

**Key Lessons from the
39th PURC/World Bank International Training Program on
Utility Regulation and Strategy
January 11-22, 2016**

Annotated by Sanford V. Berg, University of Florida

Teachers learn from their students, and students learn from each other. As in the past, the 69 participants from 31 nations in this training course identified the key lessons learned over the two-week period. During the concluding session of the program, they shared their reactions to formal presentations and informal networking. The PURC team appreciated the dedication and energy exhibited by participants: attendees brought insight and understanding to the sessions and shared their ideas with all of us.

Note that while most of the key lessons refer to regulatory agencies and to those developing infrastructure reforms, the principles apply to operators as well. Organizations face the same challenges: creating a sustainable infrastructure system where all stakeholders have confidence in the integrity of the process and have a shared vision of improved infrastructure performance.

As PURC's Director, Mark Jamison, observed: "Many of the lessons tend to be strategic rather than technical in nature – suggesting that many of the important ideas involve how regulators, representatives from government ministries, infrastructure managers, and consumer advocates need to 'get on the balcony'." Intentionally stepping back from the "give and take" of regulation allows leaders to see how various stakeholders limit or promote reform. We hope that the annotated list of lessons stimulates further discussion among those involved in these important sectors. Some of the elaborations on the points identified by participants are drawn from Key Lessons from previous course deliveries. I take full responsibility for errors of interpretation in this summary of *Key Lessons*.

Sandy

There is no need to re-invent the wheel: standardized systems abound. Networking with colleagues from around the world provides participants with insights about how to implement "best practice" in their home countries. No nation has "all" the answers, but the process of sharing ideas and experiences leads to ways to promote professionalism, improve regulatory processes, and develop better decisions. Similarly, regional regulatory associations act as clearinghouses for studies and reports. They promote capacity building through conferences and technical workshops. Regional working groups for operators serve a similar function, facilitating the exchange of ideas across national boundaries. Learning from counterparts around the world represents one way to strengthen organizational performance.

However, when price is initially far below cost, citizens will perceive private participation as the reason prices go up. The resulting citizen unrest reflects several failures. First, the concessionaires may have unrealistic expectations regarding cash flows. Second, the government tends to do a poor job of educating citizens regarding the implications of the status quo. Prices that are below cost and national budget constraints would have led to slow growth in coverage and continued low-quality service. Furthermore, political promises often establish unrealistic citizen expectations: the result is disappointment for all stakeholders, including elected officials. Regulators can contribute to universal access by promoting more efficient arrangements for infrastructure service delivery and by grounding citizen expectations in reality. For more information, see a series of Frequently Asked Questions on PPPs available at www.regulationbodyofknowledge.org (BoKIR).

1. ***Tariff preparation requires careful analysis:*** Even if utility revenues are far below legitimate operating costs (so maintenance is being deferred), the price level required for financial sustainability should be calculated so all parties understand the direction of future prices. A huge price increase is generally politically infeasible, but the baseline analysis still warrants attention. Furthermore, if costs are excessive, there are ways to set targets and incentivize cost containment—freeing up cash flows for needed maintenance and remediation activities. Attention to rate design and collections can also improve cash flows.
2. ***The Customer always (ultimately) pays.*** If the price is excessively low, future customers are hurt OR current taxpayers (who are current customers) foot the bill. To some extent, cost of service regulation enshrines high costs into prices that are higher than necessary. For state-owned utilities, excessively low prices also punish customers (who will now receive poor service) and punish unserved citizens (since less funding is available for network expansion). Adjudication of specific rate cases (via formal hearings or all-party-settlements) and rule-making (for addressing emerging sector issues) enable regulators to gather information and make decisions regarding both cases and problems facing policy-makers. Thus, schedules for the hearing process need to be developed, disseminated and adhered to: delays have differential impacts on different stakeholders. Note that many citizens do not understand the importance of financial sustainability for network expansion and good quality service. Terms like weighted average cost of capital (WACC), cash flows, operating expenses, and net present value are not typically discussed around the dinner table, yet these financial terms are central to sound regulation. Helping the public understand the implications of excessively low prices is a challenge, but one that needs to be addressed by regulators, public officials, and managers.
3. ***Effective, timely and clear communication is essential.*** Decision-makers need to develop strategies ensuring that reforms are internally consistent and coherent with the institutional and legal systems in which regulators and managers operate. A key

