

# **TECHNICAL COOPERATION OPERATION PERFORMANCE EVALUATION REVIEW (TC OPER)**

## **PREFACE**

The subject of this OPER is the technical cooperation (TC) operation Azerbaijan – Prioritisation of Investment Needs in Power Generation and Transmission, for which funds of US\$ 345,829 have been committed through the United States Trade Development Agency.

The operation leader (OL) of the TC was Laurent Chabrier. The operation team and other relevant Bank staff commented on an early draft.

The evaluation was carried out by Nicolas Mathieu, Senior Economist of the Evaluation Department. Information on the operation was obtained from relevant teams and departments of the Bank and its files as well as from external sector and industry sources. Fieldwork was carried out in September 2007. EvD would like to take this opportunity to thank those who contributed to the production of this report.

### **Post-evaluation selection and process**

Selection of an operation for post-evaluation by EvD uses the following criteria:

- relevance to the Bank's likely future operations
- lessons-learned potential
- size of the Bank's investment commitment/exposure
- balance among countries of operation
- balance among sectors and types of operations
- relative priority of investment operation OPERs within EvD's overall work programme priorities and resources.

The Bank's post-evaluation process is described in Chapter 8 of the Operations Manual. The responsible OL first writes a TC project completion report (PCR). The PCR report serves a self-evaluation function and establishes the basic facts and lessons from the operation's implementation outcome and future prospects. EvD's independent evaluation follows, using the PCR as one of several inputs.

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## **ABBREVIATIONS**

<b>AzDRES</b>	Azerbaijan Dövlət Rayon Stansiyası (power plant)
<b>AZM</b>	Azeri Manat
<b>BTC</b>	Baku-Tbilisi-Ceyhan (pipeline)
<b>CCGT</b>	Combined cycle gas turbine
<b>DisCo</b>	Distribution company
<b>EAP</b>	Environmental Action Plan
<b>EvD</b>	Evaluation Department
<b>GoA</b>	Government of Azerbaijan
<b>HPP</b>	Hydropower plant
<b>IFRS</b>	International Financial Reporting Standards
<b>IMF</b>	International Monetary Fund
<b>IPP</b>	Independent power plants
<b>IRR</b>	Internal rate of return
<b>kV</b>	Kilovolt
<b>kWh</b>	Kilowatt hour
<b>MED</b>	Ministry of Economic Development
<b>MIE</b>	Ministry of Industry and Energy
<b>MW</b>	Megawatt
<b>MWh</b>	Megawatt hour
<b>OPER</b>	Operation performance evaluation review
<b>PIU</b>	Project implementation unit
<b>TC</b>	Technical cooperation
<b>TOR</b>	Terms of reference
<b>TPP</b>	Thermal power plant
<b>USAID</b>	United States Agency for International Development
<b>US\$</b>	United States dollar
<b>USTDA</b>	United States Trade Development Agency
<b>XMR</b>	Expanded monitoring report

## **DEFINED TERMS**

<b>the Bank</b>	European Bank for Reconstruction and Development
<b>the client</b>	Azerenerji
<b>the OPER team</b>	Staff of the Evaluation Department who carried out the post-evaluation
<b>the operation team</b>	The staff in the Banking Department and other respective departments within the Bank responsible for the operation appraisal, negotiation and monitoring, including the PCR.
<b>the project</b>	The purpose of the TC was to assist the government and the state-owned power utility in prioritisation of the sector's investment needs and help prepare the Azgres Power Rehabilitation Project for Bank financing.

## BASIC DATA SHEET

**Operation Code:** 29268  
**Location:** Azerbaijan  
**Operation:** AzDRES Power Plant Rehabilitation  
**Sector:** Electric Power Generation  
**Type:** Technical cooperation  
**Facilitator:** United States Trade Development Agency  
**Bank Unit:** Power and Energy Utilities

### A. Funding

TC commitment		Total amount disbursed (US\$)
Number	Title	
USTD-2002-12-01	Azerbaijan – Prioritisation of Investment Needs in Power Generation and Transmission	345,829

### B. Procurement

	<u>Mode</u>	<u>Sources by country</u>
<b>Consultant services</b>		
<b>TC1</b>	Selection from Shortlist	USA

### C. Visits

<u>Type of Visit</u>	<u>No. of Visits</u>	<u>Person-days</u>
EvD/OPER	1	4

## **1. Introduction**

Over the last 10 years, the power sector in Azerbaijan has been suffering from under-investment and losses of regional interconnection, particularly outside the Baku area. The deterioration of the provision of electricity services has resulted in hardship for many households and disruption to businesses. The sector has also been facing chronic problems of low cash collections, inadequate metering, low tariffs and poor payment discipline by industrial and residential consumers.

