Teachers learn from their students, and students learn from each other. As in the past, the 79 participants in this training course identified the key lessons learned over the intensive two-week period. During the concluding session of the program, they shared their reactions to formal presentations and informal networking. The PURC staff appreciates the dedication and energy exhibited by participants: they brought energy, insight, and understanding to the sessions and shared their ideas with all of us.

Note that while most of the lessons refer to regulatory agencies and to those developing infrastructure reforms, the principles apply to operators as well. Organizations face the same types of 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.

PURC’s Director, Mark Jamison, noted that the lessons tend to be strategic rather than technical in nature—suggesting that many of the important ideas involved how regulators, representatives from government ministries, infrastructure managers, and consumer advocates needed 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 all those involved in these important sectors.

1. **Networking:** Networking with colleagues from around the world provided participants with insights about how to implement “best practice” in home countries. No nation has “all” the answers, but the process of sharing ideas and experiences led to ways to promote professionalism, improved regulatory processes, and better decisions.

2. **Regulatory Credibility:** A strong and technically solid regulator promotes confidence in the regulatory system. One way to promote credibility is to publish and adhere to schedules.

3. **Multiple Perspectives:** It is useful to walk in the shoes of other stakeholders. Open discussions and careful listening to other points of view help all participants in the regulatory system gain perspective.

4. **Fundamental Issues:** Infrastructure regulators face similar issues: capital intensity of network industries, public attention given to prices and access, potential politicization of
the regulatory process. Developed and developing nations face the same problems, though the latter have the added difficulty of obtaining funds for network expansion.

5. **Ideas Matter:** Participants examined incentives, information needs, institutional development, ideology (values), and implementation issues. The sharing of experiences promoted valuable exchanges of ideas.

6. **Expert Advice:** Consultants, local university scholars, and colleagues in other nations can all provide valuable perspectives. No agency has the resources to address all issues with internal expertise. It is important, however, to know what questions to ask these outside experts.

7. **Technical Skills:** 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 also cultivate leadership skills that enable them to deal with all stakeholders.

8. **Continual Learning:** Capacity building never ends. Organizational recruitment and retention depends on creating a culture of continuous improvement. The Body of Knowledge on Infrastructure Regulation at [www.regulationbodyofknowledge.org](http://www.regulationbodyofknowledge.org) provides one set of resources for internal training programs and for addressing frequently asked questions.

9. **Multisector and Single Sector Agencies:** Both types of regulatory 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 (environmental, spectrum allocation, water resource allocation, and related government ministries).

10. **Sustainable Decisions:** Stakeholders can appeal decisions in most jurisdictions, so it is important to (a) follow the law, (b) base decisions on facts and appropriate methodologies, and (c) communicate the decision in a way that makes the logic and impact clear to all affected parties.

11. **Communication:** Communications to groups external to the organization are important in that they represent a key way the public becomes informed about agency decisions. Press releases should avoid jargon and provide the following: an honest and direct answer, a message that explains the role or goal of your organization, specific proofs of
your point, links to listeners, and a clincher that reinforces your message. Personal communications with colleagues can also benefit from this approach.

12. Avoidance of Regulatory Capture: If a regulatory commission only communicates directly with the operator, and that operator is politically powerful, there will be a public perception that regulatory decisions are unduly influenced by these contacts. Similarly, a commission could be captured by powerful consuming groups, leading to excessively low prices that are not sustainable. Working for the long-term financial sustainability of the sector requires balancing the interests of various stakeholders.

13. Staff Training and Development: The development of professional staff members requires opportunities for updating their skills. In addition, leaders should seek ways to become less isolated. Mechanisms for listening to one another should be identified and utilized. Bureaucracies can become comfortable: leaders can become insulated from the real issues.

14. Public Participation: Cultivate opportunities for engaging the public in discussions. 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.

15. Context: 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. Set targets based on reality, not rhetoric. 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.

16. Information Resources: There is no need to re-invent the wheel. Textbooks and decisions in other jurisdictions contain methodologies and approaches to cost allocation, pricing, service quality, and performance improvements. Vast amounts of information are available on the Web or through collaboration with colleagues.

17. Systems and Interactions among Participants: Infrastructure industries are very complex. Evaluating the performance of an entire regulatory system goes beyond how the regulatory agency is doing its job, but also to the legal structure under which it operates, the income growth of the nation, political interference, citizen expectations (realistic or not), and many other factors beyond the agency’s control.
18. **No Simple Recipes Exist:** Throughout the program, speakers and participants have noted that there is no ideal way to regulate. The legal structure and other aspects of the institutional context limit what a regulator can do in any particular nation. However, it is useful to conduct a strategic analysis of the organization’s strengths, weaknesses, opportunities, and threats (SWOT). Reviewing the situation helps leaders of the organization shape the institutional constraints in ways that can increase the likelihood that sector performance will improve.

19. **Knowledge and Understanding:** 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.

20. **Each Nation Is Different, but Has Common Problems.** 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. 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 the costs and benefits of different policy options. If the regulatory process is transparent, stakeholders (including political leaders) will understand the decisions of the water sector agencies. [From the paper summarized below in Additional Lessons].

