Japanese ODA Loan

Ex-ante Evaluation

1. Name of the Program

Country: The Islamic Republic of Pakistan
Project: Energy Sector Reform Program
Loan Agreement Signed: June 4, 2014
Loan Amount: 5,000 million yen
Borrower: The President of the Islamic Republic of Pakistan

2. Background to and Necessity of the Program

(1) Current State and Issues of the Energy Sector in Pakistan

Pakistan's real economic growth rate has been low in recent years: 3.7% in fiscal 2010/11, 4.4% in fiscal 2011/12, and 3.6% in fiscal 2012/13.

Pakistan's tax income remains at a low level (approximately 10.0% of the GDP) and revenue in fiscal 2012/13 was also low (approximately 13.0% of the GDP). Meanwhile, as a result of large interest payments, defense spending and government subsidies, Pakistan's annual expenditures exceed its revenue, leading to a financial deficit of approximately 8.0% of the GDP in fiscal 2012/13, even larger than the fiscal 2009/10 deficit of 6.2%. In particular, subsidies to the energy sector account for approximately 1.8% of the GDP, causing considerable financial stress.

In terms of the current balance of payments, Pakistan's budget deficit decreased in fiscal 2012/13 compared to the previous year thanks to workers' steady remittances and the restart of Coalition Support Fund from the United States. However, the international balance of payments deteriorated due to factors such as foreign currency outflow resulting from oil imports and foreign debt payments, including payments for the previous International Monetary Fund (IMF) program that started in February 2013. As a result, foreign currency reserves fell to 1.5 months of imports as of the end of June 2013.

Against this backdrop of financial stress and deterioration in the international balance of payments, the Pakistani government requested the IMF's support to avoid a financial crisis resulting from further deterioration. In September 2013, the IMF decided to offer an Extended Fund Facility of 6.6 billion dollars for a period of three years. Meanwhile, the Pakistani government's financial gaps for the three years from fiscal 2013/14 to fiscal 2015/16 are predicted to be approximately 3.3 billion dollars, 4.5 billion dollars and 4.7 billion dollars, respectively. Even with the IMF program's financial support, there will still be financial gaps of approximately 1.1 billion dollars, 2.3 billion dollars and 2.4 million dollars for these three years. In response, the Pakistani government requested additional financial support for its Energy Sector Reform Program from the World Bank, the Asian Development Bank (ADB) and JICA.

The largest problem of Pakistan's energy sector is the gap between supply and demand. Compared to the peak demand of 20,058 MW in 2012, the operating capacity of power

generation facilities in Pakistan was only 13,733 MW (total power generating capacity: 23,578 MW), resulting in a shortage of approximately 31.5% of the demand. Due to supply-demand gaps such as this, power outages occur frequently—as long as 12 hours per day in urban areas and 18 to 20 hours per day in rural areas. The IMF estimates that these power shortages reduce Pakistan's GDP by approximately 2%. The most important factor leading to serious power shortages in Pakistan is a structural problem with the energy sector known as "circular debt." Circular debt refers to a state in which, due to a number of factors, including holding the electricity tariffs artificially low for political reasons, the low payment collection rate and power transmission and distribution losses, electric power companies cannot earn sufficient income to cover their costs. As a result, power distribution companies owe debts to power transmission companies; power transmission companies owe debts to power generation companies; and power generation companies owe debts to fuel supply companies. Electricity generated by (imported) petroleum accounts for 30% or more of power generated in Pakistan. Due to circular debt, power generation companies are unable to obtain sufficient amounts of fuel, including petroleum, leading to a low operating rate for power generation facilities, which in turn results in the above supply-demand gap. In addition, the low efficiency of outdated power generation facilities and inefficient management of electric power companies have also been identified as factors that increase the scale of circular debt.

In order to politically hold down the electricity tariffs to the level determined by the National Electric Power Regulatory Authority, the Pakistani government provides subsidies for electricity tariffs. The total amount of such subsidies over the past four years is estimated to total more than 1 trillion rupees. In addition, there are also delays and failures to pay the subsidies due to the aforementioned budget shortages, which result in further decreases in power generated and increases in the supply-demand gap, thereby magnifying the negative effects of power outages on the economy. Therefore, in order to improve its financial status and to achieve economic growth, the Pakistani government urgently needs to reduce the amount of subsidies to the energy sector and to eliminate the power supply-demand gap.

(2) Development Policies for the Energy Sector in Pakistan and the Priority of the Program

This program is based on a policy matrix formulated by the Pakistani government to reform the energy sector in accordance with the National Power Policy 2013 issued in July 2013. As such, this program supports the Pakistani government's implementation of the reform program.

