



Power Sector reform Review

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***ENHANCING DEVELOPMENT EFFECTIVENESS THROUGH EXCELLENCE
AND INDEPENDENCE IN EVALUATION***

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I. Introduction

This paper reviews a sample of World Bank documents and web sites on power sector issues and projects.

The documents were selected by World Bank staff, and are supposed to represent the best of the Bank's work. The documents represent research and analytical work, economic and sectoral work and project appraisal documents. The text and links at the electric power portions of the Bank's energy sector web site were also evaluated.

To identify the strengths and weaknesses in the Bank's documents, the questions in the Terms of Reference were expanded into their constituent parts as follows:

1. **Relevance:** Was the information, analysis and advice in the document relevant to the client's issue?
2. **Comprehensiveness:** Was the information, analysis and advice in the document appropriately comprehensive?
3. **Knowledgeable:** Did the document provide the client with the best and most up-to-date knowledge on the issue (including from sources outside the Bank)?
4. **Clarity:** Were the ideas and recommendations in the document stated clearly?
5. **Objectivity:** Did the document present information in an objective manner (indicating, where pertinent, significant differences that exist in ideas and approaches)?
6. **Practicality:** Did the document provide practical advice to decision-makers?

II. Quantitative Scores (Appendix 1)

The responses to the six evaluation questions were scored on a scale of 1 to 4, with 4 being the highest. Appendix 1 contains a table on each research and analytical and sectoral and economic document reviewed. The Appendix contains the quantitative scores on each question, remarks explaining the basis for that score, an overall qualitative assessment and a mean score.

The following table summarizes the mean score for the various types of documents on the six questions and one type of overall assessment score, namely the mean of the scores on the six criteria described above.

Summary of Average Scores for Power Sector Documents on Six Criteria by Document Type, Sub-sector, and Criterion

Document Type	Relevant	Comprehensive	Knowledgeable	Clear	Objective	Practical	Overall
Research and Analytical Papers	3.4	2.6	2.8	2.6	2.8	3	2.87
Sectoral and Economic Work	3.75	3.38	3.13	3.88	3.25	3.63	3.5

Scoring: 1-4, 4=highest

Relevant = Was the information, analysis, and advice in the document relevant to the client’s issue?

Comprehensive = Was the information, analysis, and advice in the document appropriately comprehensive?

Knowledgeable = Did the document provide the client with the best and most up-to-date knowledge on the issue (including from sources outside the Bank)?

Clear = Were the ideas and recommendations in the document stated clearly?

Objective = Did the document present information in an objective manner (indicating, where pertinent, differences that exist in ideas and approaches)?

Practical = Did the document provide practical advice to decision-makers?

Overall = unweighted mean of scores on six questions/criteria

In the above table, the overall assessment score is an unweighted mean of the documents’ scores on the six questions. In addition, the documents were classified as to their overall quality based on whether they received high scores (3 or 4) or low scores (1 or 2) on groups of questions measuring related characteristics. This is a harsher measure of overall quality than the mean score, because two scores of 2 can push a document into the unsatisfactory category, despite high scores on the other four questions.

The tables in Appendix 1 give the overall quality rating obtained by each document. The following table gives the frequency distribution (number of documents for each category on the scale) for this overall quality scale.

Frequency of Power Sector Documents by Document Type and Overall Quality Scale

Document Type	Unsatisfactory	Content weak	Sharing & application weak	Satisfactory	Benchmark quality
Research and Analytical Papers	2	2	3	2	1
Sectoral and Economic Work	2	2	2	6	3

Benchmark: Documents which score full marks on all questions. The Bank has all the resources required to ensure that its documents score full marks on all (appropriate) questions. The extent to which this is achieved is an indicator of the extent to which the Bank is realizing its knowledge bank objectives.

Satisfactory: Documents which have no scores less than 3 for any question.

Content weak: Documents that have one or more score of less than 3 in the questions primarily related to content (first three questions).

Sharing and application weak: Documents that have one or more scores of less than 3 in the questions primarily related to sharing and application (last three questions).

Unsatisfactory: Documents that are weak in both content and sharing & application.

It must be pointed out that these evaluations do not indicate the quality of the documents *per se* but the extent to which they are likely to contribute towards the objectives of the World Bank.

III. Research and Analytical Papers

The small sample of the Bank's research and analytical documents reviewed was quite mixed. It is hard to understand why the Bank did not, by 1999, focus its work on the effectiveness of its advice on tariffs or the social impacts of privatization and liberalization. The problems are well surveyed, but are less well analyzed. The Bank's Economic and Social Work in the past two years is far superior to the research and analytical work I sampled. Surely by 1997 or 1999 it was clear enough to developing countries that the performance of their electric power utilities was either poor, undercapitalized or both. Many considered privatization or liberalization but struggled with the issues of transition. How do you make the utilities marketable? How do you raise tariffs without social dislocation? Do you subsidize the poor through the tariff system or by other social welfare mechanisms? How do countries with weak governments, weak judicial systems or inexperienced public servants create effective, credible regulation? How can you create competition in and for the market? What sequence should a reforming government follow?

The Guasch and Spiller book was an excellent survey on managing the regulatory process. It addressed issues of wholesale pricing and competition for markets that have proven to be serious challenges in developed economies as well. The Estache, Gomez-Lobo, Leipziger paper on utility privatization and the needs of the poor and usefully described one model in Argentina that is worth emulating. The Pardina and Estache paper on Brazil's electricity sector was well intentioned, but flawed. The Bank took on

the task of examining a power sector reform before it was complete but the paper failed to deal seriously with any of the challenges that had undermined reform in other countries or that were present in Brazil in 1996. The rest of the Bank's analytical work reviewed failed to provide practical advice, useful analysis or even clearly stated current history on these issues.

