informed of trends and relative performance, so pressure can be placed on those responsible for improving sector performance.

4. **Multi-period information on operations and financial conditions is essential for decision-making:** Retaining historical data provides analysts with the opportunity to identify trends and conduct more robust statistical analyses.

5. **The fundamental objective of a benchmarking study is to measure productivity and efficiency so that the analyst can make comparisons:** *Productivity* considers the link between inputs and an organization's outputs. *Efficiency* is related to productivity, but it involves establishing a standard and determining how close the firm comes to meeting that standard: how far is the utility from "efficient practice"? How near is the utility to the frontier? *Effectiveness* refers to the extent to which an organization achieves its stated objectives. If the objectives are not quantifiable, then success cannot be measured. If the goals are unrealistic, the targets are meaningless. If the goals are easily achieved, then they are unnecessary.

6. **Benchmarking can trigger political changes internal to organizations:** As performance is highlighted on a regular basis, those responsible for implementing successful cost reduction

programs are likely to gain influence within the utility. Greater transparency and public awareness of relative performance put pressure on weak utilities to restructure their management teams or to develop better incentives for meeting well-defined targets.

7. **The ability of researchers to conduct and evaluate studies is affected by database limitations and methodological shortcomings:** Clearly, information contains errors (whether due to errors in reading meters or transferring data from sources to accounting reports). Managers need to continually seek ways to improve their information systems. Similarly, the various benchmarking techniques each involve limitations—whether the methodology involves partial indicators, statistical estimates, or data envelopment analysis. Within organizations, "avoid information empires": make data widely available.

8. **Data can be used for forecasting likely future developments: Demand forecasting is essential for business planning (for investments and operations):** Business plans serve as reality checks for decision-makers: are the cash flows reasonable and will the operational targets be met under current financial constraints? Will quality of service be improved under the business plan?

9. **Benchmarking puts pressure on management and regulators:** When citizens see what some utilities (or divisions of a utility) have been able to accomplish, they are in a position to reward strong performance and raise questions regarding weaker performance. Without information, citizens are basically in a vacuum. Similarly, various groups have also performed benchmarking studies of regulatory agencies, focusing on both adherence to accepted (and mandated) processes and actual performance in the sector being regulated.

10. **Benchmarking is one instrument for promoting transparency and access to information:** Annual reports and other communications from utilities provide some data that can be used for making comparisons. However, it is important to have more comprehensive studies that focus on performance over time and across comparable decision-making units.

11. **Benchmarking reduces information asymmetry for decision-making:** Within a utility, executives at the highest levels tend to receive summaries of information, yet the detail can reveal patterns that are very important. Without more careful data analysis, the executives are in no position to develop and implement new strategies for improving performance. Similarly, regulators have far less information on actual and potential performance than managers. Getting the information out into the public domain improves decision-making: "People are entitled to their own opinions, but not to their own facts."

12. **Benchmarking sets baselines:** Managers need a clear idea regarding the actual status of operations and the financial sustainability of their utilities. Benchmarking documents current conditions and performance, so improvements can be quantified relative to current indicators.

13. **Benchmarking can be used to establish targets:** The best-performing decision-units provide evidence of best practice: the current frontier. How quickly other decision-units should be able to move to that frontier is a more complicated question requiring input from all stakeholders,

including utility management. However, with benchmarking, the burden of proof is placed on decision-makers to explain their organizations' relative performance and their ability to move to the frontier.

14. **Benchmarking promotes continuous improvements:** Key Performance Indicators (KPIs), like output per worker, can be used to track improvements in utility performance. Another type of benchmarking, called *process benchmarking*, focuses on individual production processes in the vertical production chain. Managers from different organizations can share "best practices" and improve utility performance. One advantage of this approach is the ability to identify specific stages of the production process that warrant attention (including pumping, intake, transport, clarification and filtration of groundwater, purification and treatment of raw surface water, maintenance, meter reading, collections, planning, etc.).

15. **Metric benchmarking can include a variety of quantitative tools:** The various methodologies have different degrees of sophistication (each with their associated strengths and limitations. Key Performance Indicators (KPIs) tend to be partial indicators, capturing one feature of performance. Statistical methods include Ordinary Least Squares (OLS), Corrected Ordinary Least Squares (COLS), and Stochastic Frontier Analysis (SFA). These methods are labeled *parametric*, since they provide statistical measures of goodness of fit and parameters (or coefficients) for the cost or production functions. Data Envelopment Analysis (DEA) is a *nonparametric* technique in which linear programming is applied to a selected set of variables to calculate an efficiency score for each utility (or decision-unit). DEA has the advantage of not requiring a specific functional form.

16. **Reports should avoid the use of excessive jargon:** Technical terminology has its place, but only for technical communities. There are different audiences for benchmarking reports. The analyst should know the audience (a legislative committee or the general public) and determine the appropriate format for the report. Such reports can be misinterpreted or misused, so great care must be taken to explain how robust the results are and how the ranking will be utilized. Preliminary reports can seek input from stakeholders. Final reports should be widely available for review.

17. **The focus should be on what is important, not what is easily measured:** Studies can hide as much as they reveal. Analysts should address the real issues and not bury the implications of a study in footnotes. Readers will want to understand why the study was conducted and how it will be used. An authoritative and robust study should point out the strengths and limitations of the methodologies utilized *and* the implications for decision-makers. If the study is preliminary in nature, that should be made clear early in the report. Finally, "The perfect is the enemy of the good." No study is perfect. The task is to get started.

18. **Benchmarking can be disruptive:** The press is likely to sensationalize the comparisons and vilify managers and regulators. Comparisons are bound to create problems for those utilities identified as "weak" or for those divisions (within a utility) identified as performing poorly. People will point fingers and managers will scramble. When dramatic change is called for, such disruption is quite appropriate. However, the analyst needs to be completely candid about his or

her confidence in the results (or rankings) determined by the analysis. Managerial and political careers can be affected by performance benchmarking studies.

19. **Benchmarking studies force decision-makers to face reality:** Facts focus attention on particular dimensions of performance. So long as there are no facts, different groups can make claims, but those claims will not be backed up by evidence. Benchmarking changes the "game" since it provides information to stakeholders. That information captures the context within which the industry operates and the actual performance of service providers. Rhetoric about water or energy as a "human right" that should be available to all can help citizens prioritize sectors receiving public funds. However, that rhetoric is empty if it does not specify a plan for achieving specified goals.

20. **Analysts should draw upon the skills and support of personal networks of experts:** No analyst can afford to work alone. The preparation and dissemination of sound benchmarking studies require a wide range of skills, some technical and some strategic. Continuing education is essential if analysts are to remain abreast of new developments. Colleagues in organizations around the world are able to provide advice and feedback on technical studies. Analysts can work with local university researchers and with professionals who share their interest in strengthening performance in infrastructure sectors.