

Performance
Evaluation Report

Pakistan: Energy Sector Restructuring Program



Independent
Evaluation



Performance Evaluation Report
February 2014

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Independent
Evaluation 

NOTES

- (i) The fiscal year (FY) of the Government ends on 30 June. FY before a calendar year denotes the year in which the FY ends, e.g., FY2013 ends on 30 June 2013.
- (ii) In this report, "\$" refers to US dollars.

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Abbreviations

ADB	–	Asian Development Bank
ESRP	–	Energy Sector Restructuring Program
IMF	–	International Monetary Fund
IPP	–	independent power producer
KESC	–	Karachi Electric Supply Corporation
NEPRA	–	National Electric Power Regulatory Authority
PCR	–	program completion report
PPER	–	program performance evaluation report
RRP	–	report and recommendation of the President
TA	–	technical assistance
WAPDA	–	Water and Power Development Authority

Currency Equivalents

Currency Unit – Pakistan rupee/s (PRe/PRs)

At Appraisal	At Program Completion	At Evaluation
(15 November 2000)	(24 January 2007)	(3 January 2014)
PRe1 = \$0.0178	\$0.0164	\$0.0095
\$1.00 = PRs56.25	PRs60.76	PRs105.51

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IED retains full responsibility for this report.

Basic Data

Energy Sector Restructuring Program (Loan 1807-PAK, Loan 1808-PAK [Program] and Loan 1809-PAK [Technical Assistance])

Program Preparation and Institution Building

TA No.	Technical Assistance Name	Type	Person-Months	Amount (\$)	Approval Date
none					

Key Program Data (\$ million) (per ADB loan documents)	Loan 1807	Loan 1808	Loan 1809
Total program cost	300.0	50.0	5.1
Foreign exchange cost	300.0	50.0	5.1
ADB loan amount utilization	153.0	50.4	0.0
ADB loan amount cancellation	147.0	-	5.1

Key Dates	Loan 1807	Loan 1808	Loan 1809
Fact-finding mission	21 Apr–6 May 1998	21 Apr–6 May 1998	21 Apr–6 May 1998
First consultation mission	20–25 Sep 1998	20–25 Sep 1998	20–25 Sep 1998
Second consultation mission	8–13 Nov 1998	8–13 Nov 1998	8–13 Nov 1998
Third consultation mission	30 Nov–10 Dec 1998	30 Nov–10 Dec 1998	30 Nov–10 Dec 1998
Follow-up fact-finding mission	22 Feb–6 Mar 1999	22 Feb–6 Mar 1999	22 Feb–6 Mar 1999
Fourth consultation mission	9–11 Sep 1999	9–11 Sep 1999	9–11 Sep 1999
Fifth consultation mission	16–18 Sep 1999	16–18 Sep 1999	16–18 Sep 1999
Sixth consultation mission	20 Apr–3 May 2000	20 Apr–3 May 2000	20 Apr–3 May 2000
Appraisal mission	27 Jul–18 Aug 2000	27 Jul–18 Aug 2000	27 Jul–18 Aug 2000
Loan negotiations	6–10 Nov 2000	6–10 Nov 2000	6–10 Nov 2000
Board approval	14 Dec 2000	14 Dec 2000	14 Dec 2000
Loan agreement	15 Dec 2000	19 Dec 2000	24 Jan 2001
Loan effectivity (Expected)	15 Mar 2001	19 Mar 2001	24 Apr 2001
Loan effectivity (Actual)	15 Dec 2000	19 Dec 2000	24 Apr 2001
First disbursement	15 Dec 2000	20 Dec 2000	24 Apr 2001
Program completion	30 June 2004		19 January 2004
Months (effectivity to completion)		38	33

Borrower Islamic Republic of Pakistan

Executing Agency Ministry of Finance

Mission Data

Type of Mission	No. of Missions	No. of Person-Days
Consultation	6	37
Fact-finding	3	157
Appraisal	1	154
Inception	1	5
Review	5	28
Program completion review	1	6
Program completion validation	-	-
Independent evaluation	1	30

Executive Summary

In 1998, Pakistan's energy sector utilities faced a financial crisis. Appropriate reforms and adjustment measures to introduce a market-driven system were deemed necessary by the Government of Pakistan. The government sought support from the International Monetary Fund (IMF), the World Bank, and the Asian Development Bank (ADB). ADB's support, through the Energy Sector Restructuring Program (ESRP), was essential for stabilizing the country financially. It was also intended to ensure a steady supply of electricity for Pakistan's economic recovery and job creation efforts.

The ESRP focused on seven key areas of reforms: (i) enhancing governance, (ii) enhancing the legal and regulatory framework and strengthening the capacity of the power sector regulator, (iii) financially restructuring and privatizing Karachi Electric Supply Corporation (KESC), (iv) restructuring the Water and Power Development Authority and privatizing corporatized entities, (v) enabling a competitive electricity market, (vi) resolving issues related to independent power producers, and (vii) enhancing reform in the natural gas and petroleum sector. The Ministry of Finance was the executing agency, supported by the Ministry of Water and Power, the National Electric Power Regulatory Authority, and the Privatisation Commission.

The ESRP comprised two program loans (Loan 1807 and Loan 1808) and Technical Assistance (TA) Loan 1809, with a total value of \$355 million. Loan 1807 was divided into multiple tranches, with a first tranche of \$100 million, an incentive tranche of \$50 million, and second and third tranches of \$75 million each. Loan 1808, for the equivalent of \$50 million, was made available at the same time as the first tranche of Loan 1807. Loan 1809 was a TA loan for the equivalent of \$5 million, with two components for poverty impact assessment and labor retrenchment and redeployment. Disbursement of the loans was related to specific policy actions and was timed to coincide with milestones in the reform and restructuring process. The proceeds of the first tranche of Loan 1807, including the incentive tranche, went to the restructuring of KESC. \$50 million of the loan was allocated to the Ministry of Petroleum, but the amount was no longer disbursed because the second and third tranches of Loan 1807 were cancelled. Loan 1809 was also cancelled by the government in June 2004 because it was deemed to not add any value to the privatization of KESC.

Notwithstanding the ESRP, the energy sector is again in crisis. There is insufficient capacity to meet the demand for electricity. Load shedding is endemic, and there are shortages of fuel for the thermal power plants. The issues of governance, organizational and institutional weakness, efficiency, and competitiveness are once again at the forefront. Given these problems, taking a closer look at the ESRP could uncover some valuable lessons.

This program performance evaluation report (PPER) rates the ESRP *less than successful* overall. The PPER rates the ESRP *relevant*, as support for Pakistan's economy at its time of greatest need was provided by ADB, the IMF, and other development partners, allowing stability to be maintained in the country. The PPER rates the ESRP *less than effective*, as its overall goal to establish an efficient and competitive industry that will provide high-quality service to its customers at least cost was not achieved, and some outcomes specified in the ESRP were not achieved. The PPER rates the ESRP

efficient, as implementation of the program was efficiently managed, and many of the covenants were met before closing. Although the efficiency gains expected with the ESRP did not materialize and almost half of the loan was cancelled, the support provided by the development partners was deemed effective and efficient and contributed to returning the country to financial stability sooner than expected. Sustainability is rated as *unlikely*. Although the ESRP initiated important reforms in the energy sector, some of these key reforms did not endure.

Four important issues were identified by the PPER:

- (i) Weak governance has resulted in inefficient utility operations, power theft, reduced billing and tariff collections, and nonpayment of arrears. Resolution of the governance issue is important if the energy sector is to become functional once again.
- (ii) Institutional and organizational weaknesses have led to inefficient management, weak technical capabilities, overstaffing, poor equipment maintenance, obsolete technologies, and corruption.
- (iii) The lack of new generating capacity and fuel shortages that prohibit the plants from operating at full capacity have resulted in load shedding and blackouts ranging from 8 to 20 hours daily.
- (iv) Electricity tariffs approved by the government are below full cost recovery levels. Subsidies that are used to meet the shortfall are not sustainable and reduce the resources that could otherwise be used for other purposes.