component of such strategies is communication. To shape the perceptions of stakeholders and underscore regulatory independence, professional staff and commissions need to be educators of the general public and advocates for efficiency. A pragmatic approach to decision-making recognizes that the future is unknowable, but the system must be robust enough to withstand a wide range of contingencies. “In bureaucratic organizations, things are accomplished in memos; in hierarchical ones, in meetings; and in academic-collegial ones, in the interstices between meetings and in the margins of memos” (Adam Gopnik). If this is true, then regulatory commissions might be viewed as resembling collegial bodies that (to be productive) require openness within the organization and the use of teams in exploring policy options. That means that “listening” is part of the communication/consultation process.

4. ***Application of Benchmarking.*** In addition, identifying high performance infrastructure operators singles them out as ones who will not waste donor funds. Identifying utilities with weak performance provides citizens with a basis for pressuring owners of privately owned utilities and local politicians to replace poor managers of state-owned enterprises. Maps might provide travelers with information about ways to reach a particular destination, but the actual route will depend on topography, traffic congestion in current routes, and weather. Similarly, regulators and managers will have a number of alternative ways to address infrastructure issues. Best practice regulatory institutions need to take a more active role in educating the public and in communicating sector developments to all stakeholders. It is said that “the fewer the facts, the stronger the opinion.” One way to reduce the divisive role of rhetoric is to introduce information about *Key Performance Indicators* (KPIs) into the regulatory process. Information about past trends, relative performance of different companies (or regional divisions of a large company), and best performance allows the establishment of realistic targets for operators. If the regulatory process is transparent, stakeholders (including political leaders) will understand the decisions of infrastructure sector agencies.
5. ***Importance of negotiation skills.*** No single skill set is adequate for addressing pricing and other regulatory issues. Engineers, lawyers, economists, accountants, and specialists from other disciplines can be brought together to tackle complex issues. The sharing of knowledge represents an important activity within and between organizations. Formal training (like courses offered at PURC) represents one setting for sharing ideas and experiences and for gaining proficiency in new areas—like negotiation skills. Each organization needs a system that helps professionals be more intentional about seeking and sharing knowledge. For example, economic concepts can be complicated and subject to different interpretations. When it comes to negotiation (and analysis), however, it is better to have a rough estimate of the right concept than a precise calculation of an arbitrary number. An example would be gauging opportunity costs when determining price signals, rather than calculating some fully distributed cost through arbitrary cost allocations. The latter can result in price signals that distort marginal consumption decisions. On the other hand, the accounting numbers might be quite appropriate for

determining the level of revenues. Similarly, identifying and providing incentives for appropriate levels of service quality requires a deep understanding of underlying production technologies and of consumer preferences. Sharing information in the early stages of negotiation can help parties identify areas for agreement.