The EBRD has been involved in Azerbaijan's power sector since 1995 through the financing of two hydropower plants: Yenikend and Mingechaur, which were completed in 2001 and 2002 respectively. Regarding the policy framework, a World Bank sector study completed in November 2001 provided a solid basis for new government policy measures towards further restructuring and developing the sector.

The government of Azerbaijan (GoA) has been in the process of restructuring the publicly owned power utilities company, Azerenerji, with the purpose of reinstating financial viability and improving efficiency. In March 2002, the President of Azerbaijan signed an important decree on measures to strengthen financial discipline in the sector.

The decree approved a comprehensive reform programme in the context of the latest International Monetary Fund (IMF) agreement, based on input and continued insistence on such reforms from the World Bank and the EBRD over the years. The GoA introduced a new Tariff Council in 2005, responsible for tariff setting and regulation. In December 2006 the Tariff Council effectuated a tariff increase of nearly 200 per cent.

## **2. TC project rationale**

The most immediate problem has been the lack of constant and secure supply of electricity to consumers. The proposed TC was to provide much required assistance to the GoA to prioritise investment needs of the sector. It was also to assist both the Bank and Azerenerji to prepare a least-cost project that would increase power supply and efficiency of the system.

Less immediate, but equally as important for the sustainability of the supply of electricity, was the need for economic and financial reforms at the sector level. The GoA could not develop the supply of electricity without measures to restructure the power sector in order to improve its efficiency and create favourable conditions that would attract private investment into the sector

The proposed TC and the related sector policy reforms were closely in line with the 2003 Azerbaijan country strategy. The strategy had noted that the substantial degradation of Azerbaijan's infrastructure was a major obstacle to private sector development. At the same time utilities had accumulated substantial debts and were unable to undertake necessary investments for the maintenance and modernisation of their facilities.

Against this background, supporting the government in implementing its energy sector reform programme through selected investments and technical assistance operations was an operational priority for the EBRD in the power sector. The 2000 Energy Operations Policy recognised the importance of a policy dialogue to set the proper conditions for these investments to remain viable in advocating "tariffs that cover the long run cost of supply and erode cross subsidies" and

“minimisation of atmospheric emissions and effluent, by switching to less polluting fuels and efficiency measures”.

### **3. Achievement of objectives**

#### **3.1 Objectives**

The purpose of this TC was to assist the GoA and the state-owned power utility in the prioritisation of the sector’s investment needs and to identify a potential scope for an EBRD project. Through the use of conditions attached to this related investment project, further sector reforms, institution building and transition impact were to be achieved. The beneficiaries of the TC were to be the GoA, the state-owned utility, the power sector and, more broadly, the entire economy. The client was nominally the Ministry of Economic Development (MED), assisted by Azerenerji.

The TC was to provide, among other things:

- alternative demand-load (total power required) forecast scenarios in the context of gas market development
- a least-cost generation and transmission expansion plan based on input from other experts
- priorities for improving the power system reliability and, in particular, for improving the availability of the Azerbaijan Dövlət Rayon Stansiyası (AzDRES) power station
- a detailed transmission reinforcement plan to meet sector demand
- a review of the proposed options for further investment in the hydro sector indicating the scope for better hydraulic management of the Kura river reservoirs
- an estimate of the scope for increasing thermal-generating capacity, production and reliability of the existing and proposed new combined cycle gas turbine (CCGT) plants.

The above tasks required specialists with experience in project management, economics, electrical systems planning, hydro-mechanics and thermal power plant engineering.

The following was agreed with the operation team: The United States Trade Development Agency (USTDA) was to provide funding of US\$ 355,000. The MED and Azerenerji were to be the main counterparts in this TC project. They were to provide office space and other basic facilities for the consultants during their stay in Baku as well as the necessary logistical assistance for the site visits that would be required to carry out the assignment. As beneficiary of the services and contracting party, the client should select the consultant. However, the Bank team clarified that, given the shortage of skills to handle this complex case of sector rehabilitation and restructuring *at sector level*, it wished to carry out the selection process on behalf of the client.

The consultants were to report to Azerenerji and the MED through a steering committee that was to be established in accordance with the terms of reference (TOR). The MED and Azerenerji were to closely monitor the progress of the assignment through deliverables at each stage of the assignment in accordance with the TOR. In addition to the deliverables described under each phase, the consultant had to prepare and submit reports regularly throughout the project, including an inception report, progress report, steering committee report and completion report, as detailed in the TOR.