(3) Japan and JICA's Policy and Operations in Pakistan's Energy Sector

In Japan's Country Assistance Policies for Pakistan (April 2012), the Japanese government adopted a basic policy of developing a stable, sustainable social system in Pakistan through economic growth and defined improvement and development of economic infrastructure (transportation and energy) as one development goal with respect to the improvement of the economic basis, which is among the high-priority areas of assistance strategy. Therefore, this program is consistent with such policy. At present, JICA is implementing three Japanese ODA

loan projects for Pakistan's energy sector aiming to expand the power transmission network as well as the Project for Improvement of Training Capacity on Grid System Operation and Maintenance, a technical cooperation project for improving maintenance training skills of power transmission companies. In the near future, JICA plans to conduct a preparatory survey for the Project for Strengthening of Training Center on Grid System Operation and Maintenance. JICA also plans to implement the Industrial Sector Energy Management Project to provide energy conservation training at the factory level as part of the Industry and Investment Environment Development Program.

(4) Other Donors' Activity

The World Bank decided to provide support to the First Power Sector Reform Development Policy Credit for a period of two years (total amount of loan undecided; 600 million dollars for the first year) as well as to provide financial support to create an investment environment in Pakistan in May 2014. The ADB has organized two loans for the Sustainable Energy Sector Reform Program and the program for state-run company reform. The ADB plans to provide a total of 1.2 billion dollars to support the Sustainable Energy Sector Reform Program over five years; in April 2014, they decided to provide support in the amount of 400 million dollars for the first year of the program. In addition, the United Kingdom's Department for International Development (DFID) is currently considering provision of financial support in the amount of 300 million pounds (approximately 450 million dollars) over a period of three years.

(5) Necessity of the Program

This program aims to support the energy sector reform being implemented by the Pakistani government with co-financing by the World Bank and the ADB in order to resolve the energy sector's structural issues, which are one factor behind the deterioration of the financial status and international balance of payments of the Pakistani government. This program is necessary to improve the government's financial status as well as to ensure a sustainable, stable electricity supply. This program aims to provide direct financial support to compensate for budget shortages while energy sector reform plans are being implemented.

3. Outline of the Program

(1) Objective

This program aims to support the reform of the energy sector with co-financing by the World Bank and the ADB as well as to improve Pakistan's financial status and its international balance of payments for the following purposes: (1) to establish appropriate electricity tariffs and to reduce the amount of subsidies; (2) to reduce power generation costs; and (3) to improve accountability and transparency in the energy sector. The final goals of the program are to ensure a sustainable, stable power supply as well as to contribute to improving Pakistan's financial status and its international balance of payments.

(2) Project Site / Target Area: All regions of Pakistan

(3) Program Components

This program is implemented based on a policy matrix developed by the World Bank, the ADB and JICA that summarizes five-year action plans to reform the energy sector. The matrix is composed of the following three pillars and 10 reform goals. Disbursements from the three donors shall be made after the policy actions for the first year have been accomplished.

Pillars of reform	Reform plan goals
Policy area A: Managing and Tariff & Subsidy	(1) Adoption of clear policies on tariffs and subsidies to target low income consumers; ensuring policy implementation through National Electric Power Regulatory Authority rules and regulations; and reduction of discretionary policy decisions and lag in tariff approval and implementation.
Policy area B: Improving Sector Performance and Opening the Market to Private Participation	(2) Loss reduction and improving collection in distribution companies (3) Improving demand side efficiency and strengthening energy conservation (4) Managing generation cost through Least Cost Planning (LCP), and ensuring new-generation entrants follows the LCP (LCP includes development of high-efficiency coal-fired thermal power generation facilities) (5) Increasing gas supply and opening the gas market to direct contracting sales to large gas consumers (6) Commercialization and improving performance of public companies in the power sector (7) Commercial Operation of Central Power Purchasing Agency as an independent agency to buy power on behalf of distribution companies, and implementation of a multiple buyers' market by allowing generators to contract sales directly with large consumers
Policy area C: Accountability and Transparency	(8) Increasing access to information in the energy sector (9) Strengthening National Electric Power Regulatory Authority (10) Monitoring and Surveillance

(4) Total Project Cost

Loan amount: 5,000 million yen

(Co-financed loans: 600 million dollars from the World Bank; 400 million dollars from the ADB)

(5) Schedule

The period targeted for the policy actions for this program is from September 2013 to March 2014. The program will be completed on the day the disbursement of the loan is completed (scheduled for June 2014).

(6) Program Implementation Structure

1) Borrower: The President of the Islamic Republic of Pakistan
2) Executing agency: Ministry of Finance, Revenue, Economic Affairs, Statistics and Privatization
3) Operation and maintenance system

The executing agency for this program is the Ministry of Finance, Revenue, Economic Affairs, Statistics and Privatization, which has assumed responsibility for monitoring the entire program. The Ministry of Water and Power and the Ministry of Petroleum and Natural Resources, which will implement individual policy actions, will establish a Program Monitoring Unit (PMU) to monitor the progress of reform plans and to compile a report for each quarter to be submitted to the Economic Coordination Commission chaired by the Prime Minister. Members of the PMU include an adviser who shall provide comments and advice regarding the quarterly reports. Reports prepared by the PMU as well as the comments and advice of the adviser shall generally be released to the public.

(7) Environmental and Social Considerations, Poverty Reduction and Social Development

1) Environmental and social considerations

(i) Category: B

(ii) Reason for the categorization: Based on JICA's Guidelines for Environmental and Social Considerations (issued in April 2010), this program is not expected to have serious adverse effects on the environment in light of sector, project and region characteristics.