6. **Negotiation can assist in arriving at a consensus—as stakeholders identify their objectives.** There are many potential policy objectives, but not all can be given equal weight. The weights depend on current levels of performance, the particular sector, and citizen attitudes. All those affected by infrastructure should be clear about their objectives and the processes used to meet those goals. Regulators need to work with stakeholders to educate those affected by price, quality, and network coverage. Since infrastructure is so important for economic growth and social cohesion, public policy generally attempts to promote network expansion. The sector requires significant capital investments, so decision-makers need to prioritize their objectives and carefully define the problems they face. Companies, ministries, and regulators all shape the way issues are defined and addressed in the regulatory process.
7. **Teamwork leads to informed decisions.** Those with different skill sets need to collaborate so that all the relevant opportunities (and constraints) are explored. The dialogue should continue. There is no single approach to regulation that works everywhere. “One size does *not* fit all.” Similarly, many skills are needed to analyze alternative rules affecting incentives and performance. The enabling legislation, judicial system, national income, and investment climate all affect the opportunities facing operators. However, the same regulatory principles apply in most circumstances. For example, holding managers accountable for weak performance is only possible if data on trends and best practice are widely available for analysis. Speakers in the training program have underscored the importance of data collection, verification, and analysis. Without sound regulation, long-term investments will not be made: decision-makers are likely to conclude that there are no payoffs to those taking on the risks and responsibilities for new programs.
8. ***Ideas from professors/faculty at the training program stimulated the group to think differently.*** Preparation matters for this training and for our jobs! Unless deposits are made into their emotional bank accounts, supporting staff and teams cease to operate with enthusiasm. Professionals with training in any specialty need to be able to participate in teams and to explore new ideas. That means professionals in agencies and operators cannot work in silos. The organizational structures must encourage cross-training and respect for related fields. When dealing with complex infrastructure issues, we all could benefit from a little humility. Technical skills are necessary but not sufficient for regulatory effectiveness. Agencies that operate in silos lose the synergies that could be drawn upon through interdisciplinary task forces. Leaders in the agency must model what it means to “be prepared”. They must cultivate leadership skills that enable them to deal with all stakeholders. The development of professional staff members requires

opportunities for updating their skills. In addition, leaders should seek ways to become less isolated. Bureaucracies can become comfortable: leaders can become insulated from the real issues. Mechanisms for listening to one another should be identified and utilized.

9. ***Teaching can have impact! (keep awake)*** As a follow-up to the previous observation, it should be noted that each of us can be a mentor or teacher. We can model transparency and consistency in decision-making, and encourage participation by stakeholders in the process. Regulatory systems should promote credibility (with investors and government sources of financial support), legitimacy (so consumers feel protected from monopoly prices and from poor service), transparency (so participants know the rationale for decisions), and efficiency in the delivery of service (so valuable resources are not wasted through mismanagement or political interference). We need to take what we learned and apply it in our own specific situations. We all need to be teachers (and learners).

10. ***Important Role of staff.*** The regulatory process must be a creative process if it is to be effective. If, on the other hand, the process becomes excessively bureaucratic and hierarchical, problem-solving initiatives will be stifled and staff will learn that pushing reports back and forth establishes job security. Regulatory managers may tend to establish rigid processes that focus on procedures--without adequate consideration for the content of decisions and the incentives reflected in new rules. Over-emphasis on process may insulate the commission from some complaints, but it can set a tone that discourages both internal and external innovation. Commission budgets and internal processes draw upon professional skills to promote good agency performance. Regular meetings on wider issues help organizations develop techniques for thinking strategically about regulatory issues. The recruitment and retention of professional staff requires that the commission have plans in place for training new hires and maintaining the skills of more experienced professionals. We all wear intellectual blinders of one kind or another--based on our discipline world-view (engineering, accounting, economics, law, or management). Given the interdisciplinary nature of infrastructure problems, teams are needed to identify creative policy options and to select the most effective incentives.

11. ***Whatever your role, seek autonomy for decisions.*** Balancing autonomy and accountability can be difficult, but it certainly is necessary. For example, carefully dealing with the press is important, especially in a crisis situation. Regulatory systems need to be understood by citizens. At the same time, decision-makers need to have some distance from daily political pressures. Thus, public education becomes one task for the agency. Technical jargon gets in the way of public understanding. While the news media may highlight what is sensational, reporters and editors are aware of the crucial role of infrastructure in society's well-being. Without good press relations, media coverage will be biased; citizens and politicians will not support needed reforms. Daniel Carpenter in *The Forging of Bureaucratic Autonomy* (2001, Princeton University Press) stated:

Bureaucratic autonomy . . . emerges not from fiat but from legitimacy. It occurs when political authorities see it in their interest to defer to agency action, or when they find it too problematic to restrict it. They defer to the agency because (1) failure to do so would forfeit the publicly recognized benefits of agency capacity, and/or (2) the agency can build coalitions around its innovations that make it costly for politicians to resist them. These coalitions are part of the agency's reputation; reputations are not ethereal but are embedded in network-based coalitions.