Key Defects

1. Relevance. The topics of the papers were all relevant to decision makers, but (with the exceptions noted above) the discussion was not. The bulk of each paper was too theoretical and the theory itself is simply not new. What remained of each analysis was a very brief discussion of a current experience, but with very little useful advice on the general applicability of the case study. There was no significant analysis in any of the papers about how the design of regulatory systems ought to address issues of the environment or the poor. The papers merely explained that it was complicated, with many tradeoffs. There is no recognition of the limited political capacity of many governments to manage the transition to privatization, much less to regulation. These omissions fail the "comprehensive" test. The Bank's work (at least the sample reviewed) did not address a number of questions it ought to have addressed. For example, will privatization skew power sector reform to use of fossil fuels (versus hydropower or nuclear) because of the high capital costs and long recoupment periods for hydro and nuclear power generation? With respect to the poor, should governments consider the need for rural electrification in the design of a concession or permit or should they leave this to social policy? Estache, Gomez-Lobo and Liepziger helpfully explain that most subsidies benefit middle and upper classes and that privatization will not fix the problem of financing access and affordability for the poor. But they give bumper sticker treatment to the advice for the countries addressing this problem "What is really needed is political commitment." Pardina and Estache note the complications in Brazil posed by the powerful southern states and the poor commercially challenged northern states, yet they toss off cross subsidies as their response on tariffs. By contrast, Chapter 4 and Annex 4 of India Power Sector show that the Bank had relevant experience on tariff design and balancing that were relevant to analysis of the Southern Cone systems.

2. State of the Art Knowledge. By 1999 there were many centers of learning on power sector reform outside the Bank. There were few references to the analyses of the other development banks. A Google search shows power sector reform analyses by the Inter-American Development Bank and the Asian Development Bank by 1996. USAID, the International Energy Agency, the US Energy Information Administration, the US Energy Association, the International Institute for Education and several UN agencies have useful material that could have been referenced. Many governments published studies of their own experiences. There was considerable comparative work on deregulation in the US by MIT and the Pacific Northwest National Laboratory. The US National Association of Regulatory Utility Commissioners undertakes hands-on partnership efforts with developing countries, including "cookbook" on designing tariff reform. None of these sources were drawn upon. The Bank's work did usefully translate and summarize some of the nationally generated reports in the analyses of Argentina, Brazil and Chile's experiences, but drew very little from any other sources. In the case of Brazil, surely

Pardina and Estache could have looked to domestic critiques in Brazil or by power industry critics for some perspective.

3. Practicality. With the two exceptions noted, the Bank's research and analytical work was of little practical use for decision-makers. The work was too theoretical, too poorly written and the advice too general to be useful.

Too theoretical. Each of the Estache papers was dominated by a lengthy, technical, and highly theoretical discussion of very basic economic issues. Putting aside the fact that the prose would bring tears to an economist's eyes, who was the audience for this work? Who tasked it in the first place? Policymakers and regulators no doubt knew, especially by 1999, that regulators do not have the same level of information about firms as the firms do, or that universal service obligation put difficult financial burdens on private firms, or that full cost tariff rates can hurt the poor, or that competition provided allocative and productive efficiency or that politics can make for inefficient regulation. They did (and do) not need theoretical explanations of the problems, they need advice on how to manage the difficulty. If the target audience is theoretical economists, no doubt they all had this theory in their introduction to regulation course. The Bank needs to be clear about who the reader is and what information they can use.

Poor Form. Nearly all of the work in which Antonio Estache participated as an author should not have been permitted to be published in the form reviewed for reasons of form and substance. The drafting and editing was inferior, even for an internal draft. Mistakes of grammar, spelling and footnote format were frequent. I would not have accepted this quality work from a graduate student. It is unimaginable to me that the World Bank did not edit this work before publishing it, even for use within the Bank. Estache abhors the active tense. His use of the passive tense masks muddy thinking. It is often unclear what the subject of his sentence is. The writing was painful to read. A person for whom English was second language could only decipher his point with difficulty. The Pardina and Estache paper on Brazil was proofread, but turgid.

Advice was too general. It was unfortunate that all of the Estache work was 90% theory and 10% current history. The advice was too general to provide decision-makers with useful advice. Examples: "While a typology of issues would be useful, it is quite challenging to develop without a more detailed analysis of experiences so far..."; "... a gradual policy can sometimes work better than "shock" procedure"; "Competition rather than privatization is the key ingredient for a successful transformation of the sector"; try to ensure independence of regulators, sometimes class specific subsidies are ineffective.

4. Objectivity. The documents were objective in laying out the many schools of thought on the theories of regulation described. The treatments of the case studies in Latin America were mostly descriptive and not analytical. There was little discussion of how internal stakeholders viewed the reforms and no references to how non-governmental organizations viewed the reforms described, although the World Resources Institute and others did opine on power sector reform from time to time.

5. Useful Exceptions. The Guasch and Spiller book is excellent. They prepare a clear, plainly drafted, comprehensive introduction to regulatory design. The issues addressed, while they are basic issues in regulatory design in public finance, are all relevant. As the “Scorecard” paper reviewed in the Economic and Sector work illustrates, most comprehensive reform was undertaken in Latin America. Their focus on the region is appropriate. The comparison of regulatory approaches to specific problems in different countries gives potential decision-makers some basis for thinking through how to structure their own systems. The bibliography suggests a thorough inclusion of sources outside the Bank. (It leads one to question, if this book was tasked to provide a knowledge bank on regulatory theory, who kept tasking the other research and analytical work that was both duplicative and inferior?) Each section has conclusions and practical advice for decision-makers in non-technical language. The book itself is an excellent contribution to global knowledge on regulatory design. Finally the book is objective, laying out the strengths and weaknesses of approaches, while still offering advice on best practices.

The Estache, Gomez-Lobo and Liepziger paper on the poor gives a teasing hint of what the Bank might have accomplished with its resources. Buried on page 27-28 is a reference to Chile’s experiment with expanding telecommunications and rural electricity service to the poor by letting firms bid for the minimum amount of subsidy they need to provide service. Where is the case study on this experiment? How did they structure this? What did the concession agreement look like? Did they factor this into their plan before creating a concession?

6. Future Directions. The Bank needs to be much more focused on who their audience is, what level of technicality that audience can digest and what analysis they need. The topics selected for the Bank’s work were all the right topics. What is disappointing is that the work produced gives so little guidance to decision makers on how to address these problems or uses such sketchy case studies that decision-makers cannot readily compare their systems to those who have gone before them.