(iii) Environmental permits: Submission of environmental impact assessment (EIA) reports is not required for this program under Pakistan's legal system.

(iv) Anti-pollution measures and (v) Natural environment: Measures such as mitigation for climate change will be considered when preparing the least cost generation development plan; compliance with the obligations stipulated in Pakistan's domestic laws will be monitored regarding policy actions that increase gas production.

(vi) Social environment: At present, no particular impacts on the social environment are predicted.

(vii) Other/Monitoring: Implementation of the mitigation measures based on environmental and social considerations for individual policy actions will be monitored on a quarterly basis.

2) Promotion of poverty reduction: This program includes implementation of a subsidy policy for electricity tariffs that favors low-income families. Therefore, the program will contribute to reducing poverty.

3) Promotion of social development (gender perspective, prevention of AIDS and other infections, participatory development, consideration for the disabled, etc.): None in particular

(8) Other Schemes and Collaboration with Other Donors

This program is being co-financed by JICA, the World Bank and the ADB. In order to check the implementation of policy actions defined in the policy matrix, collaboration is planned with the other donors to conduct joint monitoring for each quarter, along with a review of the IMF program. Also, work with the World Bank and the ADB is planned to provide technical support

so as to promote the achievement of policy actions following this program. Based on the Country Assistance Policies for Pakistan, JICA plans to provide technical cooperation to prepare the least cost planning (reform plan goal (4)) and to promote energy conservation (reform plan goal (3)) as well as provide support for the PMU.

(9) Other Important Issues: This program will help reduce power distribution losses and is likely to contribute to mitigating climate change.

4. Targeted Outcomes

(1) Quantitative Effects

1) Evaluation indicators (operation and effect indicators): Policy actions are timed to produce their effects three years after program implementation. Accordingly, program goals shall also be achieved within three years of program completion, and the ex post evaluation of the program shall be carried out three years after program implementation.

Indicator	Baseline (2013 results)	2017 Target (3 years after program completion)
Energy sector subsidies (ratio to the GDP) (%)	1.8	0.3–0.4
Power transmission and distribution loss rate (%)	21.9	17.9
Power distribution companies' electricity tariffs collection rate (%)	86	94
No. of notification of energy efficiency standards	-	5

2) Internal rate of return: Not calculated

(2) Qualitative effects: This program supports implementing a variety of energy sector reform promoted by the Pakistani government as well as enhancing the government's financial status and stimulating economic activity.

5. External Factors and Risk Control

This program complements the energy sector reform currently being implemented in the IMF program. Therefore, smooth implementation of the IMF program is essential for this program.

6. Lessons Learned from Past Projects

(1) Evaluation of Similar Projects: In the past, evaluation results of individual projects in Pakistan's energy sector have indicated that politically based determination of electricity tariffs and high power distribution losses, including theft of electricity, contribute to the deterioration of the profitability of state-run companies in Pakistan. These results demonstrate a need to reform the energy sector. The results of the ex post evaluation of the Power Sector Restructuring Program in Sri Lanka revealed that the Electricity Reform Act, which was to break up the Electric Power Agency as a major policy action to implement the second tranche, could not be enacted due to the strong opposition of the labor union, which prevented implementation of the reform program.

Therefore, it is essential to confirm at the policy matrix development stage that there is a well-defined reform plan. In the ex post evaluation of the Energy Sector Restructuring Program for Pakistan, approved by the ADB in 2000, it was pointed out that in order to implement the program smoothly and effectively, it was important to work in close collaboration with the IMF and World Bank not only to develop a joint monitoring system and to formulate detailed policy actions before approving the program by using approval as leverage, but also to confirm achievement of program goals.

(2) Lessons Learned for This Program: In this program, to avoid obstruction of project implementation as occurred in Sri Lanka, a policy matrix has been created based on the Pakistani government's National Power Policy 2013 and the policy matrix has been formulated by the government itself in accordance with national policy. The program plan is therefore a fully Pakistani government-based initiative. In addition, to minimize the risk of stakeholder opposition, such as occurred in Sri Lanka with the labor union, the World Bank plans to analyze the effects of the revision of electric tariffs and subsidies on general households and to provide technical support to the Pakistani government regarding how to communicate to all stakeholders involved in the energy sector reform to encourage understanding. Also, this program complements the IMF's energy sector reform plans, and the conducting of joint monitoring is planned to progress in energy sector reform alongside IMF's quarterly reviews. In addition, based on the lessons learned from the previously mentioned ADB ex post evaluation, many crucial policy actions have been formulated at the program plan formulation stage and confirm how program goals have been achieved.

7. Plans for Future Evaluation

(1) Indicators for Future Evaluation
   1) Energy sector subsidies (ratio to the GDP) (%)
   2) Power transmission and distribution loss rate (%)
   3) Power distribution companies' electricity tariffs collection rate (%)
   4) Number of notification of energy efficiency standards

(2) Timing of Next Evaluation: Three years after program completion