Without public understanding of infrastructure issues, regulators will have difficulty establishing favorable reputations.

12. *Sharing within the group – networking: “World of Good.”* In addition to technical and regulatory information, participants acquired friends from around the world. This PURC/WB program provided a unique opportunity to interact with skilled professionals from around the world. Participants do not need to re-invent the wheel: lessons were shared and standardized systems described. Networking with colleagues from around the world provided participants with insights about how to implement “best practice” in their home countries. No nation has “all” the answers, but the process of sharing ideas and experiences leads to ways to promote professionalism, improve regulatory processes, and develop better decisions. Similarly, regional regulatory associations act as clearinghouses for studies and reports. They promote capacity building through conferences and technical workshops. Regional working groups for operators serve a similar function, facilitating the exchange of ideas across national boundaries. Learning from counterparts around the world represents one way to strengthen organizational performance.

13. *Role of financial incentives.* In developing incentives, regulators must recognize the existence of information asymmetries: managers know far more about the ease or difficulty of containing costs and improving performance. Thus, designing incentives requires benchmarking and the exchange of information about objectives and capabilities. Clear time-lines must be set for targets (which should be neither too low OR too high). We all respond to rewards and penalties. Managers need to understand the full implications of meeting (or not meeting) targets so they, in turn, devise internal incentives for their own teams. It is legitimate for the regulator to require that business plans include incentive programs that promote strong efforts towards achieving organizational goals.

14. *Incentives are affected by regulations (RoR, PC, and X-Factors).* All the parties to a decision should understand the implications for high and low performance. All such plans create incentives affecting cost containment, service quality, and network expansion. ROR (also called cost of service regulation) is a regulatory method that provides the utility with the opportunity to recover prudently incurred costs, including a

fair return on investment. This mechanism limits the profit (and loss) a company can earn on its investment. Regulatory lag and special incentive plans are often used to offset the disincentive to minimize costs under this mechanism. A Price Cap (PC) formula is a precise expression denoting the constraint facing a firm over the period of a price control. An example of a simple version of the formula would be $RPI-X+K+Q$, where the terms reflect adjustments for retail price inflation, productivity (X factor), network expansion (K), and improved quality of service (Q). In practice, the formal representation of the formula can be quite complicated, especially when there are different constraints on particular baskets of commodities. All the plans start with initial prices based on a formula for determining “revenue requirements.” The different methodologies then diverge, depending on how often the prices are revisited and how the prices are set for succeeding periods. [Portions extracted from the Glossary for the Body of Knowledge on Infrastructure Regulation.]

15. Form Alliances. Regulation is not divorced from politics, but it should not be married to politics either. One lesson emphasized in PURC training courses is that “regulators need to think politically without being political.” Identifying allies is part of this process. Given the social importance of access to infrastructure, those involved in making the regulatory system work cannot ignore politics. “Independent” regulatory agencies are not fully autonomous: they are accountable to legislative, executive, and judicial authorities. They must fulfill the requirements of the law or the decree that established the agency, and decisions are subject to judicial appeals—ensuring that the agency follows due process. Being accountable to other institutions does not mean that regulatory agencies must support a particular political party: ideally, agencies should be insulated from day-to-day political meddling (including patronage requests). Nevertheless, regulatory leaders cannot ignore the political climate in a nation. Finding allies is one step that can move reform forward.

16. Keep Friendships. For example, “trouble-makers” can contribute to the solution of complicated infrastructure issues. Within any organization, one can identify people who are highly intelligent who raise issues that others have to address. Such individuals have an important role to the extent that they help the organization focus on real issues, as opposed to maintaining a (often unproductive) “business as usual” approach to decisions. Nevertheless, international case studies can help people see how questions are addressed in different settings. As Ralph Waldo Emerson said, “People only see what they are prepared to see.” Past experiences place blinders on us. Researchers call this confirmatory bias. We tend to discount or misinterpret facts that are inconsistent with our own world view. Cases from other nations remind us that we all wear blinders and need to interact with others to better understand our own situation. A wise person once said: “Don’t believe everything you believe.”