21. **Basic Principles:** Ultimately, the legitimacy of an agency depends on the acceptance and understanding of the regulatory process by the consumers and other stakeholders. The population that is expecting to receive services is directly affected or benefited with the tariffs and quality of service parameters. The impact of infrastructure reform depends on national circumstances, income distribution and growth, and the legal system. Legitimacy and some degree of social acceptance will only be achieved on a record of accomplishments. Staff expertise, learning from regulatory experiences elsewhere, and the use of regulatory instruments like benchmarking are the basis for the future infrastructure improvements and poverty reduction in the country. [From the paper summarized below in Additional Lessons].
22. **Negotiation and Mediation:** Negotiation skills are valuable in the regulatory process. That means being able to assess the situation, know your own wants and needs (BATNA—best alternative to a negotiated agreement), identify the interests of stakeholders (substantive, process, relationship, and principles), and set strong goals. Regulators often serve as mediators when complex issues arise.

23. **Collaboration:** Industry and regulators need not be adversaries. Regulation is not a zero-sum game where consumers lose or operators win. Workshops can resolve some technical (factual) issues. It is still important to eliminate any perception of regulatory capture, since citizen confidence in the regulatory system is central to long-term infrastructure development.

**Additional Lessons**


In a polarized political setting, public policy toward the water sector evolves in response to pressures. Bolivia is undergoing a major socio-economic, political, and institutional reform. The institutional reform is reflected in the water and sanitation policies. Water policies are based on the universal access principle, but important actors like the SISAB, the superintendent of basic sanitation, are not included in the new Constitution. This paper assesses the institutional reform in the Bolivian regulatory system and draws some lessons for water sector agencies in other nations. First, technical skills are necessary but not sufficient for regulatory sustainability. In addition, those implementing policy must think politically without being political. To establish incentives for good sector performance, public authorities must be able to measure performance. Furthermore, when price is initially far below cost, citizens will perceive private participation as the reason prices go up. Finally, benchmarking water utilities is perhaps the only tool regulators have when regulating municipal or state-owned utilities. The study sheds light on the evolution of regulatory institutions.

**Lesson 1: Technical skills are necessary but not sufficient for regulatory sustainability.** Professionalism is a plus; however, if the resulting policies do not address perceived social needs, the agency will have few allies. Communications with all the relevant stakeholders are crucial if they are to understand the steps required for improving sector performance. In the case of Bolivia, the rural poor and indigenous groups did not feel that their needs were being addressed. By not engaging all segments of civil society in a national dialogue regarding infrastructure priorities, the leaders of the regulatory system missed an opportunity to develop sustainable strategies for network expansion and gains in service quality.
Lesson 2: Regulators must think politically without being political. “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. Nevertheless, being insulated from direct political pressure does not mean that regulatory leaders can ignore the political climate in a nation.

Lesson 3: The functions of regulation include establishing incentives for good sector performance and communicating developments to all stakeholders. The functions cannot be wished away. They must be performed by a Ministry or by a regulatory agency; otherwise, sector performance will suffer. A separate agency promotes continuity and professionalism in the implementation of public policies. The separation of policymaking from policy implementation insulates technical staff from undue political pressures—promoting consistency and predictability in regulatory rulings.

Lesson 4: Administrators can only manage what they measure; holding managers accountable for weak performance is only possible if data on trends and best practice are widely available for analysis. The volatile political situation in Bolivia has not been conducive to performance-enhancing strategies. Long-term investments will not be made if there are no payoffs to those taking on the risks and responsibilities for new programs. Outlays for short term maintenance and quality improvements will not be made if citizens are unable to perceive clear performance enhancements. Without benchmarking, neither managers nor citizens have a basis for changing behavior or developing realistic expectations.

Lesson 5: 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. 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 water service delivery and by grounding citizen expectations in reality.

Lesson 6: Benchmarking water utilities is perhaps the only tool regulators have when regulating municipal or state-owned utilities. Without benchmarking, cost of service regulation would only enshrine high costs in high prices. Price caps that reduced prices for inefficient firms punishes customers who will now receive poor service and punishes unserved citizens, since less funding is now available for network expansion. Thus, identifying high performance water utilities singles them out as ones that will not waste donor funds. Identifying utilities with weak performance provides citizens with a basis for pressuring local politicians to replace poor managers. In addition, the regulatory system can support institutional innovations in water delivery.
**Sustainability:** Sustainable sector outcomes reflect the “Five Cs” of a sound regulatory system. These are strategies for engaging the public and policymakers in ways that reflect best practice:

**Coherence:** Establish the tariffs according to the required levels of service, with quality, continuity, and accessibility for the low-income consumers.

**Creativity:** Support new technologies, initiatives, and incentives for water sector providers. Social tariffs and subsidies are required to facilitate universal access to low-income consumers. The non served groups also need to be reached with innovative solutions as operators expand access to services.

**Communication:** Serve as a catalyst for bringing together different water sector stakeholders. Proactive regulators can reduce social conflicts in the water services provision. The water sector agency has to consider all stakeholders and their key concerns when making decisions. Consumers are the first (not the last) to be consulted in network expansion decisions.

**Collaboration:** Promote interactions with related agencies and organizations, including water resource managers, social service organizations, public health agencies, and environmental groups. Regulatory commissions can serve as fact-finding agencies that help resolve difficult public policy issues. Furthermore, collaborations with agencies in other countries can strengthen regulatory capacity, as lessons and data are shared. In the case of Bolivia, SISAB (or the future water agency) can benefit from regional groups like the Association of Water and Sanitation Regulatory Entities of the Americas (ADERASA).

**Credibility:** Seek transparency and consistency in the regulatory process since cash flow will be driven by future decisions. The new agency’s credibility depends heavily on data collection and analysis. Regulators need to document past trends, define baselines, and identify reasonable targets—based on current best practice.

These principles are not new, but when they are ignored, the results can be damaging to infrastructure sector performance.