The PPER also identified four lessons:

- (i) Unbundling alone is not sufficient, and privatization needs to follow so improvements in operational efficiency can be realized.
- (ii) The ESRP could have included reduction and careful targeting of subsidies in the policy matrix as a condition of tranche release.
- (iii) ADB and the borrower need to stay engaged to follow up on unfulfilled covenants as conditions to subsequent assistance.
- (iv) The government paying the arrears of some consumers when their situation becomes untenable creates a moral hazard and discourages other consumers from paying bills.

CHAPTER 1

Introduction

1. This chapter summarizes the description and objectives of the program and the purpose of the evaluation.

A. Program Description

2. In 1998, Pakistan's energy sector utilities faced a financial crisis due to systemic sector problems that affected the financial performance of energy utilities and hindered the effectiveness and sustainability of the energy sector. Appropriate reforms and necessary adjustment measures, including the introduction of a market-driven system, were deemed necessary by the Government of Pakistan to restore financial and operational viability in the sector and make it self-sustaining in the medium to long term. Ensuring a stable supply of electricity was essential to Pakistan's economic recovery and to creating job opportunities for the poor. To achieve these objectives, the government sought support from the International Monetary Fund (IMF), the World Bank, and the Asian Development Bank (ADB). ADB's support was facilitated through the Energy Sector Restructuring Program (ESRP), which came in the form of two program loans, Loan 1807 and Loan 1808, and Technical Assistance (TA) Loan 1809. Loan 1807 was financed by ADB's ordinary capital resources, while Loans 1808 and 1809 were from the Asian Development Fund.

B. Evaluation Purpose and Process

3. Based on the program completion report (PCR)¹ and the subsequent PCR validation report,² the main objectives of the ESRP were largely met with the exception of privatization of some energy sector assets. The PCR and validation report rated the ESRP *successful*. However, the energy sector in Pakistan is again in crisis because of insufficient capacity to meet the demand for electricity, which has led to severe load shedding. The outcomes achieved by the ESRP are again at risk, and an evaluation of the ESRP is therefore useful to assess and update the program's outcomes, impacts and their longer term sustainability.

4. Evaluation of the ESRP was accomplished by

- (i) reviewing relevant and available ADB documents,
- (ii) reviewing ADB's country and sector strategies and the government's medium-term strategy and development priorities,
- (iii) consulting with ADB staff,
- (iv) fielding an evaluation mission to Pakistan to confer with in-country stakeholders,³ and

An evaluation of the ESRP is useful to assess and update the program's outcomes, impacts and longer term sustainability

¹ ADB. 2007. *Program Completion Report: Energy Sector Restructuring Program [Pakistan] (Loans 1807-PAK, 1808-PAK, and 1809-PAK)*. Manila.

² ADB. 2009. *Validation Report. Pakistan: Energy Sector Restructuring Program*. Manila.

³ An Independent Evaluation Mission to Pakistan was undertaken during 20–30 May 2013.

- (v) assessing performance using ADB's program performance evaluation criteria.

5. The views of ADB departments and offices and those of the government and stakeholder agencies were considered in finalizing this report.

C. Program Objectives

The intervention was intended to ensure a self-sustaining, efficient, and competitive power sector

6. The objectives of the ESRP were to coordinate measures for reforming the energy sector in Pakistan, speed up actions needed for sustainable growth in the sector, increase efficiency in the use of resources, and improve customer focus in the delivery of services. The ultimate goal of the ESRP was to enhance sector economic efficiency and consumer satisfaction. In particular, the intervention was intended to ensure a self-sustaining, efficient, and competitive power sector, capable of providing required quantities of quality power at least cost to consumers. To achieve a self-sustaining, efficient, and competitive power sector, the ESRP focused on seven key areas of reforms: (i) enhancing governance, (ii) enhancing the legal and regulatory framework and strengthening the capacity of the power sector regulator, (iii) financially restructuring and privatizing Karachi Electric Supply Corporation (KESC), (iv) restructuring the Water and Power Development Authority (WAPDA) and privatizing corporatized entities, (v) enabling a competitive electricity market, (vi) resolving issues related to independent power producers (IPPs), and (vii) enhancing reform in the natural gas and petroleum sector.

Design and Implementation

7. This chapter discusses the program design; it explains the rationale, the way the program was formulated, and the resource assumptions underlying the program design. The chapter also compares implementation design with actual implementation arrangements towards achieving the program outputs.

A. Rationale

8. Pakistan's energy sector faced a serious financial crisis in the late 1990s, stemming from weak governance, political interference in decision making, rising fuel prices, an adverse impact of power purchases from IPPs, and endemic corruption (especially in the power sector). Weak governance caused inefficient power utility operations, power theft, reduced billing and collection, and nonpayment of arrears. These problems had an adverse impact on the financial performance of the power utilities and hindered the effectiveness and sustainability of the power sector. This situation resulted in severe load shedding and blackouts which affected the poorer segment of the population and eventually contributed to the buildup of the financial crisis in the sector. Reforms and adjustment measures, including introduction of a market-driven system, were needed to restore the financial and operational viability of the sector and make it self-sustaining.

9. ADB support for the government's structural reforms in the energy sector was essential for stabilizing Pakistan financially and ensuring a steady supply of electricity for the country's economic recovery and job creation efforts. The ESRP supported the government's initiatives for reforming and restructuring Pakistan's energy sector, with ADB's ESRP loans complementing the IMF's \$596 million standby credit for Pakistan, which was approved by the IMF executive board on 29 November 2000.⁴ In addition, the World Bank provided a \$300 million structural adjustment loan.

Reforms and adjustment measures, including introduction of a market-driven system, were needed to restore the financial and operational viability of the sector and make it self-sustaining

B. Formulation

10. In April 1998, the government requested ADB to provide a quick-disbursing policy-based loan facility to rectify the financial crisis in the power sector and meet some of its shortfalls and restructuring costs. ADB advised the government that processing of the ESRP would depend on (i) the government's implementation of policy reforms; (ii) formulation of a realistic, credible, and feasible financial package for the restructuring of WAPDA and KESC; (iii) unbundling, corporatization, and commercialization of WAPDA entities; (iv) progress made toward privatization of KESC and the corporatized WAPDA entities; (v) operational independence of the sector regulator; (vi) an electricity tariff adjustment mechanism including a reduction in cross-subsidies; and (vii) resolution of issues related to IPPs.

⁴ IMF's standby credit supported the government's economic adjustment and reform program, which aimed to put Pakistan on a high and sustainable growth path by strengthening the balance of payments position, rebuilding official reserves, and reducing public sector indebtedness. (Source: <http://www.imf.org/external/np/sec/pr/2000/pr0064.htm>)

The ESRP was based on sound macroeconomic and sector analyses that identified and discussed key economic and social issues and highlighted the importance of the energy sector to macroeconomic stability

11. Processing of the ESRP was suspended following Pakistan's nuclear tests in May 1998, the subsequent bilateral sanctions, and the suspension of assistance from international financial institutions. Processing recommenced after the resumption of the Enhanced Structural Adjustment Facility/Extended Fund Facility program of the IMF in January 1999. The ESRP was based on sound macroeconomic and sector analyses that identified and discussed key economic and social issues and highlighted the importance of the energy sector to macroeconomic stability.

12. There was no program and/or project preparatory TA undertaken prior to approval of the ESRP.

C. Cost, Financing, Executing and Implementing Arrangements

13. The report and recommendation of the President (RRP) estimated that the total cost of the ESRP would be about \$1.7 billion.⁵ The main component of this cost comprised the adjustment costs associated with WAPDA debt-to-equity conversion (\$762 million), KESC debt-to-equity conversion (\$493 million), and similar conversions in the natural gas and petroleum sectors (\$300 million). Other costs were associated with (i) the setting up of the National Electric Power Regulatory Authority (NEPRA), consumer advocacy groups, and the Privatisation Commission; (ii) the cost of the restructuring plans for WAPDA, KESC, and the natural gas and petroleum sectors; (iii) the expected costs of privatization of energy sector utilities; and (iv) the cost of retrenchment of redundant staff in WAPDA and KESC and the cost of a skills development program.