The MED was committed to offer support to the consultant as set out below. The MED should:

- provide copies of all relevant previous technical assistance project reports (these will be in

English wherever possible)

- ensure prompt access to all relevant data necessary for the consultant to undertake his or her work efficiently (data requests should be prepared in Azeri/Russian and responses will be provided in Azeri/Russian, the consultant should make provision for translation requirements)
- appoint steering committee (to be chaired by the MED) to oversee the work of the consultant, to deal with major issues within the competency of the MED as they arise and to receive the regular progress reports. In the proposal, potential consultants should indicate the names of up to three senior members of the project team who would join the steering committee. The steering committee would also include representatives of Azerenerji and the MED
- appoint a coordinator that would act as the first point of contact for the consultant and ensure that the MED provides the ongoing support and feedback required for the efficient execution of the transactions.

During contract negotiations, the two parties and the Bank reviewed the reporting requirements and deliverables in the TOR in order to reach agreement on payment terms. As a result, all parties agreed that the consultant would submit an interim report within four weeks after the approval of the inception report. Another change that was agreed by all parties was the submission of the inception report within four weeks upon mobilisation (rather than within one week as originally envisaged).

This was deemed necessary as it was recognised that identifying all the possible issues that will affect project implementation and tailoring the TOR according to the findings of the inception visit would require longer than one week. The final change was the planned completion date of the assignment. This was initially shifted from March to May 2003 and was postponed for another six months due to the delays explained above.

#### *Timing and budget*

The MED aimed to complete the TC at the earliest possible date, preferably by year-end. It was acknowledged, however, that the assignment may take between four to six months to complete, following a three-month process to finalise the consultant selection and contracting. The allocated budget, on the other hand, should have been sufficient to hire qualified consultants.

#### *Additional TC support*

This has been sought for providing

- technical expertise to the client for implementing health and safety improvements
- technical support for adopting regulatory best practice in the newly formed Tariff Council for utility tariff regulation (funding to be sought from the Early Transition Countries (ETC) Fund)
- consultancy and validation services to prepare the project as a Clean Development Mechanism (CDM) project, funded by the ETC fund through the CDM Project Support Facility.<sup>1</sup>

### **3.2 Achievement of objectives**

#### *Funding and eligibility*

Following funding requests to various donors, the USTDA was the only institution that provided funding for this assignment. As this was in the form of a tied grant, only US companies were eligible to participate in the tender. The TC budget approved in 2002 was for US\$ 345,829,

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<sup>1</sup> See <http://cdm.unfccc.int> for further information on the Kyoto Protocol's CDM arrangement.

which was fully disbursed in February 2006.

**Table 1: The USTDA grant**

Total commitment amount	US\$ 345,829
Total amount disbursed	US\$ 345,829
Date of internal approval	7 Aug 2002
Date of funding approval	11 Dec 2002
Contract start date	20 Dec 2002
Original contract end date	16 May 2003
Actual contract end date	28 Feb 2006

*The consultant*

The contract between the consultant and the client (Azerenerji) was signed in early January 2003 following final contract negotiations in mid-December. An inception visit to Azerbaijan by a team of consultants took place in January 2003. As predicted at the start of the assignment, data collection presented serious difficulties for the timely implementation of the assignment (since this was the first time such a comprehensive review of the power sector was taking place).

In addition, the consultants on their part caused delays as they were reluctant to travel due to the war in Iraq despite many other consulting firms continuing their activities in Azerbaijan as normal. Finally, there were disagreements among the consultants and the client with regard to the conclusions of the draft final report. As a result, the completion of the report was delayed considerably. The final report was completed and submitted to the Bank and the client in December 2003.

*Reception and diffusion of the report*

Azerenerji openly expressed clear dissatisfaction with the consultant report. When asked to comment on the draft TOR, Azerenerji insisted on a thorough analysis of the Mingechar thermal power plant (TPP) and clearly stated that it was not interested in the sector review. The consultants on the other hand insisted on the full relevance of sector overview prior to any investment project appraisal. In the end Azerenerji reluctantly agreed to help prepare a sector report, mainly to avoid antagonising the consultants and, subsequently, the EBRD.

Unfortunately, Azerenerji found the content of the final version of the consultant report disappointing. The sector analysis was, in its view, superficial, especially the references to the Mingechar TPP, which were of principal interest to the client. Furthermore, the report displayed only lists of objectives with little strategic content. No explanations were given on how to reach these goals and available alternatives. In sum, the report, which was delivered with a six-month delay, brought no added value despite a significant use of time and material resources from Azerenerji.