- 17. Filled some “gaps” in knowledge.** Good communication is as important as good technical decisions. The resolution of infrastructure problems requires many disciplines, including law and engineering. However, technical jargon can get in the way of good communication, especially when conveying information to the public. For example, economics reminds us about the opportunity costs of making particular decisions, where these costs reflect the legal, financial, and technological constraints facing decision-makers. When writing a press release, instead of using technical terminology, like opportunity costs, the press release should focus on “costs.” “Soft skills” like creativity and communication are tools needed by regulators and operators.
- 18. It is important to know what I don’t know.** Our ignorance can be classified in terms of the “known unknowns” and the “unknown unknowns” where preparing for the former involves risk mitigation and preparing for the latter requires early warning systems and adaptive responses. Perhaps the most dangerous form of ignorance is our “knowing something that is not true!” That is, we think we know—so we tend to ignore facts that conflict with prior “knowledge” (actually, prior beliefs). So becoming aware of gaps in our knowledge is one step towards better decision-making.
- 19. Value for money:** Whatever the organization: government agency or operating company, delivering value is the goal. Using resources to destroy value is absolutely contrary to citizen desires, yet some organizations manage to do this. That is why providing value for money is central to good regulation and sound infrastructure operations. Leaders can become insulated from the real issues—so a focus on value brings attention back to key concern for customers.
- 20. Foreign “Aid” can promote greater efficiency.** Regulation can improve sector performance if pitfalls are avoided. However, the regulatory agency is only part of the “regulatory system” which includes the development partners, laws, stakeholder attitudes, appeal procedures, citizen expectations, and political stability or instability. The job of the regulator can be viewed as balancing the interests of consumers, operators, and government. By documenting a track record for each operating company, the regulator helps external donors and development partners use their funds more effectively (providing value for money). Stakeholders have legitimate concerns: some citizens may not be receiving service, the financial sustainability of operators may be problematic, and elected political leaders have concerns regarding regional development or may seek low prices for current customers. It has been said that “the role of the regulator is to disappoint all stakeholders equally.” Just as important is the role of the regulator in promoting transparency and accountability within the infrastructure governance systems of a nation.
- 21. Benefits of Diversity (country experience and fields of study).** Previous key lessons have emphasized the importance of having multiple skills within the organization. For operating companies, sound engineering is necessary, but not sufficient, for excellent

performance. Governance, adherence to the law, capacity building, and other elements also matter. Predictability and transparency are two elements lacking in many regulatory jurisdictions. An agency needs to be consistent in both its process and in the substance of its decisions. Transparency implies clear rules and functions that give operators confidence in the professionalism of those providing oversight. The public is seldom fully aware of current infrastructure policies and rules. Of course, sound decisions require excellent support staff. To recruit talented professionals requires salaries commensurate with the job requirements. Retaining outstanding staff requires that professionals feel valued and are actually rewarded for their job performance. An annual Award for Excellence represents one way to recognize outstanding contributions to the agency's mission.

22. Educate and Learn from others – Media. Regulators, as educators, must communicate their work through meetings and the media. Stakeholders would benefit from exposure to international experience—so local programs can help identify realistic performance objectives and the rationales for current policies. Maps might provide travelers with information about ways to reach a particular destination, but the actual route will depend on topography, traffic congestion in current routes, and weather. Similarly, regulators and managers will have a number of alternative ways to address infrastructure issues. Best practice regulatory institutions need to take a more active role in educating the public and in communicating sector developments to all stakeholders. Regulators must be visible and able to communicate their work to a wide mix of constituencies. When citizens do not understand what the agency does or how the agency seeks to promote the public interest, they cannot be partners in the system. Without citizen support, agency funding is called into question. Thus, the vision for the future must be communicated to the populace. In particular, regulatory commissions can be a point of hope for those not currently receiving infrastructure services.