14. The total value of the three loans was \$355 million, of which \$300 million was denominated in dollars and the balance in special drawing rights. Loan 1807 was divided into multiple tranches, with a first tranche of \$100 million, an incentive tranche of \$50 million, and second and third tranches of \$75 million each. Loan 1808, for the equivalent of \$50 million, was a special operations loan that was made available at the same time as the first tranche of Loan 1807. Loans 1807 and 1808 were to be used to cover part of the costs of the ESRP. Loan 1809 was a TA loan for the equivalent of \$5 million, with two components for poverty impact assessment and labor retrenchment and redeployment.

15. The Ministry of Finance was the executing agency and was supported by (i) the Ministry of Water and Power in the implementation of the sector reforms and restructuring of KESC and WAPDA; (ii) NEPRA on regulatory requirements and tariff issues; and (iii) the Privatisation Commission on privatization of KESC and corporatized WAPDA entities. A federal steering committee was established to oversee implementation of the ESRP.

D. Application of Counterpart Funds

16. Although the program loan was to finance part of the adjustment costs, disbursement of the loan was related to specific policy actions. Each disbursement was timed to coincide with specific milestones in the reform and restructuring process, as identified in the loan conditions. The proceeds of the first tranche of Loan 1807, including the incentive tranche, went to the restructuring of KESC. \$50 million of the

⁵ ADB. 2000. *Report and Recommendation of the President to the Board of Directors on Proposed Loans to the Islamic Republic of Pakistan for the Energy Sector Restructuring Program*. Manila.

loan was also allocated for the Ministry of Petroleum to assist the government's gas sector restructuring program. However, because the second and third tranches of the loan were cancelled, the amount was not disbursed.

17. Loan 1809 was designed to fund TA activities to cushion the social impact of KESC privatization and labor retrenchment and redeployment. In June 2004, the Ministry of Finance, after consulting the Privatisation Commission, stated that it had decided not to retain the TA loan as this will not provide any value addition to the privatization of KESC. The loan was eventually cancelled on 30 June 2004. The proposed and actual disbursement schedule for Loans 1807 and 1808 are given in Table 1.

Table 1: Schedule of Proposed and Actual Disbursements (\$ million)

Proposed Date	Actual Date	Tranche	Loan 1807	Loan 1808
December 2000	December 2000	First	100 ^a	50 ^b
March 2001	May 2001	Incentive	50 ^c	
December 2001	Not disbursed	Second	75	
December 2002	Not disbursed	Third	75	
Total			300	50

Note: ^a Actual disbursement date was 15 December 2000.

^b Actual disbursement date was 20 December 2000.

^c Actual disbursement date was 18 May 2001.

Source: ADB. 2007. *Program Completion Report: Energy Sector Restructuring Program*. Manila.

E. Consultants

18. No consultants were engaged or retained under any of the ESRP loans.⁶

F. Outputs

19. **Improved sector governance and elimination of cross-indebtedness.** An immediate impact of the ESRP was improvement in sector governance. From December 2000 until program completion in 2006, cross-indebtedness between power sector entities and the central and state governments was largely eliminated. However, the benefits of the elimination of cross-indebtedness were short-lived. By mid-2013, cross-indebtedness reached unprecedented levels of about PRs503 billion,⁷ largely as a result of the accumulated difference between the actual cost of providing electricity and the revenues realized by the power distribution companies from sales to customers. Government subsidy payments to power sector entities were not enough to overcome this shortfall, which caused defaults on payments for fuel used by thermal generating plants in both the public and private sectors and resulted in critical power supply shortages throughout the country. Load shedding of more than 50% of peak demand is being experienced countrywide, lasting 8–20 hours per day in major cities and up to 22 hours in some rural areas of the country.

An immediate impact of the ESRP was improvement in sector governance. However, the benefits of the elimination of cross-indebtedness were short-lived

20. **System loss reduction.** System losses in transmission and distribution were reduced. In 2002, transmission and distribution system losses were 26.50% of total

⁶ Consultants were envisaged to be engaged for the activities proposed under Loan 1809, but the loan was cancelled.

⁷ Budget Speech 2013–14 delivered in the National Assembly on 12 June 2013 by Senator Mohammad Ishaq Dar, Federal Minister for Finance, Revenue, Economic Affairs, Statistics and Privatization. http://www.finance.gov.pk/budget/FinalBudgetSpeech_13_14_english.pdf

output, and by the end of 2010, system losses had been reduced to 16.08%.⁸ A two-pronged strategy was adopted for reducing transmission and distribution losses: increased investment in the transmission and distribution systems by power sector companies, and increased monitoring of power theft. Nevertheless, the issue of technical and nontechnical system losses has again become a major problem. Estimated system losses for the first half of 2013 averaged 20% countrywide and up to 33% in the worst affected areas. Although technical losses have been gradually declining, nontechnical losses, mainly theft, are increasing.

Although NEPRA is autonomous, its rulings on tariffs are often overridden by government fiat

21. **Strengthening of regulatory capacity.** The regulator, NEPRA, was strengthened institutionally and gained some capacity over the period 2001 to 2013 to carry out its mandate, but it is still short-staffed and has major institutional weaknesses, particularly in terms of staff skills. In May 2013, NEPRA was planning to augment its current staff level of 30 by recruiting another 40 persons in engineering, law, accounting, and economics. Nevertheless, NEPRA still needs substantial capacity strengthening in all facets of power sector regulation. Although NEPRA is autonomous and has the independence to set electricity tariffs, its rulings on tariffs are often overridden by government fiat. As a result, existing government-approved electricity tariffs are less than the cost of production, PRs8.8 per kilowatt-hour on average (government-notified tariffs), compared with PRs11.9 per kilowatt-hour (NEPRA-approved tariffs) in 2013.⁹ The government provides a subsidy of about PRs220.10 billion for FY2014.¹⁰

Since privatization, KESC's financial and operational performance has improved

22. **Privatization and improvement in the operational and financial performance of power sector entities.** KESC was financially restructured and then privatized in December 2005 with the purchase of a 71% stake in the company by a consortium of Pakistani and foreign businesses. The financial restructuring involved exchanging about PRs80 billion of KESC's debt to the government for equity and arranging for public entities to pay their outstanding dues to KESC. Privatization took longer to achieve than envisaged at the time of loan approval but was ultimately successful. Since privatization, KESC's financial and operational performance has improved. Net losses decreased from PRs15.5 billion in FY2009 to PRs14.6 billion in FY2010 and PRs9.4 billion in FY2011. KESC recorded a net profit of PRs2.6 billion for FY2012, the first since the change in ownership.¹¹ It is on track for another profit in 2013, mainly due to its efforts at reducing system losses. Subsidy to KESC has been a regular item in the government's federal budget for the past 4 years. For FY2014, the subsidy to KESC amounted to PRs55 billion, with accounts receivables from public entities, such as the Karachi Water and Sewerage Board, amounting to PRs36 billion. This limits KESC's available resources for purchasing natural gas for its generating plants, which has led to load shedding in Karachi and other areas serviced by KESC.

Although the unbundling has been completed, none of the corporatized entities have been privatized

23. **Unbundling.** The restructuring of WAPDA comprised separating the institution into generation, transmission, and distribution companies. Although the unbundling has been completed, none of the corporatized entities have been privatized, contrary to commitments made in the loan covenants. Considerable central influence and control over the new companies persist. Distribution utilities have little autonomy and are still required to report to the Ministry of Water and Power regarding all business matters, including human resource and investment decisions. On the other hand, the

⁸ Index Mundi. Pakistan - Electric power transmission and distribution losses. <http://www.indexmundi.com/facts/pakistan/electric-power-transmission-and-distribution-losses>.

⁹ The fuel cost for electricity produced at the margin varies from PRs18 to PRs26 per kilowatt-hour.

¹⁰ Federal Budget 2013–2014 of Pakistan provides subsidies of PRs165.10 billion to WAPDA/Pakistan Electric Power Company and PRs55 billion to KESC.

¹¹ KESC. 2012. *Annual Report 2011–2012*.

government provides little support to the distribution utilities in their efforts to reduce illegal connections and electricity theft and in the collection of arrears. The Pakistan Electric Power Company was created as a holding company for the unbundled WAPDA entities to prepare them for privatization. Although none of these entities have been privatized to date, the Pakistan Electric Power Company continues to influence the management decisions of the generation and distribution companies. The distribution utilities' lack of autonomy hinders improvements in operational efficiency and their ability to meet the demand for electricity.