IV. Economic and Sectoral Work

The key issues in power sector reform have been well known for some time. How can countries attract private capital for new generation when transmission is weak and the price of power is below the cost of production? How can you subsidize the poor without bankrupting the power company? How do you provide power to those off the grid? How do you provide competition in the sector? How do you build capacity to manage complex regulation in developing countries?

The Economic and Sector Work reviewed was very mixed. The Bank’s work on tariff design (Maintaining Utility Services for the Poor in the CEE and FSU and India Power Sector Reform and Poor) identified the importance of access to electricity for development, analyzed the failures of existing tariff systems, and formulated a typology of issues and tradeoffs policy makers must address in designing tariffs. There was no sectoral paper that compared the range of power sector issues across a number of countries. The India paper usefully provided a chapter comparing international

experience in providing power to the poor. None of the papers comprehensively analyzed the renewable energy or rural electrification subsectors. Two papers addressed competition and market structure issues (the Lessons from Bolivia and the California Power Crisis papers), but only in specific countries. The lack of sector specific work is a failing. It deprives the Bank's project appraisers and country decision makers of an easily accessible analysis of the lessons learned in each of the aforementioned areas.

The work reviewed did, however, provide important lessons on tariff and market design for evaluation of future Bank projects, some useful overview tools for policymakers, and illustration of the need for sectoral on renewables and rural electrification. The lessons on tariff and market design were not reflected in much of the project work reviewed, perhaps due to the timing of the projects and the release date of the ESW work.

Important Work on Tariff Design

The India Power Sector paper was the best of the lot. The keys lessons here were that household surveys are essential for designing effective tariffs, that existing tariffs may not benefit the poor, and that tariff rebalancing (at least in India) could potentially help the poor and save the government money. The typology of issues (which eluded Estache, Gomez-Lobo and Leipziger in August 2000) is applicable across countries. The paper also dealt candidly with difficult issues. For example, the authors admitted that universal service may not be viable for India for some time. Better to create a system that helps promote economic growth and makes serious progress towards poverty alleviation than a universal system that does neither. This may not be good advice for every country, but the question needs to be addressed. Rural electrification was reportedly dealt with in another study, but two essential facts were addressed: most successful rural electrification systems allow for operating cost recovery and most effective rural electrification programs are integrated into the overall reform program early on.

The paper on Policies and Practices in Central East Europe and the FSU was also very well done. The paper candidly acknowledged weaknesses in the Bank's advice and provided (in March 2000) a framework for evaluating tariff subsidies. The core of the paper's analysis was derived from household survey data. The failure of the bank's early advice was laid to the lack of sufficient analytical grounding. (At this point household surveys ought to be a requirement for Bank lending as well as for project justification). The paper dealt with serious practical issues policymakers must face: do you permit disconnection? How do you structure a lifeline tariff? Is shock treatment a good policy?

Useful Tool for Policymaker

The Scorecard on Global Energy Sector Reform and the Viewpoint Summary of the Scorecard were relevant summaries of the global reform picture. No other global overview exists, making it state of the art. It is practical and illuminating and very thorough in explaining the methodology chosen for the questionnaire.

The Scorecard should receive broad circulation to governments and a more prominent place on the energy sector website. The Scorecard gives the view of power sector reform from 10,000 feet. Energy and Power Ministers often read from this height. The Scorecard reveals that most of the hard work of reform has yet to be accomplished in most regions

outside of Latin America and that progress there is far from complete. The Scorecard has a lesson for the taskers of analytical work as well. Countries are finding it very hard to manage the jump from liberalization or corporatization to privatization. The reasons are well known – no one wants to buy unless tariff prices are economic and governments cannot manage how to let tariff prices rise, not harm the poor, and maintain power at the same time. This is where the Bank might focus its policy advice.

Important Work on Market Design

The papers on competition, how California went bad, and how Bolivia succeeded in privatizing its power sector and introducing competition, have useful, practical lessons learned for other countries. The topics are all current, but none of the studies is comprehensive on a sectoral level. The superb California power crisis paper looks at how partial deregulation can distort a market. But this needs to evolve into some policy consensus in the Bank about the utility of long term contracts, hedging, and the sequence in which competition is introduced and price caps. The Bolivia paper does not explain some of the harder questions in detail – how did they balance tariffs? Were they right to focus on efficiency to get the system capitalized and deal with social issues (i.e. rural electrification) down the road? Were they unique (and lucky) to have some excess capacity? The Bank needs to provide advice and analysis on these hard questions.

Illustrations of the Need for Sectoral Work on Renewables and Rural Electrification.

The Rural Electrification in Brazil paper and the Assessing Markets for Renewable Energy in China papers highlight both the general utility that these studies have for other countries and the inconsistency of the Bank's work.

The China paper points out many issues that countries contemplating solar home units or other renewables need to consider. Is there a market survey? What is the ability and willingness to pay for energy? Is the power source for home use or for productive use as well? How big should it be? Is access to credit important? The paper answers these questions and explains the options selected and those that were rejected as well. It is an example of how to do and use a good study. The Brazil paper, which is derivative of the work of a potential vendor (Winrock), another Bank paper (Gouvello), and a USAID paper (Kozloff) fails to provide unique analysis or study. It is a preinvestment study, but the drafters do not appear to have done their homework on they key strategic choices to be made or even a general sense of the strategy. The Brazil taskers need to read the China paper and send theirs back for rewrite.

Yemen

The Yemen project is a good example of a project that fails utilize any of the Bank's good work in a paper that purports to be an integrated energy sector strategy. It does not reflect the learned wisdom of the Bank's economic and sectoral work.

The paper purports to provide a medium and near term strategy for Yemen's energy sector. The plan is to utilize Yemen's gas resources for power generation. The Yemeni government has repeatedly failed to capitalize the national power company and transmission and distribution are in disrepair.

The paper is good in some respects. It integrates the use of Yemen's gas and its need for power. It imposes strict political condition on Bank support. It is very practical in (quite boldly) drafting a Presidential decree to implant the strategy.