23. Taking risks--look at “facts.” The status quo is often unacceptable in terms of weak infrastructure performance. That means that decision-makers must consider better incentive schemes and improved governance if citizen expectations are to be met. Clearly, there needs to be opportunities for engaging the public in discussions. Then, issues should be framed in a way that links regulatory rules to expected performance improvements. In addition, citizen input represents an important source of information and a forum for educating key groups. Hearings provide one format for obtaining opinions—though the weight given to some concerns will depend on the financial sustainability of current prices. As has been noted already, autonomy is earned over time, not “granted.” The creation of a regulatory system results in some groups losing the authority they had previously exercised. By demonstrating professionalism, creativity, and impartiality, the new “player” can earn legitimacy. The key is having all decisions based on reality (facts) rather than rhetoric.

- 24. Value from the TEAM.** Capacity building is essential if support staffs are to have technical skills and motivation to develop evidence-based recommendations. As has been noted, the most dangerous “knowledge” is a principle or idea that is actually false. When we think we understand something, but actually do not, then we are likely to push forward without a solid grounding in reality. All of us are susceptible to excessive confidence in our own understanding of the way things work. That is one reason why open discussions and thoughtful debate are necessary within any organization. When conflicting ideas are not openly discussed, decisions are likely to be based on inaccurate information and/or inappropriate methodologies. Multiple disciplines (including engineering, economics, finance, accounting, and management) are necessary to bring a wide range of perspectives on individual issues.
- 25. Simulations can expose the strengths and weaknesses of alternative micro-policies.** Quantitative analyses can reveal unintended consequences of rules and regulations. Scenario-testing represents one way to check how robust a policy is to different situations (high vs. slow income growth, for example). While elected leaders set public policy, appointed regulators extend those policies via rules (which are micro-policies). The regulator implements public policy by first analyzing the impacts of alternative approaches, and the setting rules and incentives for the operator. When these roles and responsibilities are combined in a single organization, there is likely to be less professionalism in operational decision-making and rule-setting. That is one reason for separating policy-making from regulation, and both roles from management. Technical studies can reveal the implications of alternative regulations. However, those studies need to be done without political interference.
- 26. Implementation requires both technical and “soft” skills.** Marginal cost involves some technical work. However, applying the concept requires a number of what are labeled “soft” skills. Both technical and soft skills can be acquired by sharing information with counterparts in other nations. It is easy to think that we have made great progress, when we are unaware of what regulators or managers in other countries are doing. Sometimes we think that we have fully addressed an issue, and then we learn from others that some very creative approaches are being implemented elsewhere. Agencies and operators must be in a continuous state of learning. Maintaining consistency with past decisions and yet having the flexibility to deal with new situations (or crises) require carefully balancing predictability with adaptability: all the while, learning from our mistakes *and* from the mistakes of others.
- 27. Be politically aware without being political.** Decisions always are made in a particular context, where the political, economic, and social environment sets the stage for moving forward. Sometimes, goals or targets are not feasible if political constraints on price are rigid. It is better to be clear about what is possible. Targets should be set based on

reality, not rhetoric. Otherwise, stakeholders become anchored to positions that are totally infeasible: positions that are inconsistent with reality. Leaders must think, plan, and act strategically. That means taking into account the reactions of all stakeholders and continually strengthening the internal skills of their agencies. Infrastructure concepts and regulatory strategies have to “fit” the local situation. Concepts and principles can apply across nations, but the unique national settings (traditions, legal mandates, and public perceptions) require tailoring principles of autonomy, participation, and transparency to the national context.