24. **Resolution of IPP issues.** Tariff and financial disputes between WAPDA and the Hub Power Company and Kot Addu Power Company seriously impeded the development of the power sector when the ESRP was formulated and approved in 2000. These cases were eventually resolved, and Pakistan established a framework for attracting IPPs, which enjoyed some success.

25. **Reforms in the oil and gas sector.** Since its establishment in 2002, the Oil and Gas Regulatory Authority took on an increasing role in regulating the oil and gas sector, but it need capacity development to address its major institutional weaknesses, particularly in terms of staff skills. Although the Oil and Gas Regulatory Authority is autonomous and has the independence to set prices for natural gas and petroleum products, its rulings still require government approval. Nevertheless, prices for petroleum products were deregulated in 2011 and are now linked to international oil prices, while natural gas prices are set on the basis of cost of service.

26. Two objectives of the ESRP were not attained. The first objective is related to the privatization of the Jamshoro Power Company and Faisalabad Electric Supply Company, which have not been privatized to date. Given the current energy crisis and the financial and operational difficulties being experienced by IPPs, private sector interest in any of the unbundled entities, including the Jamshoro Power Company and Faisalabad Electric Supply Company, is lukewarm at this time.

27. The second objective is the program of work planned under Loan 1809 to support the privatization of KESC, which was not carried out since the loan was cancelled. Although the work program had a social impact component and a labor retrenchment and redeployment component, the commitment made to KESC staff that they would not be retrenched or redeployed was honored.

28. The ESRP also aimed to transform the power sector from an inefficient state-controlled monopoly to a competitive, market-driven system. A competitive power sector, as envisaged in the RRP, would comprise (i) competitive generation with an independent system operator and a bulk power market; (ii) unbundled, open, and non-discriminating access to transmission and distribution services; and (iii) an independent regulatory body. While progress toward a competitive structure has been made over the period 2001 to 2013, there are still numerous obstacles to a fully functioning competitive environment (paras. 19–23).

Two objectives of the ESRP were not attained. First is the privatization of the Jamshoro Power Company and Faisalabad Electric Supply Company. The second is the program of work planned under Loan 1809 to support the privatization of KESC

CHAPTER 3

Performance Assessment

29. This chapter examines the performance of the program as per standard evaluation criteria. The program's contribution to institutional development and socioeconomic impact is also examined.

A. Overall Assessment

The overall performance of the ESRP is assessed less than successful

30. The overall performance of the ESRP (Table 2) is assessed *less than successful* pursuant to the program performance evaluation report (PPER) guidelines' four-category evaluation criteria of relevance, effectiveness, efficiency, and sustainability.¹² The ESRP was *relevant*, as it was designed to address the key issues facing the energy sector through restructuring and providing the government with the resources to finance the restructuring and return the sector to stability. This support was also provided at the time of its greatest need. However, the ESRP was *less than effective*, as it did not achieve the overall goal of establishing an efficient and competitive industry that provides high-quality service to its customers at least cost. Some of the expected outcomes were also not achieved. The ESRP was *efficient*, as the implementation of the program was efficiently managed, and many of the covenants were met before closing. The support provided also contributed to returning the country to financial stability sooner than expected. Overall sustainability of the ESRP, however, is rated *unlikely*, because many of the key outcomes achieved under the ESRP that contributed to the resolution of the financial crisis in Pakistan in 2000 did not endure.

Table 2: Performance Assessment

Criterion	Weight (%)	Assessment	Rating Value	Weighted Rating
Relevance	25	Relevant	2	0.50
Effectiveness	25	Less than effective	1	0.25
Efficiency	25	Efficient	2	0.50
Sustainability	25	Unlikely	0	0.0
Overall Rating^a		Less than successful		1.25

Note: ^a Highly successful ≥ 2.7 ; $2.7 > \text{successful} \geq 1.6$; $1.6 > \text{less than successful} \geq 0.8$; unsuccessful < 0.8 .
Source: Independent Evaluation Department study team.

B. Relevance

31. The ESRP was formulated in response to the financial crisis in the Pakistan power sector in 1998. By 2000, a macroeconomic crisis had emerged, with the fiscal deficit reaching 6.5% of gross domestic product and with acute shortages of foreign exchange, leading to concerns about Pakistan's ability to meet its external commitments. The power sector was a major source of the deficit. Weak governance, political interference in decision making, rising fuel prices, an adverse impact of power purchases from IPPs, and endemic corruption in the power sector resulted in inefficient utility operations; power theft; reduced billing and collection; nonpayment of arrears;

¹² ADB. 2006. *Guidelines for Preparing Performance Evaluation Reports for Public Sector Operations* (as amended 25 March 2013). Manila.

and weak self-financing, debt service, and liquidity capabilities. The macroeconomic crisis particularly affected the poorer segment of the population, with the number of poor living on less than \$1.25 a day (at 2005 prices) increasing from 40.8 million in 1998 to 53.7 million in 2002.

32. The absence of an immediate policy response for the energy sector would have had serious economic repercussions. Radical reforms and tough adjustment measures, including market-driven systems, were needed to restore the viability of the sector and make it self-sustaining. ADB support of the government's initiatives for structural reforms in the energy sector was essential given the urgent need to introduce competition to catalyze improvement in the sector as well as private sector participation to create a competitive environment. Ensuring a stable supply of energy was essential for the country's economic recovery and well-being, especially for the poor and those on the margins who could become poor.

33. The ESRP was an integral element of the IMF's structural adjustment program, which recognized that the crisis in the power sector had to be dealt with to address the overall macroeconomic situation. The ESRP loans helped to relieve Pakistan's balance-of-payments crisis, while the implementation of associated loan conditions helped to improve conditions in the power sector. The ESRP was fully consistent with ADB's country assistance plan for 1999 to 2001 and 2000 to 2002 which envisaged the use of program lending to promote sector restructuring, privatization, and commercialization.¹³ The ESRP was also consistent with the macroeconomic framework developed by the IMF and with assistance provided by the IMF and the World Bank.

34. Improved sector governance, increased investment in the power sector, reduction of system losses, elimination of cross-indebtedness, the unbundling of WAPDA, and improvement in the operational and financial performance of power sector entities indicate that the objectives of the ESRP were relevant at the time of appraisal. The balance-of-payments position for Pakistan also improved by late 2003. Support for the economy at the time of its greatest need was provided by the IMF, ADB, and other development partners and was deemed relevant and necessary to maintain stability in the country. The PCR and its validation rated the performance *relevant*. The PPER assesses the PPER *relevant*.

The ESRP loans helped to relieve Pakistan's balance-of-payments crisis, while the implementation of associated loan conditions helped to improve conditions in the power sector

C. Effectiveness

35. The PCR rated the ESRP *effective* on the basis that all outcomes were achieved, except for the privatization of the Jamshoro Power Company and Faisalabad Electric Supply Company and the program of work planned under Loan 1809 to support the privatization of KESC. According to the program framework in the RRP, the goal of the ESRP was "to establish an efficient and competitive industry which will provide a high quality service to its customers at least cost." The RRP¹⁴ also stipulated that:

The restructuring program is expected to enhance the efficiency of the energy sector through the introduction of competitive market forces and the subsequent reduction in transmission and distribution losses. This will help reduce production costs across all industries, including agriculture and manufacturing, in the medium to long term, which will

¹³ ADB's country assistance plans for 1999–2001 and 2000–2002 provided for a Power Sector Restructuring Program Loan, which eventually became the ESRP in the country assistance plan for 2001–2003.

¹⁴ ADB. 2000. *Report and Recommendation of the President to the Board of Directors on Proposed Loans to the Islamic Republic of Pakistan for the Energy Sector Restructuring Program*. p. 4, Para. 18. Manila.

contribute to a lower inflation rate and higher economic growth. Reduction in transmission and distribution losses will also reduce corruption and waste of public resources.