But the analytical underpinning for the strategy is weak and the Bank's advice is, at minimum, unconventional. There is little discussion of the existing tariff design. It is assumed some subsidies do not help the poor, but the report admits there is little useful data. No household survey is planned or used. It is hard to tell, whatever the system, if more government subsidy will be needed or less as a result of the Bank's strategy. There is no plan for introduction of competition in distribution of power or in fuel supply. The Bank does not recommend privatization of distribution. The Yemeni national gas concession will be the sole supplier of fuel. Long-term contracts are proposed as a given, with no recognition that they are even least controversial. It is hard to see how an enabling environment can possibly be created if the government controls the fuel supply and the distribution of power. How will IPPs be assured of payment for the power generated? There is a plan for technical assistance, but it does not contemplate beginning the training of potential regulators in the near term. Rural electrification is mentioned, but does not appear to be integrated with the plans for the rest of the power sector. It is unclear whether even more distributed forms of generation would make sense. I could not vote on a project like this based on the information in the paper.

What is missing from this work is a real sectoral analysis. How should countries conduct rural electrification – through utility deregulation or separately? If some subsidy is inevitable, how should it be provided, by one time capital purchase or on an ongoing basis? Are solar home systems, which may be too small for productive uses, still worth financing? Should market surveys precede all planning for rural electrification? How much difference do cultural views of credit matter? The Bangladesh rural electrification project wonderfully assimilates the Bank's knowledge in addressing these questions. But are there lessons learned for Nigeria in these studies? Should they be decentralizing? Looking at small systems? Local credit? Should they be creating local competition? The work reviewed is not in a form, or of a generality, to be easily accessible to the Bank's planners or Nigeria's.

V. Project Appraisal Documents

The Projects were appraised qualitatively, on the basis of whether they incorporated the Bank's research and analytical and economic and sector work into the projects. The five projects reviewed were Rural Electrification in Bangladesh, a transmission development project in Nigeria, a privatization support project in Nigeria, a power and communications and rural services project in Ecuador, and an energy sector reform loan in Brazil.

A. Bangladesh. The Bangladesh project does an excellent job of incorporating the Bank's knowledge on competition, its practices on surveying markets to assess the viability of solar projects and its theory on adjusting tariff prices to increase access. The Bank's knowledge work is not cited, but it is respected in the project design. Some examples addressed (drawing from problems in solar home systems identified in the China study)

include: the need for longer term credit than is currently offered, remedying the lack of education on the use of solar systems, planning for problems in maintenance, and the utility of a special concession arrangement to market the systems because of the challenges to state sponsored or wholly private market solutions to rural electrification. The project highlights some aspects that may be unique to Bangladesh – the existence of cooperatives that can now be competitors, the use of micro credit for financing, a culture of repayment. The Bank’s analytical and sector work should study whether these are replicable practices.

B. Ecuador. The Ecuador project pays lip service to the store of knowledge work the Bank has created, but fails to truly incorporate it in the project design. The lessons learned section of the project appraisal says all the right things: tariffs must be economic, a clear regulatory framework must be established, and new regulators need to be trained. But the project makes some dubious assumptions. The drafters assert that the “rural electrification component should develop the interest of private investors to install and maintain isolated areas.” All of the Bank’s learning suggests that this will not occur. The project appraisal also indicates that an IDB program will proceed with privatization while the Bank begins the work of assessing tariff reform, structuring competition and determining what cross subsidies are needed for the poor. All of the Bank’s learning suggest that this work should be done before privatization. Indeed the Scorecard document (and the daily newspapers) would suggest that the privatization will either fail (because there is no certainty of collection by the new buyer) or that the poverty alleviation and rural electrification issues will be much more complicated because of the sequence the Bank is agreeing to.

C. Nigeria.

1. The Nigeria transmission development project is limited in its scope. It is designed to help the national power company unbundle the transmission system, set up a new company and train a staff while the rest of Nigeria’s underfunded, corrupt, decrepit and uneconomic power system is reformed. The project applies the conventional wisdom of reform: corporatizing, unbundling, training a staff, passing an electricity law. There is no reference to expanding the grid or to reaching those off grid. There are plans to commercialize the metering of electricity. There is no mention of the use of a household survey. Tariff reform is mentioned, but there is no hint of how the Bank will reconcile the widespread poverty, the extensive cross subsidies and the need to increase tariffs by 100%. All this in an election year. These issues fall into the “need a consultant to devise a plan” category. This means there is either no plan, or no political will for the plan that is needed. The project also does not draw on the Bank’s sector work for imagination. Is there some tie in to Nigeria’s ample gas resources? Is there an alternative to simply reforming, but in practice rebuilding, the national power company? The press of politics and the urgency of Nigeria’s power crisis may make creative structuring a luxury. But if the World Bank does not provide the knowledge base for this kind of thinking, or at least finance it, no one will.

2. The privatization support project for Nigeria was the most thorough and best-conceived project I reviewed. In this case the Bank appears to have surveyed all of the

problems encountered by countries seeking to restructure their power sector and devised programs to address those needs. The need for a legal and regulatory framework prior to restructuring, the need to train bureaucrats, regulators and senior officials supervising restructuring, the need to structure the market to create competition are all considered in the project design. The project managers have anticipated a long timeline, taking into account both the time needed to get key people (such as the staff of the Bureau of Public Enterprises and judges) up to speed, the time needed for intellectual and political absorption of the new system and the need to ensure that the Government maintains its political commitments before the Bank extends all of its credit to this effort. Rural electrification is addressed, but glossed over. On page six the project declares that state governments (all poorly funded) will have responsibility for off grid electrification. On page 14 the project asserts that rural access programs will provide affordable private and community supply in rural areas. This sounds like wishful thinking. The Bank's experience in rural electrification suggest that unless you build rural electrification into the concession itself, or into the design of the privatization, that the cost of providing that power will be prohibitive without government subsidy. Nigeria has huge problems, and just turning the lights on in Lagos is a critical task. But this issue of providing benefits to the rural poor is a key issue for political stability. I think it fell into the category of "more research needs to be done" and the project is not as candid as it could be on this point.

D. Brazil. The ESRL for Brazil ably identified the issues that Brazil needs to address to complete its power sector reform and promote poverty alleviation. Helping Brazil complete its liberalization, strengthen its institutions, design an effective rural electrification system and design tariffs that encourage investment, and plan for environmentally prudent hydropower projects are the right issues. I question the lack of any political milestones for the loan, the sequencing of the loans for capacity building and the effectiveness of the rural electrification strategy.