- 28. *Setting objectives: personal priorities and organizational goals.*** Regulators and operators share a common objective—expansion of the network and improved operating performance. Other stakeholders, like government ministries, unserved customers, suppliers of capital (both public and private), and potential entrants, all have roles to play in determining the success of the sector. In addition, delays are not neutral with respect to impacts. Special interests favoring the status quo (over reform) are content with current poor performance. They do not want regulatory leaders who set goals, implement programs, and evaluate the impacts of decisions. Note that market reform is not an end in itself but a means to improve sector performance. For example, in some countries, reforming the wholesale market is a key to promoting efficiency, both in terms of operations and new investments. Regulators should be viewed as implementing policy since developing and articulating policy is the responsibility of the key political leaders in the executive branch and the legislature. However, regulators often have expertise lacking in other branches of government. Thus, regulatory reports and public meetings provide platforms for identifying issues and the implications of alternative approaches to resolving those issues. Similarly, operators can take initiative in reforming internal processes and external rules affecting their performance.
- 29. *Confidence – based on experience.*** Each of us wants make decisions that are the best for our organizations, and ultimately our nations. However, we also need to feel confident that our recommendations are sound and that our roles contributes to improved infrastructure performance. Confidence based on unsupported beliefs is dangerous. Confidence based on experience and expertise is valuable. Each of us has an obligation to continue the capacity-building process, to draw upon the skills of others, and to work hard to improve the decision-processes in our organizations. Then, and only then, can we feel that we have contributed to improving the lives of those who are most vulnerable.
- 30. *Courageous Conversation with ourselves.*** Each of us needs to be honest about our own role in creating problems as well as addressing them. It is said that “the fewer the facts, the stronger the opinion.” As Ralph Waldo Emerson said, “People only see what they are prepared to see.” Past experiences place blinders on us. Researchers call this confirmatory bias. We tend to discount or misinterpret facts that are inconsistent with our own world view. Cases from other nations remind us that we all wear blinders and need to interact with others to better understand our own situation. A wise person once said:

“Don’t believe everything you believe.” One way to reduce the divisive role of rhetoric and entrenched beliefs (including our own) is to introduce information about the costs and benefits of different policy options. If the regulatory process is transparent and communication is given a priority, stakeholders (including political leaders) will understand the decisions of infrastructure sector agencies.

- 31. *Facts AND communication are both needed.*** Decision-makers manage what they measure—so facts (trends in key performance indicators along with financial reports) are central to the regulatory process. In addition, communication and negotiation are two of the “soft” skills necessary for successful governance systems. The technical side is important. In particular, a sound policy evaluation process requires four steps. First, appropriate data should be obtained and organized so that it becomes useful information about the baseline. Second, critical thinking must be part of the process so that logical fallacies are recognized and incentives are linked to outcomes. Then the evaluating team can engage in creative thinking that develops new options and provides the basis for convincing others of the merits of those options (“softer” skills). Finally, there needs to be a step involving accountability—usually requiring the (a) anticipation of legal challenges, (b) a recognition of ethical concerns (regarding both the process and the outcome) and (c) the explicit prioritization of outcomes. “Memory stocks the mind, a critical regard sifts through information, and a synthesis of creativity and practicality stimulates new ideas and successful action, guided, ideally, by wisdom” (Jeri Nicole).
- 32. *The Regulator can partner with the operator.*** Too often, outcomes are viewed as being zero-sum games. Some believe that if the firm is better off, then consumers must be worse off. That is not true. While regulators must retain some distance from the various stakeholders, the agency need not view itself as battling with one or another market participant. In particular, there are significant benefits from creating a positive working relationship between regulator and utilities. Performance can improve if various parties are willing to listen to the needs and concerns of others, helping to shape a policy framework that rewards strong performance and passes some of the benefits on to consumers. Of course, such partnering is NOT the same as regulatory capture (either by the utility or by powerful consumer groups)
- 33. *Professionals need to be acquainted with diverse topics and a broad set of skills.*** Technical skills are necessary but not sufficient for strong sector performance. Agencies and operators need professionals with leadership skills, experience in negotiation, and proficiency in communication. Regulators often serve as mediators when complex issues arise. Robert Thomas noted that “soft” does not mean “easy” or “unimportant.” Negotiation and mediation skills are valuable in the regulatory process. That means being able to assess the situation, knowing your own wants and needs (BATNA—best alternative to a negotiated agreement), identifying the interests of stakeholders (substantive, process, relationship, and principles), and setting strong goals.