The goal of the ESRP to establish an efficient and competitive industry that will provide high-quality service to its customers at least cost was not achieved

36. Given the precarious state of the energy sector today, it would be difficult to characterize Pakistan's energy sector as efficient, competitive, and providing high-quality service at least cost. The problems faced by the sector are extensive and deep-rooted, and the efficiency of the sector has deteriorated. Load shedding is endemic and cannot be eliminated without resolution of the cross-indebtedness issue. Most debtors to power sector utilities are incapable or unwilling to settle their arrears. The issue of electricity theft cannot be easily resolved without the political will of the government to ensure the safe disconnection of illegal power consumers. A competitive environment in the energy sector is absent because of load shedding, while the lack of competition in the ownership of distribution utilities and a significant proportion of Pakistan's generating plants persists. Corruption and political interference in the operations of power utilities add to the woes of the sector. The quality of service to customers has also deteriorated and electricity consumers are faced with the dilemma of paying higher prices for alternative sources of energy or doing without. In view of all these problems, the goal of the ESRP to establish an efficient and competitive industry that will provide high-quality service to its customers at least cost was not achieved.

37. The ESRP focused on seven key areas of reform: (i) enhancing governance, (ii) enhancing the legal and regulatory framework and strengthening the capacity of the power sector regulator, (iii) financially restructuring and privatizing KESC, (iv) restructuring WAPDA and privatizing corporatized entities, (v) enabling a competitive electricity market, (vi) resolving issues related to IPPs, and (vii) enhancing reform in the natural gas and petroleum sector. Some of these outcomes were achieved and are discussed below:

- (i) Sector governance improved in terms of elimination of cross-indebtedness and monitoring of system losses, including electricity theft. However, the issues of cross-indebtedness and system losses were again at the forefront of the crisis in the energy sector in 2013. Although governance improved, this improvement was temporary.
- (ii) The capacity of the power sector regulator was enhanced with the authorization of NEPRA to issue licenses and set tariffs. Nevertheless, the government still intervenes in the setting of electricity tariffs by mandating tariff rates that are below cost-recovery levels. Subsidies are provided to distributors to cover the shortfall, but releases are often delayed and the full amount of the subsidy is not guaranteed. The expectation in the RRP that subsidies for electricity would be eliminated did not eventuate.
- (iii) KESC was successfully restructured and privatized, but the restructuring and privatization resulted only in some improvement in its operational and financial performance. KESC has managed to reduce system losses,¹⁵ but Karachi and other areas served by KESC still experience severe load shedding. Although KESC managed to turn a profit in 2012 for the first time since privatization, the company's financial

¹⁵ Annualized transmission and distribution losses as of 30 June 2012 stood at a 17-year record low of 29.7%, but there is room for further improvement.

performance is still hampered by high levels of accounts receivable and payable.

- (iv) WAPDA was unbundled into eight distribution utilities, three generation companies, and the National Transmission And Despatch Company. However, the commitment to achieve partial privatization was not met, and the unbundled entities lacked autonomy. The operational and financial performance of the unbundled entities was poor, with severe load shedding, high system losses, and high levels of accounts receivable. The Pakistan Electric Power Company still serves as a holding company for the unbundled WAPDA entities but serves little purpose, even though its main purpose of privatizing the unbundled WAPDA entities has not yet been accomplished.
- (v) Although NEPRA issued a transmission and dispatch license to the National Transmission And Despatch Company in December 2002 as a step to creating an enabling environment for a competitive electricity sector, little competition in the sector has ensued. The unbundled WAPDA companies are still controlled and managed by the Ministry of Water and Power. The Central Power Purchasing Agency was established and serves as a single buyer for electricity generated by public and private sector entities for resale at least cost. There is therefore little competition between generation companies.
- (vi) Disputes with IPPs were resolved and the government was also able to establish an initially successful framework for attracting IPPs. However, this is not enough to attract the private sector entities to investing or expanding its operations in Pakistan because of the current state of the energy sector.
- (vii) Some reforms in the gas and petroleum sector were achieved. The Oil and Gas Regulatory Authority was established, and the government approved a restructuring plan for the gas companies Sui Southern Gas Company and Sui Northern Gas Pipeline Limited, although the restructuring plan was not implemented. The government introduced to the cabinet a Petroleum Regulatory Authority Act, which was intended to amalgamate the Natural Gas Regulatory Authority Act and the planned Petroleum Regulatory Board Act. The Petroleum Regulatory Authority Act, however, was not promulgated, and the Petroleum Regulatory Authority was not established.

38. The overall goal of the ESRP and some of the outcomes expected at loan approval were therefore not achieved. Given these shortcomings, the PPER assesses the ESRP *less than effective*.

D. Efficiency

39. The PCR noted that a competitive electricity market would lower power costs and make supply more reliable. The PCR also presumed that the burden of subsidizing the energy sector should decline and improve the government's fiscal position. Given that the program was efficiently managed by the Ministry of Finance and ADB, the PCR rated the ESRP *efficient* and deemed that the oversight structure devised by the government and ADB worked well. The government took many of the first steps

The overall goal of the ESRP and some of the outcomes expected at loan approval were not achieved. Given these shortcomings, the PPER assesses the ESRP less than effective

The efficiency gains expected with the ESRP largely did not materialize. Nevertheless, the PPER concurs assesses that the implementation was efficient

required by the ESRP before the loans were effective. Although there were delays, most covenants were met before closing.

40. The efficiency gains expected with the ESRP largely did not materialize. Costs did not decline, reliability did not improve, and subsidization of electricity continued. There is also little evidence that economic and social benefits were achieved at near least cost. It was not possible to value the economic benefits of the ESRP and compare them to the cost of the ESRP because data on efficiency gains from the policy reforms were not collected. It was also difficult to ascertain the likelihood of the outcome of the scenario where there was no assistance provided by the IMF, ADB, and other development partners. Nevertheless, the PPER assesses that the implementation was *efficient*, even though almost half (\$155 million) of the loans were cancelled. The cancellation indicates that the assistance provided by the development partners was both effective and efficient and contributed to improving the country's financial situation.

E. Sustainability

41. Pakistan's economy improved considerably from 2001 to 2007, growing at an average of 7.3% per year during FY2004 to FY2007. Strong capital inflows led to a surplus in the balance of payments, with gross official foreign exchange reserves rising to \$14.3 billion by June 2007 (equivalent to 4.5 months of import cover). The remarkable turnaround in economic performance since 2002 enabled the government to repay several ADB loans early. The ESRP was instrumental in providing financial support to the country and aiding in the turnaround, with the PCR noting that the reforms implemented under the ESRP are *likely* to be sustainable.

42. However, after 2008, the economy slid into another crisis, with slowing export growth and private transfers, a loose monetary policy, and government reluctance to pass on international price increases to consumers, which led to greater allocation of the budget to subsidies. The economic crisis was aggravated by a highly constrained and unpredictable energy sector that lacked investment, was burdened by energy prices that did not reflect production costs, and struggled with poor management. Load shedding became a drag on economic growth and employment. Electricity subsidies in the budget reached about 1.5% of gross domestic product in FY2011, higher than expenditures on health. Poor collection of government subsidy payments brought about a buildup of cross-indebtedness, estimated at 3% of gross domestic product. These arrears were partly financed by credit from banks, which crowded out private sector investment.

Although the ESRP initiated important reforms in the energy sector, some of the reforms could not be sustained

43. Although the ESRP initiated important reforms in the energy sector, some of the reforms could not be sustained. Cross-indebtedness was eliminated under the ESRP but became the main cause of the current crisis in the energy sector. Although technical system losses have gradually declined since the approval of the ESRP (para. 20), nontechnical losses, particularly theft, increased substantially. Electricity tariffs are determined by NEPRA, an independent regulator, but the government continues to intervene and to approve a below-cost recovery tariff rate, with the shortfall supposedly covered by subsidies. Subsidies to the energy sector continued to be major items in the federal budget. The unbundling of WAPDA and the privatization of KESC, however, are permanent and therefore sustainable. Nevertheless, more measures are needed to ensure competition in the energy sector, such as free access to the purchase of fuel by public and private sector generators, privatization of power distribution

utilities, permanent resolution of the cross-indebtedness issue, and resolution of the issue of illegal connections and electricity theft.