The above-mentioned assessment from Azerenerji appears quite harsh to the evaluation team. Compared to other evaluations for infrastructure projects financed by the EBRD that the evaluation team has reviewed, this report does not appear to be any better or worse, either in terms of quality or quantity. Therefore, the evaluation team does not concur with Azerenerji's conclusion that the consultants did poor work.

The Bank staff were also satisfied with the content of the report. It seems that the client's discontent mainly stems from differing expectations as to the report's agenda. Further

observations regarding the client's dissatisfaction can be found in the "Bank handling" section of this evaluation report.

The consultant report was expected to create a consensus view among the main stakeholders in the power generation sector. However, the report was not sufficiently diffused among stakeholders. Azerenerji practically ignored it, and the MED never received it. Several international institutions that support the energy sector in Azerbaijan, such as the European Union (EU), the Asian Development Bank (ADB) and even the donor institution United States Agency for International Development (USAID), have no recollection of ever receiving the report.<sup>2</sup> Paradoxically, the 2004 World Bank report on Azerbaijan energy sector reforms and the more recent 2007 ADB report on renewable energy projects do make references to the EBRD report.<sup>3</sup>

The references, however, are either too general (ADB), or, where they become specific (World Bank), they focus on capacity requirements to meet increases in electricity demand rather than investment project priorities for restructuring and expansion. This very limited diffusion of the content of the EBRD report considerably reduced the potential impact that it could have on the design and implementation of a common power strategy.

In sum, while the Bank staff and the evaluation team view the consultant report as satisfactory and useful, the client was *not* satisfied.<sup>4</sup> The implementation process carried out by the Bank did *not* conform to participatory expectations set out at the beginning of the TC operation and the diffusion of the report was inadequate. Therefore, the initial TC objectives are being rated "Partly Achieved".

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<sup>2</sup> This lack of recollection could be due in part to the recent turnover of staff responsible for energy sector studies and operations in the Baku resident offices of the above-mentioned international organisations. It did not appear to the evaluation mission that the "institutional memory" was particularly present in this area.

<sup>3</sup> See "Azerbaijan – Issues and options associated with energy sector reform", World Bank, March 2005 and "Azerbaijan: Renewable Energy Development Project", Draft Final Report, Entec Consulting & Engineering, ADB TA 4726-AZE, November 2007.

<sup>4</sup> In the following appraisal mission of January 2004, EBRD staff visited all the plants that were identified for priority restructuring by the consultant report and, on that basis, selected the rehabilitation of AzDRES.

### *Follow-on investment*

Although AzDRES TPP is among the newest and most efficient in Azerbaijan, it lost around 20 per cent of its capacity and 14 per cent of its efficiency due to insufficient funding of maintenance and repair (with the exception of unit 5 whose modernisation has recently been completed, under Azerenerji's own financing and supervision).<sup>5</sup> The modernisation of AzDRES TPP was confirmed in the "Republic of Azerbaijan: Prioritization of Investment Needs for Power Generation and Transmission" report as the main priority for the power sector and a least-cost solution.

In June 2006 the Board approved a US\$ 115 million, 15-year sovereign guaranteed senior loan to Azerenerji for the upgrade of the major generation station and associated transmission facilities with the aim to improve power system reliability and efficiency.<sup>6</sup> The loan proceeds were to finance:

- the upgrade of the units 1 to 8 of the 2400 megawatt (MW) AzDRES thermal power station in Mingechaur, which accounts for around 50 per cent of total generating capacity of Azerbaijan
- the modernisation of the associated transmission networks.

The Board approved an extension of the AzDRES power plant loan in September 2007. The loan increase of up to US\$ 92 million brought the total EBRD loan for this project to US\$ 207 million.<sup>7</sup> In addition, the World Bank signed its project (US\$ 50 million) in 2005 for the upgrade of the main substation in the country.

### *Follow-on TC*

Additional TC support has been sought for providing

- technical expertise to the client for implementing health and safety improvements<sup>8</sup>
- technical support for adopting regulatory best practice in the newly formed Tariff Council for utility tariff regulation (funding to be sought from the ETC Fund)<sup>9</sup>
- consultancy and validation services to prepare the project as a CDM project, funded by the ETC Fund through the CDM Project Support Facility
- accounting expertise to enable the borrower to implement improved financial reporting and

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<sup>5</sup> AzDRES TPP is the country's largest thermal power plant. It consists of eight dual-fuel, gas and heavy fuel oil (HFO or mazut) units of 300 MW each with a total nameplate capacity (maximum rated output under conditions designated by the manufacturer) of 2,400 MW. The plant was constructed from 1981 to 1990.