- 34. *Consultations can help decision-makers address financial sustainability.*** Consultations involve presenting and listening. While there is no single recipe that will work in all countries, principles have been developed that are applicable across sectors and nations. Achieving financial sustainability requires an understanding of financial statements (balance sheets, income statements, and statements of cash flows), operating statistics and trends, and other elements. Principles can be learned, but international experience provides a continual stream of new insights regarding how regulatory governance and policies affect cost containment and the introduction of valued new services. Active pursuit of new ideas and strategies that can make a difference is probably the best indicator of regulatory performance. Sadly, regulators are often preparing to "fight the last war," when the objective situation has changed. Using old tools to address new issues is likely to result in an appearance of continuity, but the issues end up being resolved in courts (after long lags) or promising commercial opportunities (for new services or suppliers) end up being shelved.
- 35. *Basic economics provides some foundations for regulation.*** Engineers, lawyers, economists, accountants, and specialists from other disciplines can be brought together to tackle complex issues. Economic concepts are utilized in many fields, but each field provides useful perspectives. The sharing of knowledge represents an important activity within and between organizations. Formal training (like courses offered at PURC) represents one setting for sharing ideas and experiences. Each organization needs a system that helps professionals be more intentional about seeking and sharing knowledge. For example, economic concepts can be complicated and subject to different interpretations. When it comes to analysis, however, it is better to have a rough estimate of the right concept than a precise calculation of an arbitrary number. An example would be gauging opportunity costs when determining price signals, rather than calculating some fully distributed cost through arbitrary cost allocations. The latter can result in price signals that distort marginal consumption decisions. On the other hand, the accounting numbers might be quite appropriate for determining the level of revenues. Similarly, identifying and providing incentives for appropriate levels of service quality requires a deep understanding of underlying production technologies and of consumer preferences.
- 36. *Strategic Thinking can improve performance.*** Never lose sight of the big picture: broad perspectives require exposure to international experience. For example, despite long experience with regulatory commissions in the United States, state and national commissions are changing their processes to cope with rapid changes in infrastructure, using all-party settlements to achieve consensus in some situations. Other nations have important lessons to share as well. There is no recipe for sustainable regulatory systems. National laws, local expectations, citizen values, and political stability all constrain what a regulator can do. Nevertheless, "It's sector performance that counts." And thinking strategically is central to improving performance.

37. A sound regulatory framework can help a company succeed. Regulators and company managers are not adversaries: both seek strong infrastructure performance. The timing and levels of rewards for good performance are issues that require compromise by both parties, but ultimately the goals are consistent. Of course, external changes in technologies and politics means that both parties need to adapt to developments. The pace and pattern of technological change and trends in input-prices both affect cost structures in network industries. Infrastructure issues are complex, involving multiple stakeholders and longtime horizons. Potentially destabilizing technologies and changing public expectations mean that new issues are continually emerging. Thus, regulatory issues must be addressed by policy-makers who are accountable to citizens, regulators who implement policy, and network operators who are closest to emerging demands and disruptive innovations. Balancing the concerns of different stakeholders requires expertise and political acumen.

Concluding Observations

Here are seven elements that (in my opinion) are necessary for strong regulatory 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.

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.

Interests—*Stakeholders matter*: groups have different objectives; some are allies of reform some are opponents, some are casualties, and some have no voice but should not be ignored (those without service and future customers).

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 will make a difference in their nation’s economic and social growth participated in this PURC Training Program. Hopefully, the discussions equipped them to be more effective when they returned to their nations—to continue the *initiatives* identified during their stay at the University of Florida.

Additional Resources

[Handbook for Evaluating Infrastructure Regulatory Systems](#) by Ashley C. Brown, Jon Stern, and Bernard Tenenbaum, The World Bank, 2006. This volume provides an overview of why, what, and how to evaluate regulatory systems. A CLASSIC!

Check out other web-links at www.purc.ufl.edu and at www.regulationbodyofknowledge.org.