

**Key Lessons from the
37th PURC/World Bank International Training Program on
Utility Regulation and Strategy
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Teachers learn from their students, and students learn from each other. As in the past, the 51 participants from 26 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*.

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1. ***Friendship: In addition to technical and regulatory information, participants acquired friends from around the world.*** This was a unique opportunity to interact with skilled professionals so that 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.

2. ***Different perspectives from each participant provided valuable lessons about what works in particular contexts.*** 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.
3. ***Inspiration from fellow participants and from speakers provided motivation for moving forward.*** Although there are no easy solutions to regulatory problems, the application of core principles and methodologies promotes consistency in decision-making. In addition, by communicating a vision of sector performance, different stakeholder groups can appreciate that the organization is trying to balance a set of important objectives. Sustainable regulation requires both technical skills and vision. 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.
4. ***Promote a better understanding of the role of regulators; new knowledge can be utilized for institutional capacity building.*** 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.

5. **Common practices: No single skill set is adequate for addressing pricing 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. 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.

6. **Networking is a valuable activity. One can apply “some” solutions developed by others to his or her own situation.** While there is no single recipe that will work in all countries, principles have been developed that are applicable across sectors and nations. These 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 commercial opportunities (for new services or suppliers) are shelved.

7. **Big Picture: Recognize the roles and objectives of different stakeholders.** 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.”

8. ***Broad network of colleagues: Fellow professionals address similar questions and can provide assistance by sharing methodologies, procedures, and lessons.*** Participants found a network of colleagues whose experience and expertise can be drawn upon. Regional associations are beginning to provide important opportunities for sharing lessons, information, and technical ideas. In addition, colleagues empathize with one another: those in leadership positions of responsibility become aware that others understand the difficulty of the issues under consideration. Regulatory systems that promote high sector performance require transparency and consistency in decision-making, in addition to participation by stakeholders in the process. Such systems 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). Training is a window of opportunity: with a better understanding of issues, regulators can apply sound principles to individual countries and then to regions of the world. When we limit our attention to our home nations, we wear blinders. We tend to fixate on current arrangements, the needs of powerful incumbent operators, and on existing technologies. We need to have a large window that includes a view of activities on the international scene. For a professional approach to improving sector performance, learning should never stop.

9. ***Nuanced issues: Even though infrastructure sectors involve nodes and link, each sector has unique features that drive performance.*** 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 long time 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.

10. ***Soft Skills are important if decision-makers are to be effective.*** Communication and negotiation are just two of the “soft” skills necessary for successful regulatory 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).

11. **Sharing issues and approaches: Both advanced and developing nations face similar issues for improving infrastructure performance.** The press represents one vehicle for communicating with those groups interested in infrastructure performance. Issues need to be aired outside and within organizations. Communication is an essential part of transparency. Note, the question is not “Should there be regulation?” Rather, policy-makers should ask, “What are the limits to regulation as an institution for addressing infrastructure issues? What are the alternative arrangements?” There is solid empirical evidence that a good regulatory system improves sector performance. This point needs to be communicated to different external stakeholders.
12. **Consistency and Coherence: 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.** 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.
13. **Adversarial Relationships are not productive: It is possible to achieve objectives of both the regulator and 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. The various parties are more 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.
14. **Risk Reduction: Regulators can reduce the risks facing operators.** Predictability is valued by those investing in capital-intensive infrastructure firms. It is valued by both private investors and by government development agencies allocating funds across different activities (including education, health, and transportation). Technical skills can reinforce predictability; yet such 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. Such mediation can reduce the risk of dramatic changes that occur when short run political pressures become important. 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.