<sup>6</sup> More precisely, the goals of the project were to: (i) increase sector capacity to satisfy demand growth; (ii) restore the plant efficiency to design capacity and thereby improve environmental performance and reduce operating losses and costs, particularly fuel costs; (iii) improve stability and reliability of generation and transmission of electricity; (iv) reduce carbon emissions; (v) implement urgent safety measures; and (v) improve health and safety on site.

<sup>7</sup> The increased loan amount corresponds to an increase in total projects costs and is the result of an open tender conducted in full compliance with the Bank's Procurement Policies and Rules. The differential between the original estimate and the actual cost is accounted for by (i) certain justifiable changes to the scope of tendered works; (ii) significant increase in market prices for power generation equipment and services; and (iii) depreciation of the US dollar.

<sup>8</sup> USAID funded an international consultant to help Azerenerji prepare the project's detailed design and technical specifications. A comprehensive set of measures was identified in the "AzDRES TPP Investment Requirement and Rehabilitation" report prepared in 2004. The measures that are identical for all seven units (unit 5 being subject to a separate modernisation programme as noted above) consist of (i) the upgrade of the turbine equipment to restore its initial efficiency and modernise its command and control system; (ii) the upgrade of the boilers to improve their efficiency and reduce the heat losses; (iii) the repair of one of the chimneys; (iv) the repair of the water cooling system; and (v) the implementation of environmental and health and safety measures.

<sup>9</sup> This assignment is now achieved.

comply with International Financial Reporting Standards (IFRS).

In addition, the Bank has obtained €500,000 from the ETC Fund to assist the GoA to develop a strategy for independent power plant (IPP) projects to attract private investment into the power sector of Azerbaijan.<sup>10</sup>

#### 4. Overall assessment

The Azeri energy sector has historically been plagued by low collections, below-cost tariffs, deteriorating infrastructure, and high-energy losses. In light of the situation, investments in the sector were identified and prioritised in the least cost plan study funded by USTDA (the “Prioritisation of Investment Needs for Power Generation and Transmission”) that was prepared by an international consultant with the Bank’s support.

The consultant selection process for the study was concluded in 2003, including contract negotiations and successfully signing the contract. The assignment itself was also completed successfully although there was a major delay in completion. While the client practically ignored the report, the results of the study did help the Bank to proceed with a follow-on investment as originally planned. The TC assignment was crucial for the Bank to prepare a new investment project. Transition impact was poor at company level but has been significantly enhanced by the associated sector policy reforms. The overall performance of the TC is rated as “Partly Successful”.

#### *Rating Compared with PCR*

The ratings of the OPER are close to the ratings of the PCR (see Table 2). Most of the TC objectives have been “Fully Achieved”. The Bank handling of the TC was “Good” since Bank staff adapted lending and TC approaches to the financial sector condition of Belarus. The overall transition impact, covering both corporate and sector levels, is rated “Satisfactory”.<sup>11</sup> All these positive factors contributed to a successful TC programme.

**Table 2: Summary rating table for TC performance**

PCR (or progress report) rating <sup>i</sup>	EvD evaluation team			
	Achievement of objectives	Transition impact <sup>ii</sup>	Bank handling <sup>iii</sup>	Overall rating <sup>i</sup>
Successful	Partly Achieved	Satisfactory	Satisfactory	Partly Successful

Note:

- (i) Rating key: Highly Successful, Successful, Partly Successful, Unsuccessful. PCR ratings are available for TC1 and TC2. Progress report ratings are available for TC3.
- (ii) Rating key: Excellent, Good, Satisfactory, Marginal, Unsatisfactory, Highly Unsatisfactory.
- (iii) Rating key: Excellent, Good, Satisfactory, Marginal, Unsatisfactory, Negative.

<sup>10</sup> This assignment might be cancelled since the Azeri counterparts may decide to directly finance their own advisers.

<sup>11</sup> It is acknowledged that the “Marginal” to “Satisfactory” performance of the transition impact component at sector level is due to policy and business environment factors beyond the reach of Bank staff and TC programme recipients.

## 5. Transition impact and additionality

### *Impact at corporate level*

#### *A divided sector strategy*

The lack of receptiveness to the consultant report was further amplified by the decision of the presidency to divide the responsibility of restoring and producing new power to several government units.<sup>12</sup> Consequently, the report did not lead to a common strategy on power generation among the main stakeholders. Given the different attributions of each administration unit, there is no central energy power development strategy. Each unit is somewhat competing to promote an agenda closely linked to the domain of its attributions.