44. There are no easy fixes for the problems in the energy sector in the short term. The main issues, such as cross-indebtedness and electricity theft, stem from a lack of political will. The ESRP provided budgetary support in 2001 to help resolve cross-indebtedness, but the problem started to build up again in 2003. Disconnecting customers with illegal connections and arrears is difficult in an environment where law and order deficiencies, political influence, and corruption are endemic. A functioning, competitive electricity market might be realized and sustained if (i) tariffs were automatically charged to customers without political interference, (ii) technical and commercial losses were reduced, (iii) collections were improved, (iv) load shedding were addressed, (v) power sector entities were state owned, and (vi) political interference in their operations were eliminated. Longer term solutions depend on resolution of the current crisis in the energy sector, which would make investments in the energy sector attractive to develop indigenous energy resources, including hydropower sites, coal, and natural gas deposits. These investments would only be sustainable with the government's commitment to implement and maintain the reforms listed above.

45. As some of the key outcomes achieved under the ESRP that contributed to the resolution of the financial crisis in Pakistan in 2000 did not endure, the PPER assesses the sustainability of the ESRP *unlikely*.

As some of the key outcomes achieved under the ESRP did not endure, the PPER assesses the sustainability of the ESRP unlikely

F. Institutional Development

46. The ESRP loans have promoted some institutional development across the power sector. In particular, the program provided some assistance to help develop the skills and competence of NEPRA and brought in private sector management to KESC through privatization. On the other hand, although the unbundling of WAPDA into autonomous generation, transmission, and distribution entities was intended to improve governance, there is little evidence that governance improved in the unbundled WAPDA structure.

47. ADB concurrently provided TAs to promote institutional capacity development in Pakistan's energy sector. These included TA to restructure the gas sector,¹⁶ TA to build the institutional capacity of the National Transmission and Despatch Company,¹⁷ TA for to build the capacity of the Alternative Energy Development Board,¹⁸ and TA to operationalize the Central Power Purchasing Agency.¹⁹ The PPER assesses the contribution of the ESRP and other capacity development TA support to institutional development in the Pakistan energy sector *moderate*.

PPER assesses the contribution of the ESRP to institutional development in the Pakistan energy sector moderate

G. Impact

48. The PCR rated the impact of the ESRP *positive*. The PCR claimed that the ESRP had a positive impact on poverty reduction. This is mainly in terms of providing a

¹⁶ ADB. 2001. *Technical Assistance to Pakistan for Restructuring the Gas Sector*. Manila. (TA 3711-PAK).

¹⁷ ADB. 2003. *Technical Assistance to Pakistan for Institutional Capacity Building of the National Distribution and Dispatch Company*. Manila. (TA 4130-PAK).

¹⁸ ADB. 2004. *Technical Assistance to Pakistan for Capacity Building of the Alternative Energy Development Board*. Manila. (TA 4500-PAK).

¹⁹ ADB. 2006. *Establishment and Commencement of Operations for the Central Power Purchasing Agency*. Manila. (TA 4870-PAK).

Although the ESRP made a positive impact on the power sector by contributing to stabilizing the financial situation, the respite was temporary

lifeline tariff for low levels of consumption, a condition of the ESRP, which was deemed to benefit poorer electricity consumers. However, lifeline rates have always been a feature of electricity tariffs in Pakistan,²⁰ so the ESRP cannot take credit for this pro-poor measure. The PCR also stated that improvements in power sector performance should make power more widely available across the country and reduce costs through the pressure of competition. The current situation in the energy sector clearly demonstrates that power sector performance has not improved over the longer term, and electricity production costs have not fallen. Although the ESRP made a positive impact on the power sector by contributing to stabilizing the financial situation so that power utilities were not constrained by liquidity issues, the respite was temporary, and the main problems of cross-indebtedness and system losses that plagued the sector earlier began recurring soon thereafter.

49. The ESRP also helped to ensure greater macroeconomic stability and improved the balance of payments since FY2001. During FY2004 and FY2007, Pakistan returned to a relatively high growth rate of more than 6% and more than 7% respectively. This turnaround followed 3 years of steady decline in growth from FY1999 to FY2001. Although the current account balance returned to a deficit in FY2005, heavy external financing inflows in terms of foreign direct investment and portfolio flows created a surplus on the balance of payments and increased the gross official foreign exchange reserves. However, by 2008, the nominal exchange rate began to depreciate significantly, government debt was being monetized, inflation accelerated, and Pakistan was at risk of defaulting on its foreign debt obligations once again.

50. The ESRP covenants required that social safeguards be addressed so that no undue adverse impacts were imposed on poor and low-income consumers during the privatization of KESC and on labor during restructuring. TA Loan 1809 was designed to undertake (i) a poverty impact assessment to monitor and evaluate impacts on residential and commercial consumers, with special attention to the poorest segment of consumers; and (ii) a labor impact assessment to provide a mitigation plan for privatization of KESC and WAPDA. The TA loan, however, was cancelled, and no social safeguard evaluation was undertaken. Nevertheless, there were no environmental safeguard issues associated with the ESRP.

51. Governance, corruption, and fiduciary aspects were leading causes of the power sector's weak macroeconomic performance and poor performance and were key issues to be addressed through the program. Poor governance inadvertently resulted in inefficient utility operations, power theft, illegal power supply, reduced billing and tariff collections, and nonpayment of arrears. Corruption contributed to the poor financial performance of public utilities. The ESRP covenants and conditions directly targeted governance, corruption, and fiduciary concerns by enhancing the capacity of NEPRA, enhancing sector reforms, and encouraging a competitive electricity market. However, given that governance and corruption are still major issues that significantly affect the operational and financial performance of the energy sector, the ESRP's impact has been minimal.

52. While the population benefited from the economic turnaround due to greater employment and higher incomes, the turnaround lasted only about 6 years from FY2001 to FY2007. The absence of any sustained government reform effort did not appreciably improve the operation of the energy sector. Secondary benefits from an

²⁰ ADB. 2000. *Report and Recommendation of the President to the Board of Directors on Proposed Loans to the Islamic Republic of Pakistan for the Energy Sector Restructuring Program*. ADB. 2001. Manila. Appendix 4.

improved energy sector, such as those related to health, education, and leisure, also cannot be ascertained. Overall, the PPER assesses the developmental impact that the ESRP had on Pakistan's economy and its energy sector *moderate*.

H. ADB Performance

53. ADB staff performed well to process the ESRP for Board approval in a timely and expeditious manner, despite the scope and magnitude of the issues involved. Policy dialogue with the Ministry of Finance and other agencies involved with the ESRP was intense and comprehensive, and the Ministry of Finance appreciated the support it received from ADB during loan negotiations and implementation, particularly in the privatization of KESC. ADB also maintained close coordination with the IMF and other partners in the ESRP and made regular representation to the government when progress was slow on key conditions. ADB disbursed the loans promptly when covenants were met and accepted the early repayment of Loan 1807 at the request of the government.

54. There were only minor disagreements with the government over loan covenants. The government felt that privatization covenants were difficult to fulfill given the investment climate in FY2003, as demonstrated by the initial lack of investor interest in KESC. Nevertheless, the PCR rated ADB's performance *fully satisfactory*. Loans 1807 and 1809 were cancelled at the government's request. The PPER assesses ADB performance *satisfactory*.

I. Borrower Performance

55. It took the government and power sector entities more than 18 months to discuss and formulate a policy that comprised the content of the ESRP. A detailed policy matrix was negotiated and an agreement was reached on the conditions for the loans, including the preconditions for loan effectiveness. The government felt that some conditions were complex and onerous, but the ESRP was urgently needed to help resolve the financial crisis in the country, so the government reluctantly agreed to these conditions, which included public commitment to the privatization of KESC, financial restructuring of KESC, settlement of central and provincial government arrears to the power sector, and normalization of relations with IPPs. The government's performance in designing the ESRP with ADB's assistance was rated *successful* by the PCR.