The authors clearly identify insufficient political will as a primary reason why reform is incomplete and as a major factor in Brazil's energy crisis. The authors point to the now completed Brazilian Presidential election as a risk factor, yet there are no political conditions or milestones for the loan. This strikes me as a timid approach.

The sequencing of the Bank's support also seems not to reflect what the Bank has learned about how long it takes to build up human capital and capacity or the need to coordinate rural electrification plans and tariff design at an early stage. The ESRL provides budgetary support to the Ministry of Finance. The project document states that it is intended to operate in tandem with a proposed Energy Sector Reform Technical Assistance Loan (ESTAL) and a Public-Private Infrastructure Advisory Facility Grant (PPIAFG). Taken together with the two other loans, the project does a good job of reflecting the Bank's learned wisdom on the need to program support for capacity building and tariff design. If it is clear that Brazil's regulatory institutions and personnel are not yet skilled or experienced enough to manage a new and complex market, why wait a year to start capacity building?

On rural electrification, the discussion is too general to determine the strategy. It seems the Bank is content to permit cross subsidization of rural electrification projects although this is disfavored in the Bank's analytical work and will surely make the unattractive and beleaguered Brazilian distribution sector even more so. The Bank usefully recognizes the utility of distributed generation, efficiency and renewables, but leaves for the future (or other projects) its advice on how to finance their use. It is also unclear whether the Bank believes the current tariff structure effectively targets the poor and if a better system might be more economical and effective, or both. It would seem that a budgetary subsidy, rather than one financed by the utilities, should be considered. A household survey might provide an analytical basis for designing tariff reform.

V. Web Site

The web site has a great deal of information but is not well organized to the viewer. The site seems to have all the policy working papers, research reports and economic and sectoral reports ever produced by the Bank in the energy sector. It usefully highlights the newest reports and projects. It is a trove of knowledge – if you know what you are looking for.

The site does not readily guide a student or decision-maker to the topics they might seek. The viewer is guided to projects, reports and documents. When “reports” (electric power) is selected; the site responds that there are no matching entries. Other searches produce hundreds of reports. A more useful site might have a bit of a guide to the most useful information on electric power sector reform generally, then specific issues such as rate reform, access pricing, market structure and financing power for the poor. Links to useful reports could point the viewer to the Bank's best work.

There were a number of useful downloads. All of the reports I selected downloaded easily on a dial up modem.

There were no links to sites outside the Bank. The US Energy Information Administration, the International Energy Agency, the Asian Development Bank and the Inter-American Development all have useful websites.

Mean Rating Score of all Documents Rated		
Item	Item Score	Group Score
Research and Analytical Work		2.82
Universal Service Obligations	2.6	
Light and Lightning	2	
Managing the Regulatory Process	4	
Utility Privatization	3.33	
Exploring Market	2.16	
Key Economic And Sector Work		3.5
Viewpoint and Scorecard	4	
Introducing Competition in Bolivia	3.33	
Assessing the Market for Renewables in China	4	
Rural Electrification in Brazil	2.33	
California Power Crisis	4	
India-Power Sector Reform	3.83	
Maintaining Utility Service for the Poor	3.83	
Yemen Energy Sector Performance	2.66	

Appendix 1: Assessments of Individual Documents
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1. Research and Analytical Papers/Power Sector

Reference & statistics	Chisari and Estache, "Universal Service Obligations in Utility Concession Contracts and the Needs of the Poor in Argentina's Privatizations," Policy Research Working Paper (November 1999) 27 pages	
Access	Print	
Issue	How Argentina dealt with the provision of universal service for various utilities	
Client	Bank operational staff and external analytical and policy/practitioner community	
Question	Comment	Score
Was the information, analysis and advice in the document relevant to the client's issue?	The issues raised are relevant to policymakers in the energy sector.	3
Was the information, analysis and advice in the document appropriately comprehensive?	This was a very thorough explanation of Argentina's experiences.	3
Did the document provide the client with the best and most up-to-date knowledge on the issue (including from sources outside the Bank)?	The authors appear to have done original research on the Argentine laws and Argentine economic journals.	3
Were the ideas and recommendations in the document stated clearly?	The paper unnecessarily provides a lengthy theoretical explanation of the economics of universal and obligatory service.	2
Did the document present information in an objective manner (indicating, where pertinent, significant differences that exist in ideas and approaches)?	The authors only offer theoretical alternatives, they do not compare Argentina to other systems or analyze why the government made the trade-off it did.	2
Did the document provide practical advice to decision-makers?	This report were not intended to present recommendations.	N/A
Overall appreciation of document	The authors provided a useful description of problems encountered by Argentina.	
Mean Score	2.6	

Reference & statistics	Estache and Rodriguez-Pardina, Light and Lightning at the End of the Public Tunnel: Reform of the Electricity Sector in the Southern Cone, Policy Research Working Paper 2074, 22 pages	
Access	Print	
Issue	Lessons learned from utility restructuring in Chile, Argentina and Brazil	
Client	Bank operational staff and external analytical and policy/practitioner community	
Question	Comment	Score
Was the information, analysis and advice in the document relevant to the client's issue?	The overview is highly relevant to decision makers dealing with restructuring and privatization of any utility	4
Was the information, analysis and advice in the document appropriately comprehensive?	The information was inconsistent. While this chapter was reportedly intended to focus on Argentina, the typology of issues of Brazil did not track that for Argentina and Chile, confusing the presentation.	1
Did the document provide the client with the best and most up-to-date knowledge on the issue (including from sources outside the Bank)?	The authors barely footnote their sources so it is impossible to tell where the information came from or its currency at the time.	1
Were the ideas and recommendations in the document stated clearly?	The presentation is poorly drafted. There are numerous errors in spelling, subject-verb agreement and sentence structure – enough to fail a graduate student. The tortured light at the end of the tunnel metaphor makes some of the analysis unintelligible. The lesson learned are reasonably clear.	1
Did the document present information in an objective manner (indicating, where pertinent, significant differences that exist in ideas and approaches)?	The authors point out that the regulatory systems described are new and that it is early to draw conclusions.	3
Did the document provide practical advice to decision-makers?	This report was not intended to present recommendations.	N/A
Overall appreciation of document	This paper gives an unnecessarily theoretical and sloppy overview.	
Mean Score		2