- ***Ministry of Industry and Energy (MIE) strategy:*** The MIE had accepted to develop and implement an investment strategy in cooperation with the ADB. Apparently, this did not happen. In 2005 ADB prepared a study called “Energy Road Map”. The study was to pave the way for ADB support for renewable energy projects. The report was completed but after several attempts to negotiate with the MIE, the ADB decided not to pursue this initiative on renewables.
- ***MED strategy:*** Using oil money to restore and develop publicly owned energy capacity is not enough. Tariff increases make room for private investment. Therefore, develop independent power plants (IPPs) in parallel to hydro, wind and other alternative energies. In addition, update projections of energy demand, and finance and implement what is under the state investment programme. For this purpose, set up an inter-ministerial working group and let the private sector compete without advocating the privatisation of Azerenerji.
- ***Azerenerji strategy:*** The Azerenerji vice-president recently declared that there is no need to construct private thermal power stations (IPPs) in Azerbaijan.<sup>13</sup> According to him, investors willing to invest in the private power stations are interested in constructing combined cycle gas turbines working in a 24 hour-mode. However, he feels that this is unprofitable. He also stated that it is more practical to build hydroelectric power stations and wind-produced power stations in Azerbaijan.
- ***Strategy in the consultant report:*** By comparison, the consultant-recommended strategy followed two parallel streams that should provide additional reliable capability in the short and medium term while preserving the integrity of the electricity grid. First, the mid-life rehabilitation of AzDRES TPP, subject to EBRD financing, will be essential for meeting short- and medium-term demand as this plant will continue to represent around 50 per cent of the installed capacity for the next 10 years. It has also been confirmed by the consultant report analysis in conformity with least cost planning. Secondly, the progressive implementation of new capacity in the Baku region based on combined cycle gas turbines will enable Azerenerji to cope with the closure of the least efficient plants and provide the additional capacity needed.

#### *Different estimates of supply demand energy gap*

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<sup>12</sup> The relatively slow response of Azerenerji in dealing with power supply shortages led the presidency to extend the development responsibilities to other public institutions. Azerenerji kept the core of its previous mandate. This comprised the restoration and increase of the capacity of TPPs and large hydro projects as well as directly and indirectly ensuring the adequacy of power transmission. In addition, the MED was to promote private sector investment through IPPs. New investments in small hydro and wind power are to be the initiative of MIE.

<sup>13</sup> Baku, Azerpress, 1 December 2007.

The report helped clarify, among the main counterparts, the exact situation in terms of usable capacity, the long-term requirements, and needs for additional capacity to meet these requirements. The views among stakeholders remain, however, quite different on both, existing usable and future capacity. They also differ from the consultant report. As a result, the MED thinks that a production deficit is likely to remain (see Table 3) while Azerenerji estimates that enough capacity will be refurbished and added to create even a surplus for exports.

**Table 3: Azerbaijan power: current and future power generation capacity (MW)**

	Consultant report		EvD mission meetings			
	Installed	Usable and net addition	Azerenerji		MED	
			Installed	Usable and net additions	Installed	Usable and net additions
<b>TPP and hydro</b>						
<i>Existing capacity</i>						
<i>2007</i>	5,522	4,414	5,500	4,600	4,000	3,500
<i>Net new capacity</i>						
<i>2008-15</i>		2,402		3,281		3,000
<b>Total supply</b>	5,522	6,816	5,500	7,481	4,000	6,500
<b>LT required supply</b>		7,000		7,000		7,000
<b>Demand/supply gap</b>						
<b>Deficit</b>		-184				-500
<b>Surplus for exports</b>				481		

Source: Consultant report and EvD mission estimates

Even on the issue of immediate and urgent TPP refurbishing, Azerenerji's slow start in implementing many items seems to indicate a divergent strategic view in this domain. So far, of the 25 high priority items listed by the consultants three years ago, only 11 are being implemented.<sup>14</sup> Two items are being contracted and on the rest, implementation has yet to start (see details in Appendix 1). This corresponds to the above-mentioned declaration by the vice-president that TPP may not be the ultimate solution to power shortages and that hydropower should be the new priority.

Overall, the multiple attempts to fill the current supply-demand electricity gap do not seem to follow any master plan to prioritise investments optimally, that is, at minimal cost, sector-wide. Although Azerenerji did reject the proposal of an energy master plan by the consultant, it is now experiencing a lack in this area. Paradoxically, it is proposing the establishment of a new master plan.<sup>15</sup> Recently, an inter-ministerial committee has been established under the leadership of the MED. The likelihood that a new master plan will emerge from the works of this committee is

<sup>14</sup> In January 2008, Azerenerji announced the completion of a 300 MW modular power station in Sangachal and a 517 MW combined cycle power plant in Sumgait, both near Baku.