56. Initial progress in implementing the conditions of the ESRP was generally satisfactory, although there was some delay in disbursing the incentive tranche of Loan 1807. Borrower performance became less satisfactory when the second and third tranches of Loan 1807 were cancelled. Loan 1809 was also cancelled in its entirety, and the study for minimizing the impact of the restructuring and privatizing of KESC on labor and electricity customers was never completed. Although the government generally kept to the broader reform path agreed upon at the time of loan appraisal, its efforts to privatize the Jamshoro Power Company, the Faisalabad Electric Supply Company, and other distribution utilities waned, and it did not take advantage of the heightened interest of foreign investment (foreign direct investment and portfolio flows) in the country during 2002–2007 to sell some or all of the unbundled WAPDA entities. The government also failed (i) to ensure that measures undertaken by the ESRP to eliminate cross-indebtedness were sustained and (ii) to ensure autonomy of the unbundled WAPDA entities, which continued to manage their affairs to the detriment of operational and financial performance. The government also provided little support to efforts by distribution utilities to reduce electricity theft. A restructuring plan for the

Sui Southern Gas Company and Sui Northern Gas Pipeline Limited was developed, but the plan was not implemented. In view of the government's failure to sustain and implement the reforms stipulated in the ESRP, the PPER assesses the overall performance of the borrower *less than satisfactory*.

J. Technical Assistance

57. Loan 1809 was intended as a TA loan for poverty impact assessment, labor retrenchment, and redeployment, but it was cancelled in 2004. Two ADB TA projects were provided alongside the ESRP—Gas Sector Restructuring and Support to the Privatization of Karachi Electric Supply Corporation²¹—but these were not directly provided under the ESRP.

²¹ ADB. 2000. *Support for Privatization of Karachi Electric Supply Corporation* (TA 3502-PAK). Manila.

Issues and Lessons

58. This chapter discusses the issues and lessons pertinent to the program. The lessons give pointers for follow-up actions.

A. Issues

59. **Weak governance.** Governance issues have had a major impact on macroeconomic performance and have hindered the effectiveness and sustainability of the energy sector. Weak governance has resulted in inefficient utility operations, power theft, reduced billing and tariff collections, and nonpayment of arrears, opening the way for massive waste and contributing to the buildup of financial insolvency of public energy companies.

Weak governance has resulted in inefficient utility operations, power theft, reduced billing and tariff collections, and nonpayment of arrears

60. Cross-indebtedness reached unprecedented levels of about PRs503 billion in 2013, largely because of the inability of power sector entities to collect on electricity bills from customers and the accumulated shortfall generated from the difference between the NEPRA-determined tariffs and the government-notified tariffs. Cross-indebtedness caused defaults on payments for fuel used by thermal generating plants and resulted in critical power supply shortages throughout the country.

61. It is difficult to calculate the exact amount of electricity pilfered (used but not paid for) from the distribution companies and KESC. According to the RRP for the ESRP, electricity theft in 1999 approximately ranged from \$400 million to \$600 million from WAPDA and from \$200 million to \$250 million from KESC. In 2013, these figures were likely more than double what they were in 1999. Theft of this magnitude could be attributed to societal corruption and corruption malpractice at various levels of the government organizational hierarchy.

62. Resolution of the governance issue is of paramount importance to enable further reforms in the energy sector. The main challenge and highest priority of the newly elected government is to tackle the issue of governance, which includes addressing cross-indebtedness, load shedding and removal of subsidies.²² In July 2013, an Anti-Electricity, Gas and Oil Theft Unit was established within the Federal Investigation Agency of the Ministry of Interior to take legal action against entities stealing electricity. The Unit's tasks, which include the conduct of investigation of major cases of power theft all across the country and conduct of raids, will be daunting and will require much political will.

The main challenge and highest priority of the newly elected government is to tackle the issue of governance

63. **Weak institutional capacity.** Institutional and organizational weaknesses have led to inefficient management, weak technical capabilities, overstaffing, poor equipment maintenance, obsolete technologies, and corruption. Weak financial and commercial skills are major obstacles to accountability, quick decision making, and commercial orientation needed to deal with IPPs.

²² A new government was elected on 11 May 2013 on a platform of solving the problems in the energy sector.

64. The government has not fully followed through on its commitment under the ESRP to establish a competitive environment in which power utilities can operate. WAPDA was unbundled, but none of the unbundled entities were privatized, and they continue to be managed and controlled by the Ministry of Water and Power. The Pakistan Electric Power Company, as the holding company for the unbundled entities, also exerts control and hinders the autonomy of the generating and distribution companies in their decision making. Although the KESC service area is experiencing load shedding and KESC has financial difficulties from its own cross-indebtedness problem, it has recently turned a profit and has made significant improvements in reducing system losses. This indicates that substantial gains in efficiency in terms of institutional strengthening could be expected from privatization of the unbundled WAPDA entities. With the energy sector in disarray, private sector interest may not be strong at this time, but privatization at the earliest opportunity is an essential step in completing the restructuring of the sector and moving it to operational and financial viability.

Load shedding was severe, with blackouts ranging from 8 to 20 hours daily

65. **Lack of generating capacity and load shedding.** The demand for electricity in Pakistan has been rising over the years in step with growth in the economy and population. It is estimated that population growth alone adds 1,000 megawatts per year to the country's electricity needs.²³ However, energy generating capacity had not significantly increased during the period 2006–2011, and existing power plants are falling into disrepair. The problem has been exacerbated by existing generating capacity not being fully employed. In May 2013, of 11 public sector thermal power plants, seven were completely shut down and the rest were not running at full capacity due to fuel shortages. Only 1,305 megawatts were available, compared with 3,580 megawatts installed. In the private sector, nine thermal power plants were offline out of 26, also due to fuel shortages, accounting for the 2,663-megawatt shortfall from IPPs (7,687 megawatts of IPP capacity were available in May 2013). As a result, load shedding was severe, with blackouts ranging from 8 to 20 hours daily, depending on the region. Overall, available capacity was little more than 10,000 megawatts, while average demand was about 16,000 megawatts.

66. Load shedding is a burden for all segments of Pakistani society, with the poor suffering the most. It is critical that existing power plants are made operational again and that a secure and adequate supply of fuel is provided. This will require a speedy resolution of the cross-indebtedness issue so that fuel suppliers are assured of receiving payment. In the longer term, the government needs to follow through on its commitment to privatize the unbundled WAPDA entities, namely the distribution utilities and thermal power plants, and to create a competitive environment in which the private sector can operate safely and invest more confidently in generating capacity. The government also needs to take steps to develop the massive hydropower, coal, and hydrocarbon resources in the country to address load shedding and make the supply of energy more reliable.

67. **Electricity tariffs and subsidies.** NEPRA is mandated to set electricity tariffs, which it determines on the basis of cost of service and revenue requirements. There is an automatic flow-through mechanism in the tariff structure for fuel and other expenses, a condition of the ESRP. Although the tariff is reset every 4 months, delays in implementation of 6–12 months are often experienced, mainly from challenges to tariff

²³ S.J. Burki. 2011. "Historical Trends in Pakistan's Demographics and Population Policy," in *Reaping the Dividend: Overcoming Pakistan's Demographic Challenges*, ed. M. Kugelman and R. M. Hathaway (Woodrow Wilson International Center for Scholars). Washington, DC.

increases in the court system. Delays in the implementation of tariff adjustments inadvertently contributed to solvency and liquidity problems for distribution utilities. Although NEPRA is independent in its tariff-setting responsibility, the government routinely overrides NEPRA's decisions and sets its own below-cost recovery tariff (para. 21). The tariff rates approved by NEPRA vary by region while the electricity tariffs that the government allows the distribution utilities to charge, is uniform throughout the country.

Delays in the implementation of tariff adjustments contributed to solvency and liquidity problems for distribution utilities

68. To meet the shortfall from the tariff differential, the government provides a subsidy in the budget, which averaged 91% of the total subsidy allocation for the period FY2011 to FY2014 (Table 3). For FY2014, the allocation for the subsidy amounts to PRs220.10 billion.²⁴ Although the amount of tariff subsidy may have decreased for FY2014, vis-à-vis the previous FY, the amount of subsidy may increase again in later years unless tariffs are adjusted to full cost-recovery levels. Subsidizing the energy sector is not sustainable in the long term. Subsidies also reduce the resources that could have been used for other purposes in other sectors or activities.