- 15. Regulation and Liberalization: *Regulated utilities face constraints established by regulatory institutions, but deregulation introduces competitive pressures on operators: both types of pressures create challenges for managers.*** When restructuring a vertically integrated sector, monopoly components can be separated from competitive activities. Such vertical dis-integration can involve a loss of economies associated with system planning. However, with separate charges for each component (unbundling), stages of production that are potentially competitive can attract entry—potentially leading to improved industry performance. “With unbundling, the regulator may allow the provider of the non-competitive component to provide a single service that combines the competitive and non-competitive portions of the service, but the regulator would also require the operator to provide rivals with equal access to the essential facilities under the same terms and conditions as the operator does its own competitive service. This is a common approach in telecommunications.”[from www.regulationbodyofknowledge.org] Both multi-sector and single-sector agencies face challenges. The former can utilize professionals across several sectors and may be able to better balance the influence of politically powerful sector interests. The latter are likely to have specialized staff who can tackle sector-specific issues. Both types of agencies will still have to collaborate with other governmental agencies (addressing environmental discharges, spectrum allocation, and water resource allocation, for example).
- 16. Specialized knowledge brings responsibility for those possessing that knowledge.** Regulators are in a position to manage (not solve) complex problems by anticipating the impacts of alternative policies. Their rules must be robust in terms of system performance under alternative (realistic) scenarios. There exists no single, easy solution to regulatory problems. Each nation has different legal requirements, institutional situations, and experience. Despite the absence of simple solutions, the agency should include simplicity as an objective--given the uncertainties of excessively complex incentive schemes. Regulators must continually evaluate the impacts of existing rules. One can argue that process matters, but "performance counts". The key issue is how to "count" (quantify) performance. Any regulatory rule creates incentives, so the outcomes must be carefully monitored to ensure that rules are accomplishing their intended results. Just arguing that firms should always seek appropriate cost containment misses the point that we often do not know what is possible until we are under some pressure to achieve targets. This point applies to both government agencies and utilities.
- 17. No single recipe for regulation: *No one size fits all so policy-makers must develop procedures and incentives consistent with the national context.*** While there is no single

recipe that will work in all countries, principles have been developed that are applicable across sectors and nations. These principles can be learned. 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. Unfortunately, the issues end up being resolved in courts (after long lags) or commercial opportunities (for new services or suppliers) are shelved. 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.

- 18. Regulation is both a science and an "art." It involves technical skills and soft skills, with particular attention given to relationships among stakeholder groups.** Leadership is an art—based on experience and good listening skills. Art involves creativity: most decisions require a deep awareness of political forces as well as creative problem-solving. In addition, decisions must reflect technical factors from economics, finance, engineering, and law. This field of study needs further development: the multi-disciplinary skills need to be taught at more universities. Networks obey the laws of physics, but investors pay attention to past decisions for clues regarding the timing, level and risks of future cash flows. Behavior that is appropriate in one nation may be perceived as unethical in another. Standards for open meetings, negotiations, and hiring are not universal. Nevertheless, as Ken Kernaghan and John Langford note in their book, *The Responsible Public Servant*, potential conflicts of interest arise with self-dealing, accepting benefits, influence peddling, using employer information or property for private advantage, using confidential (proprietary) information, outside employment, and post-employment activities. Regulators and managers need to be sensitive to how their behavior affects citizen attitudes towards both the regulatory process and regulatory outcomes.
- 19. 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. 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.

20. Confidence: Capacity building facilitates the acquisition of many skills—contributing to a professional attitude and greater confidence. 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. Regulation can improve sector performance if pitfalls are avoided. However, the regulatory agency is only part of the “regulatory system” which includes the 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. 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.”

Concluding Observations

Regulation and Politics: 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.” 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.

Dealing with the Press: Regulatory systems need to be understood by citizens. 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.

Preconceptions and Perceptions: 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 the costs and benefits of different policy options. If the regulatory process is transparent, stakeholders (including political leaders) will understand the decisions of infrastructure sector agencies. Good communication is as important as good technical decisions. Regulators must recognize the existence of information asymmetries: managers know far more about the ease or difficulty of containing costs and improving performance. 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.”

Benchmarking: 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.

Without benchmarking, cost of service regulation would only enshrine high costs in high prices. Price caps that reduce prices for inefficient firms can provoke investors to pressure management to improve performance. For state-owned utilities, low prices also punish customers who will now receive poor service and punish unserved citizens, since less funding is available for network expansion. 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.

Foundations for High Infrastructure Performance: Here are six elements that (in my opinion) are necessary for strong performance in telecommunications, energy, water, and transport:

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.

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.

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 the recent 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!

Berg, S., 2013. *Best practices in regulating State-owned and municipal water utilities*, Report to the United Nations Economic Commission for Latin America and the Caribbean. Applicable to state-owned electric utilities as well. Available at:
<http://www.eclac.org/publicaciones/xml/1/49891/Bestpracticesinregulating.pdf> .

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