<sup>15</sup> According to Azerenerji, a grant is needed to finance the preparation of the new master plan but a "good" consulting company should be hired. The master plan should include: (a) peak load capacity requirements; (b) supply building strategies to reach peak load; and (c) further detailed strategies for each subsector: TPP, hydropower plants and alternative energies. Detailed sub-projects with expected timing should be listed. The report should carefully consider energy savings and eventually make room for exports. Implications for transmission and retail distribution should be spelled out with great detail, including transmission requirements for exports.

slim, given the divergent and even competitive interest of each constituent.<sup>16</sup> The transition impact at corporate level is rated as “Marginal”.

#### *Impact at sector and economy levels*

The proposed TC dealt exclusively with the economic and technical aspects of electricity supply and transmission to be undertaken at company and sector levels. It was to help ensure a continuous supply of electricity while minimising investment costs at sector level. The restructuring and privatisation of Azerenerji as well as the policy dialogue for regulatory reforms were not part of the TC. But the TC explicitly refers to the latter as a necessary complementary step to achieve its full impact.

It was felt that the support to enhance supply could not be done in a vacuum. It had to be further supported by reforms at sector level. These reforms were to be discussed and agreed during the appraisal and implementation of the associated investment (see previous sub-section on follow-on investment). Therefore, the transition impact of the TC is evaluated here in association with the complementary policy actions, their own implementations and impacts.

#### *The objectives of the policy dialogue*

Transparency, accountability and corporate governance in the energy sector were hampered by government not fulfilling its obligations to compensate the power distribution companies for non-payments by state entities. The result, alongside the non-payments by distribution companies to Azerenerji, was the accumulation, by Azerenerji, of receivables against a significant portion of its revenue. Azerenerji was, in turn, subsidised to finance ongoing operations. This non-payment and subsidy structure, compounded by further subsidy required against below-cost tariffs, did not facilitate transparency and accountability and as such hindered good corporate governance.

While these issues raised urgent needs for policy reforms to be associated with the master plan for new power generation, the EBRD was not in the best position to carry the dialogue since its main interlocutor, Azerenerji, is an implementation agency and not a policy-making body. Azerenerji claimed it did not have enough of a voice among the policy makers in the other ministries and the presidency to guarantee the implementation of a calendar of policy reforms to the EBRD. The EBRD then decided to attune its policy reform conditionalities to the World Bank programme when including them in the Board document for the rehabilitation of the AzDRES power plant. During its mission to Azerbaijan the OPER team then enquired about what sector reforms had been achieved under the World Bank programme.<sup>17</sup> It was especially interested in those that could provide the incentives, on the power supply side, to develop and implement a master plan of the kind that the consultants had recommended.<sup>18</sup> The main reforms achieved in the last three years have been:

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<sup>16</sup> Meanwhile, Azerenerji is taking numerous investment initiatives to restore and develop the capacity of existing power plants, which, when completed in the next few years, will increase the supply of electricity above demand, leaving room for exports. However, Azerenerji development plans appear only loosely coordinated with the MED IPP investments.

<sup>17</sup> The World Bank is supporting the power sector through the implementation of a 2005 power transmission project to Azerenerji and a related development policy letter. After delays due to procurement issues, the contracts for the installation of new equipment are now signed and the project will be completed in two years.

<sup>18</sup> In terms of the conditionalities laid out in the 2007 EBRD loan to AzDRES, (a) the tariff increased by a higher percentage than requested; (b) the regulatory body is in place and operating on tariffs but not on quality of services, and it is not acting independently from government yet; and (c) AzDRES accounts are still to be delivered on an IFRS basis.

- **A schedule for Azerenerji cash revenue:** In December of 2006 the Tariff Council effectuated a tariff increase of nearly 200 per cent, instantly raising tariffs to a level approaching cost-recovery. The revenues of Azerenerji in 2007 have been boosted by the tariff increase and significant improvements in collections. The Tariff Council already approved a substantial tariff increase in December 2006, effectively complying with the main objective of the reform which is to bring electricity prices closer to cost recovery levels.
- **New Tariff Council:** The government introduced a new Tariff Council in 2005, responsible for tariff setting and regulation. While the Council is currently constituted of junior ministers and chaired by the Minister for Economic Development, it represents a key first step to regulatory reform. The EBRD-financed TC to support the Tariff Council is, however, unlikely to produce a new tariff methodology by the end of 2007.
- **IFRS accounting:** The company has submitted 2006 financial statements to the Bank and was expected to submit audited accounts by October 2007. To improve Azerenerji's financial reporting, the Bank, in a joint effort with the European Commission, proposed a comprehensive TC programme for Azerenerji (as well as the Baku Distribution Company, which is a separate company) to the Ministry of Finance to enable implementation of IFRS accounts by 2008, together with the improvement of the corporate governance principles.