Reference & statistics	J. Luis Guasch and Pablo Spiller, Managing the Regulatory Process: Design, Concepts, Issues and the Latin America and Caribbean Story	
Access	Print	
Issue	What issues developing countries need to consider in designing regulation, with detailed case studies of experiences in utility regulation in Latin America and the Caribbean	
Client	Bank operational staff and external analytical and policy/practitioner community	
Question	Comment	Score
Was the information, analysis and advice in the document relevant to the client's issue?	The issues raised and the case studies are a menu of issues for developing countries contemplating power sector reform to consider	4
Was the information, analysis and advice in the document appropriately comprehensive?	This document is a book. It was very thorough in briefing the theoretical issues as well as the experiences of developed and developing countries.	4
Did the document provide the client with the best and most up-to-date knowledge on the issue (including from sources outside the Bank)?	The authors referenced the leading economists addressing the economics of regulation in the theoretical chapters. The discussion of developed nation regulatory experiences used the most current economic journal materials. The developing country regulatory case studies relies heavily on World Bank sources, but there is not a well published source of data on this subject outside the World Bank	4
Were the ideas and recommendations in the document stated clearly?	The authors clearly stated their recommendation in the chapters and in a very useful concluding chapter on "salient lessons for regulatory design."	4
Did the document present information in an objective manner (indicating, where pertinent, significant differences that exist in ideas and approaches)?	The authors were very thorough in presenting alternative theories of regulation in the theoretical chapters. They candidly pointed out the weakness of all approaches and the fact that developing countries are unlikely to have the institutional capacity or data sources to perfectly implement any of the approaches.	4
Did the document provide practical advice to decision-makers?	The book is a survey, not a manual. It would give policymakers, especially non-economists, a menu of issues to be considered, and useful guidance about the sequence in which they should try to tackle these issues.	4
Overall appreciation of document	An excellent survey in clear language that policymakers can understand. Treats inevitably complex discussions, such as Ramsey Pricing in the simplest possible terms, with useful practical illustrations. Worth a new edition as more data is collected on utility regulation in other countries.	
Mean Score		4

Reference & statistics	Estache, Gomez-Lobo and Leipziger, Utility Privatization and the Needs of the Poor in Latin America: Have We Learned Enough to Get It Right? Policy Working Paper 2407 (August 2000) 32 pages	
Access	Print	
Issue	What is the impact of privatization on the poor?	
Client	Bank Staff, General public	
Question	Comment	Score
Was the information, analysis and advice in the document relevant to the client's issue?	A relevant question for all decision-makers contemplating utility restructuring.	4
Was the information, analysis and advice in the document appropriately comprehensive?	This is a comprehensive survey of ways the poor can lose from privatization, ways governments can address subsidies and relevant country experiences in Latin America. The authors did not attempt a comprehensive cross-country study.	3
Did the document provide the client with the best and most up-to-date knowledge on the issue (including from sources outside the Bank)?	The authors utilized country specific studies and other bank materials. The Bank appears to have done most of the sector analysis on this issue.	3
Were the ideas and recommendations in the document stated clearly?	The document was well drafted. Policymakers can easily understand the concepts and experiences. The Summary tables provide usefully easy reference for the arguments made in the document.	4
Did the document present information in an objective manner (indicating, where pertinent, significant differences that exist in ideas and approaches)?	The authors acknowledged the limits of each method of subsidizing the poor as well as the limited data available to judge the impact of each alternative considered.	3
Did the document provide practical advice to decision-makers?	The authors provided practical advice on designing a concession, choosing a social welfare policy and on collecting the necessary data.	3
Overall Appreciation of Document	Usefully debunks myths about the impact of privatization of the poor and offers suggestions for next stage research.	
Mean Score		3.33

Reference & statistics	Pardina and Estache, "Exploring Market Based Options for a Reformed Brazilian Electricity Sector," Economic Notes No. 12, (August 1996) 58 pages	
Access	Print	
Issue	Guidance for consultants and policymakers on ways to design an integrated regulatory framework, and introduce competition in the generation and supply sectors	
Client	Bank operational staff and external analytical, consultant and policy/practitioner community	
Question	Comment	Score
Was the information, analysis and advice in the document relevant to the client's issue?	The issues raised were relevant to the consultants and policymakers contemplating reform plans, but the analysis and advice were probably not. More than half the paper was a largely theoretical description of the consensus reached by the reform committee. This may be of use to academics, but was known to consultants and policymakers involves. The advice (separate accounting, price distribution, create an independent regulator, adopt a new tariff structure) is pretty general. There were some useful critiques of the reform committee proposal, but these should have been the focus of the analysis.	2
Was the information, analysis and advice in the document appropriately comprehensive?	This was a very thorough explanation of what the reform committee proposed and of the challenges to reform. The advice was not comprehensive. The treatment of the challenges to reform, particularly the resistance of the powerful state governments, the need for massive subsidies for Brazil's poor, the need to train independent regulators and the fact that the northern states may not be able to sustain market based tariffs.	2
Did the document provide the client with the best and most up-to-date knowledge on the issue (including from sources outside the Bank)?	The authors do not cite or discuss any of the commentary or critiques of the proposed reform from the private sector, NGO community or other academics. The discussion of the power pool, including how to make pool decisions and comparative experiences would be useful to the client.	3
Were the ideas and recommendations in the document stated clearly?	The paper is written in highly theoretical and turgid prose. An example: "The second relevant technological attribute is that transmission investment is intrinsically indivisible, implying that "optimal" investment criteria are limited by minimum investment modules." Even economists can write in English (c.f Arthur Okun, Equality and Efficiency). The paper is well organized and recommendations were clearly stated..	2
Did the document present information in an objective manner (indicating, where pertinent, significant differences that exist in ideas and approaches)?	The authors are objective. They offer critiques to the reform committee plan. They don't tackle the toughest issues. Chapter 5 provides a hint of what the authors might have thought. Was the Brazilian plan politically unfeasible? Was a serious political commitment to breaking Electrobras' market power the indispensable prerequisite to creating any competition? Was it realistic to expect a centralized dispatch and control system in a country the size of Brazil? Are the cross subsidy problems (condemned in the rest of the Bank's literature) a realistic way to subsidize the north? By focusing on the technical issues, offering	2

	no perspective then what was most essential, the authors failed to send up the warning flag to consultants and policymakers that they needed.	
Did the document provide practical advice to decision-makers?	The authors squandered an opportunity to guide the consultants that set out to roadmap the power sector reform. The political and financial challenges were huge,. They might have focused on what was most important to address, or looked at whether a more incremental plan might be more viable, or looked at the viability of a different system fro Brazil's north.	2
Overall appreciation of document	The authors spent too much time on explaining the basic economics of generation, transmission, and tariffs and not enough on how Brazil could manage the transition to market based systems.	
Mean Score		2.16