Table 3: Energy Sector Subsidy in the Federal Budget (PRs million)

Subsidy	Revised FY2011	Revised FY2012	Revised FY2013	Budget FY2014
Subsidy to WAPDA and Pakistan Electric Power Company	295,827	419,018	264,970	165,100
Subsidy to KESC	47,317	45,238	84,317	55,000
Total subsidy, energy sector	343,144	464,256	349,287	220,100
Total subsidy across sectors	395,801	512,292	367,472	240,434
% subsidy for energy sector	86.70%	90.62%	95.05%	91.54%

KESC = Karachi Electric Supply Company, WAPDA = Water and Power Development Authority.
Source: Federal Budget of Pakistan, various years.

B. Lessons

69. The PCR identified two lessons related to the implementation of the ESRP: (i) where possible, ADB should link its loan conditions to aspects of the program where it has strongly positioned itself in the policy dialogue and relationship leadership; and (ii) difficult lending conditions, such as the requirement to privatize KESC, are achievable, but both ADB and the executing agency must persevere over a long period. Extensive support must be provided through TA and policy dialogue, while taking a long-term perspective. The PCR validation concurred with the PCR's lessons. In addition, the PPER suggests four more lessons:

70. **Unbundling and privatization.** WAPDA was unbundled because the organization had degenerated into an unwieldy, overcentralized, and multilayered bureaucracy, dominated by political expediency and experiencing declining efficiency and quality of service. Even though the unbundling was carried out, operational and financial performance of the unbundled entities did not improve significantly. The unbundled distribution and generation companies do not have full autonomy, and there is little incentive for these companies to strengthen management and technical capabilities, reduce overstaffing and upgrade staffing skills, foster accountability, and root out corruption.

²⁴ Government of Pakistan. Federal Budget 2013–2014.

The privatization of KESC demonstrates that private sector ownership in the energy sector has efficiency gains

71. The privatization of KESC demonstrates that private sector ownership in the energy sector has benefits in terms of efficiency gains. System losses are declining significantly, and KESC's financial performance has improved substantially since privatization, such that it is now self-financing since first turning a profit in 2012. This accomplishment is remarkable considering the environment in which it operates includes a constrained availability of fuel for its thermal power plants and an unfavorable security and law and order situation. Nevertheless, the lesson is that unbundling alone is not sufficient and that subsequent privatization is needed so that improvements in the operational efficiency of the power sector can be realized.

72. **Electricity subsidies and regulation.** Subsidization of electricity is a drain on budgetary resources and not sustainable in the longer term when an economy is growing and tax revenues are stagnant. Under the ESRP, electricity subsidies were expected to be eliminated with the establishment of NEPRA, and the tariff was expected to reflect and recover the full cost of production. However, the government continues to subsidize electricity, primarily to domestic and agricultural customers. The process by which subsidies are determined in Pakistan also undermines the credibility of NEPRA and its efforts to create a competitive environment in the energy sector. Electricity subsidization is a politically sensitive issue that will not be easily resolved without strong measures by ADB. In retrospect, the ESRP should have included the elimination of subsidies or, at least, reduction and careful targeting of them in the policy matrix as a condition for tranche release.

ADB should stay engaged with the government to enable follow-up of unfulfilled commitments and covenants

73. **Staying engaged.** The ESRP comprised three loans. The largest (Loan 1807) was for \$300 million and was designed as a three tranche plus incentive tranche program loan. The other two loans were a \$50 million Asian Development Fund loan (Loan 1808) and a \$5 million TA loan (Loan 1809). The government availed of the first and incentive tranches of Loan 1807 for \$150 million as well as the \$50 million Asian Development Fund loan when it complied with the first tranche loan conditions. The second and third tranches of Loan 1807 and Loan 1809, totaling \$155 million, were declined by the government in 2003, when overall economic conditions improved.²⁵ The cancellation of the balance of Loan 1807 meant that ADB no longer had leverage to ensure compliance with second and third tranche conditions, particularly the requirement that the unbundled WAPDA entities be privatized. The lesson here is that ADB should stay engaged with the government to enable follow-up of unfulfilled commitments and covenants as a condition for subsequent assistance in the energy sector. ADB also has a long history of being a major development partner in the energy sector in Pakistan and will continue to be so. Coordination among development partners and the government, particularly in the energy sector, is also strong, as evidenced by the joint preparation of an integrated energy sector recovery plan in 2010.²⁶ ADB therefore has the opportunity to engage the government in policy dialogue with respect to several critical issues and to formulate an updated plan of action with other development partners on how to best help resolve the current crisis in the energy sector.

74. **Cross-indebtedness.** Cross-indebtedness has been an energy sector issue since the 1980s. Although the ESRP provided the government the means to eliminate cross-indebtedness by financing the arrears out of the budget, the respite provided by the

²⁵ The PCR noted that Pakistan's balance of payments in 2003 improved considerably with support from the United States, and the government, in its letter to ADB dated 12 December 2003, decided to repay some of its costliest external debt, including Loan 1807.

²⁶ Friends of Democratic Pakistan Energy Sector Task Force. 2010. *Integrated Energy Sector Recovery Report and Plan*.

ESRP was temporary, and cross-indebtedness became a major issue again shortly thereafter, reaching unprecedented levels of about PR\$503 billion by mid-2013. The lesson is that paying down arrears of others creates a moral hazard and encourages some energy consumers to not pay their bills because of the knowledge that the government will eventually pay when the situation became untenable. The payment of arrears needs to be accompanied by a campaign of disconnecting delinquent customers and prosecuting those who steal electricity. The establishment of the Anti-Electricity, Gas and Oil Theft Unit in July 2013 under the Federal Investigation Agency of the Ministry of Interior is a first step in addressing electricity theft and cross-indebtedness. The government, however, also needs to consider providing security to those enforcing the rules.

*Paying down
arrears of others
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Appendix

APPENDIX 1: RATING MATRIX FOR CORE EVALUATION CRITERIA

Table A1.1: Rating Matrix for Core Evaluation Criteria

Ratings	PCR	Validation	PPER	Reasons for disagreement/ comments
Relevance	Highly Relevant	Relevant	Relevant	
Effectiveness in Achieving Outcomes	Effective	Effective	Less than effective	The ESRP failed to achieve significant improvement in the overall performance of the energy sector, and some of the expected outcomes were not achieved.
Efficiency in Achieving Outcomes and Outputs	Efficient	Efficient	Efficient	
Preliminary Assessment of Sustainability/ Sustainability	Likely	Likely	Unlikely	Some key outcomes achieved under the ESRP did not endure over time.
Overall Assessment	Successful	Successful	Less than successful	On account of the less than effective and unlikely sustainability ratings, overall assessment is rated less than successful.
Institutional Development	Promoted institutional development across the energy sector	Not rated	Moderate	
Impact	Positive	Substantial	Moderate	While the population benefited from the economic turnaround due to greater employment and higher incomes, the turnaround was brief. The absence of a sustained reform effort also did not improve the operation of the energy sector. Evidence of impact at the time of completion and validation were not yet apparent.
ADB Performance	Fully satisfactory	Satisfactory	Satisfactory	
Borrower Performance	Satisfactory	Satisfactory	Less than satisfactory	The borrower failed to sustain and implement the reforms stipulated in the ESRP.
Quality of the PCR	Not rated	Satisfactory	Satisfactory	

ESRP = Energy Sector Restructuring Program, PCR = program completion report, PPER = program performance evaluation report.
 Source: ADB. 2007. *Program Completion Report: Energy Sector Restructuring Program*. Manila. ADB. 2009. *Validation Report. Pakistan: Energy Sector Restructuring Program*. Manila.

Table A1.2: Core Evaluation Criteria Rating Values

Rating	Relevance	Effectiveness	Efficiency	Sustainability
3	Highly relevant	Highly effective	Highly efficient	Most likely
2	Relevant	Effective	Efficient	Likely
1	Less than relevant	Less than effective	Less than efficient	Less than likely
0	Irrelevant	Ineffective	Inefficient	Unlikely

Source: Independent Evaluation Department. 2006. *Guidelines for Preparing Performance evaluation Reports for Public Sector Operations* (as amended 25 March 2013). Manila.