Appendix 1: Assessments of Individual Documents

2. Economic and Sector Work/Power Sector

Reference & statistics	Robert Bacon, Viewpoint: A Scorecard for Energy Reform in Developing Countries	
Access	Hard copy	
Issue	What issues developing countries need to consider in designing regulation, with detailed case studies of experiences in utility regulation in Latin America and the Caribbean	
Client		
Question	Comment	Score
Was the information, analysis and advice in the document relevant to the client's issue?	A very useful global overview of what developing countries have attempted energy reform and in what sectors.	4
Was the information, analysis and advice in the document appropriately comprehensive?	This document is a precis of a larger study. It comprehensively capsulizes the larger study.	4
Did the document provide the client with the best and most up-to-date knowledge on the issue (including from sources outside the Bank)?	The document is based on a survey of World Bank staff. It is the most thorough snapshot of energy sector reform as of mid 1998 that exists anywhere, to my knowledge.	4
Were the ideas and recommendations in the document stated clearly?	This is a survey not a prescriptive policy document. The authors clearly explain the nature of the survey and its limitations.	4
Did the document present information in an objective manner (indicating, where pertinent, significant differences that exist in ideas and approaches)?	The authors very clearly identify how and why the survey understates the actual amount energy reform undertaken on a global basis.	4
Did the document provide practical advice to decision-makers?	The scorecard will be very useful for policymakers looking for energy reform models in their own or other regions.	4
Overall appreciation of document	An excellent, brief snapshot of how the world as whole, and specific regions, have progressed on energy reform. While this document is a capsule it provides the policymaker with a look at the forest, the full survey permits a thorough look at the trees.	
Mean Score		4

Reference & statistics	Introducing Competition in Bolivia	
Access	Hard copy	
Issue	How did Bolivia succeed in introducing competition in its power sector?	
Client	ESMAP	
Question	Comment	Score
Was the information, analysis and advice in the document relevant to the client's issue?	The document described Bolivia's success in a way relevant to all decision-makers contemplating power sector reform.	4
Was the information, analysis and advice in the document appropriately comprehensive?	The paper glossed over some tough questions that warrant illumination: how did Bolivia balance tariffs? How did they handle access pricing? Were they a unique case in having excess capacity and cheap fuel?	3
Did the document provide the client with the best and most up-to-date knowledge on the issue (including from sources outside the Bank)?	This was the most current analysis of the Bolivian case at the time I am aware of.	3
Were the ideas and recommendations in the document stated clearly?	The presentation was very clear.	4
Did the document present information in an objective manner (indicating, where pertinent, significant differences that exist in ideas and approaches)?	There was no discussion of views of other stakeholders or investors on the reforms.	3
Did the document provide practical advice to decision-makers?	In very general terms, yes. Would have been useful to read if many of the economic conditions in Bolivia are unique.	3
Overall appreciation of document	Helpful	
Mean Score		3.33

Reference & statistics	Assessing the Market for Renewables in Rural Areas of Northwestern China	
Access	Hard copy	
Issue	How did the Bank assess whether renewable energy was viable in three provinces of China	
Client	ESMAP	
Question	Comment	Score
Was the information, analysis and advice in the document relevant to the client's issue?	Relevant for all government with unelectrified populations.	4
Was the information, analysis and advice in the document appropriately comprehensive?	Very comprehensive in the research methodology, environmental impacts and policy implications.	4
Did the document provide the client with the best and most up-to-date knowledge on the issue (including from sources outside the Bank)?	Yes – this was a unique survey.	4
Were the ideas and recommendations in the document stated clearly?	Very clear recommendations –useful as lesson learned for all Solar Heating System proposals.	4
Did the document present information in an objective manner (indicating, where pertinent, significant differences that exist in ideas and approaches)?	Limitations and risks were clearly stated.	4
Did the document provide practical advice to decision-makers?	Excellent practical advice.	4
Overall appreciation of document	Excellent	
Mean Score		4

Reference & statistics	Rural Electrification with Renewable Energy Systems in the Northeast of Brazil: A Preinvestment Study	
Access	Hard copy	
Issue	What study is needed to deploy solar and other renewable energy systems in parts of Brazil?	
Client	ESMAP	
Question	Comment	Score
Was the information, analysis and advice in the document relevant to the client's issue?	The information was relevant, but insufficient.	2
Was the information, analysis and advice in the document appropriately comprehensive?	No. Not enough consideration of use of solar systems, maintenance problems, or financing.	2
Did the document provide the client with the best and most up-to-date knowledge on the issue (including from sources outside the Bank)?	There were more thorough methodologies employed in the Bank's China study.	2
Were the ideas and recommendations in the document stated clearly?	The presentation was clear.	4
Did the document present information in an objective manner (indicating, where pertinent, significant differences that exist in ideas and approaches)?	Most of the work was derivative of other studies with no new analysis.	2
Did the document provide practical advice to decision-makers?	By deferring some of the strategic choices to after the studies are commissioned, the drafters punted on some of the practical issues decision makers will need to consider.	2
Overall appreciation of document	Could be greatly improved.	
Mean Score		2.33

Reference & statistics	California Power Crisis: Lessons for Developing Countries April 2001)	
Access	Hard copy	
Issue	What can developing countries learn about power sector reform from California's power crisis?	
Client	ESMAP	
Question	Comment	Score
Was the information, analysis and advice in the document relevant to the client's issue?	Yes. Doubts about the wisdom of deregulation were widespread after the California crisis.	4
Was the information, analysis and advice in the document appropriately comprehensive?	Yes. One of the most thorough explanations of the crisis I saw published. Lessons learned covered each issue raised by the crisis.	4
Did the document provide the client with the best and most up-to-date knowledge on the issue (including from sources outside the Bank)?	The best product at the time it was published.	4
Were the ideas and recommendations in the document stated clearly?	Very clear drafting with non-technical explanations of complex issues.	4
Did the document present information in an objective manner (indicating, where pertinent, significant differences that exist in ideas and approaches)?	Very objective. No sophisticated analysts (i.e. CERA) offered different analyses.	4
Did the document provide practical advice to decision-makers?	"What the Power Minister Needs to Know" is exactly the practical advice needed at the time.	4
Overall appreciation of document	Excellent product. Should receive broad circulation.	
Mean Score		4

Reference & statistics	“India-Power Sector Reform and the Poor”, Draft Report (March 1999) 117 pages	
Access	Hard copy	
Issue	What is the impact of India’s tariffs and subsidies on the poor?	
Client	South Asia Energy and Infrastructure; ESMAP	
Question	Comment	Score
Was the information, analysis and advice in the document relevant to the client’s issue?	This analysis is critical to anyone working with India on energy, agriculture or macroeconomic stabilization.	4
Was the information, analysis and advice in the document appropriately comprehensive?	The paper was a very through catalogue of India’s existing system of tariffs, its impact on the poor and comparative experiences	4
Did the document provide the client with the best and most up-to-date knowledge on the issue (including from sources outside the Bank)?	The report was the product of a workshop with broad based participation. Outside sources are included, but are not as current as the Bank’s own work.	3
Were the ideas and recommendations in the document stated clearly?	The report and its recommendations were very clearly written. It is easily usable by policymakers and analyst in other sectors and countries.	4
Did the document present information in an objective manner (indicating, where pertinent, significant differences that exist in ideas and approaches)?	The report thoroughly explained alternative approaches and explained the importance of designing country and culture specific programs.	4
Did the document provide practical advice to decision-makers?	The advice was very practical. A household survey on the impact of existing subsidies and tariffs should be a prerequisite to any Bank lending. Excellent advice of strategies for designing rural electrification programs.	4
Overall appreciation of document	Excellent analysis of the problem of tariff design. Should be required reading in every sector	
Mean Score		3.83

Reference & statistics	“Maintaining Utility Service for the Poor”, 3 rd Draft (March 2000) 71 pages	
Access	Hard copy	
Issue	Maintaining Utility Services for the Poor: Policies and Practices in CEE and FSU	
Client	Bank Staff	
Question	Comment	Score
Was the information, analysis and advice in the document relevant to the client’s issue?	Relevant for CEE and FSU energy sector reform. Typology of subsidy mechanisms highly relevant for entire energy sector	4
Was the information, analysis and advice in the document appropriately comprehensive?	This was a comprehensive study on countries where the Bank gave advice.	4
Did the document provide the client with the best and most up-to-date knowledge on the issue (including from sources outside the Bank)?	This was a self-examination by the Bank. While there may have been critics or relevant surveys outside the Bank, none were cited.	3
Were the ideas and recommendations in the document stated clearly?	The presentation was lucid and concise.	4
Did the document present information in an objective manner (indicating, where pertinent, significant differences that exist in ideas and approaches)?	This was a very candid self critique. The authors identified where the Bank had given flawed advice, where it failed to seek adequate research or data and where more research remains to be done.	4
Did the document provide practical advice to decision-makers?	The evaluation of subsidy mechanisms is very useful. Any country (or Bank loan) that gives advice on a subsidy scheme ought to be required to evaluate the scheme against these mechanisms and explain why they have chosen the scheme they propose.	4
Overall appreciation of document	Excellent resource.	
Mean Score	3.83	

Reference & statistics	Yemen – “Energy Sector Performance Improvement and Future Development: The Way Forward”, (April 2002) 113 pages.	
Access	Hard copy	
Issue	Republic of Yemen: Energy Sector Performance Improvement and Future Development	
Client	ESMAP, MSNIF; Energy and Mining Sector Board	
Question	Comment	Score
Was the information, analysis and advice in the document relevant to the client’s issue?	This was a survey on Yemen, relevant to any future loan.	4
Was the information, analysis and advice in the document appropriately comprehensive?	The report did not contain enough information about Yemen’s existing tariff structure to justify the advice given. The treatment (and plans for) capacity building for PEC were weak. Sketchy consideration of distributed generation.	2
Did the document provide the client with the best and most up-to-date knowledge on the issue (including from sources outside the Bank)?	The bulk of the ESW work shows that household surveys can reveal who benefits from existing tariffs and how they might be rebalanced. Nor survey seems to have been performed or planned. ESW work on rural electrification shows that operating costs must be covered and subsidies designed in the reform plan stages. The rural electrification study will be performed late in the reform scheme. Most surveys suggest privatization of distribution; unclear why that was rejected here. If the government owns distribution, will anyone invest in an IPP?	1
Were the ideas and recommendations in the document stated clearly?	The report was clearly written	4
Did the document present information in an objective manner (indicating, where pertinent, significant differences that exist in ideas and approaches)?	There was no meaningful discussion of alternative approaches. The utility of long term gas contracts with the country monopoly was assumed to be the only alternative. The likelihood of an IPP sector evolving when the government is the only gas supplier (and power distributor) was not adequately discussed (the legal, not commercial, issues were reviewed thoroughly). The paper also assumes the utility of cross subsidies when these are disfavored in other work.	1
Did the document provide practical advice to decision-makers?	This will provide a very practical advice to Yemeni policymakers. It may be not be good advice, but it is structured to be useful. The inclusion of a draft Presidential decree is pretty direct advice.	4
Overall appreciation of document	A good survey, but fails to incorporate Bank’s knowledge on the need to use data analysis to design tariff reform, build capacity early and structure rural electrification at the outset of a program. Unclear if tariff advice is based on survey data or not.	
Mean Score		2.66