The TC did help prepare the proposed project for Bank financing. This, in turn, has a high potential transition impact on frameworks for markets through the sector reform conditionalities. Some skills transfer were channelled to the sector beyond the circle of Azerenerji, since a few aspects of analytical approach of the consultant report were borrowed by other consultants (local or foreign) for subsequent reports on the energy sector for Azerbaijan. The transition impact is "Satisfactory" at sector level.

### ***Transition risk***

At company level, the question of qualified partners remains. In spite of some skills transferred by the consultants in the TC, the limited number of qualified staff to design and implement sector programmes remains a major risk in this type of TC.

At sector level, the risks to transition impact could be substantial, given the history of non-compliance with key covenants on reform measures in past projects. However, tariff increases approved in December 2006 demonstrated the willingness of the Azeri authorities to pursue reforms in the sector and increased the probability that the project's transition objectives will be implemented, allowing the risks to transition impact to reduce from the original "High/Excessive" to "High".

### ***Overall TI rating***

The *realised* transition impact at the sector level has been "Marginal" company-wide and "Satisfactory" sector-wide so far. The *remaining potential* for transition is more promising now than it was a few years ago and therefore rated as "Good". When considering the combined results of the various components at corporate and sector levels, including the determinant associated policy components, the overall transition impact of the programme is rated as "Satisfactory".

### ***Additionality***

The EBRD's TC and related conditional financing were determinant in encouraging a serious start to reforming the sector. While the World Bank and the EBRD were joining their efforts in pursuing the same objectives in this area, the EBRD was putting particular emphasis on investment priorities and project implementation. It also focused on covenanting concrete steps

towards the implementation of sector reforms that the World Bank was actively pursuing.<sup>19</sup> Additionality is rated as “Verified in all Respects”.

### ***Environment***

The planned modernisation of AzDRES, which the TC indirectly supported, was to upgrade existing boilers, including the primary nitrogen oxide (NO<sub>x</sub>) control systems and the installation of low NO<sub>x</sub> boilers at the plant. This should improve the performance of the plant. As part of the investment programme an environmental management system and continuous monitoring will be incorporated into day-to-day operations during the implementation of the modernisation programme.

To complement this, the EBRD was facilitating the development of a project under the CDM of the Kyoto Protocol through a separate TC. When completed, the implementation of the project would have a substantial impact in emission reduction, in particular for carbon dioxide (CO<sub>2</sub>), estimated by the Bank at 8.2 million tonnes from 2006 to 2012 based on a preliminary calculation. The Bank has been working with Azerenerji to assist in its application for the project to be approved under the CDM, which would qualify the company for receipt of carbon credits

## **6. Bank handling**

### ***Consultant selection***

In spite of the requirement that the selection of consultants by the Bank was only to be done subject to explicit consent and authorisation of the Azeri authorities, this selection was done with apparently little involvement of the client. Nevertheless, the Bank’s selection should have facilitated the process and ensured that no unnecessary delays, due to the limited experience of the client in this area, would take place.

In fact, Azerenerji neither appreciated the consultant and its services, nor the outcome of the report. This did not ensure that best value for money for this assignment on the client side. Nevertheless, the report satisfied the Bank and ultimately assisted with investments in the sector.

In an effort to assist the Azeri government to achieve its target of sector restructuring and to facilitate compliance with its project conditionality, the Bank submitted a funding request to the USTDA. The selection process was in compliance with the Bank’s Procurement Policies and Rules as well as the specific requirements of USTDA-funded contracts for consulting firms. Some US\$ 355,439 is budgeted as the total cost of the contract.

The Bank prepared the initial draft TOR for the assignment, and then apparently involved Azerenerji only superficially. At no stage did the MED contribute to the preparation of the consultant report and thereby did not get involved in the revision and finalisation of the TOR. Therefore neither the MED nor the Azerenerji staff were committed to the successful and timely implementation of the TC.

The proposed EBRD loan terms for the follow-on investment, which did include sector reform commitments associated with the TC, have been finalised following an extensive and high-level involvement of the Bank in policy dialogue, up to direct involvement of the president of Azerbaijan. The Bank’s terms as supported by President Ilham Aliyev explicitly tie the company to transparency and discipline in procurement and implementation through conditions precedent to each disbursement of the loan.

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<sup>19</sup> Through the Sovereign Guarantee and State Support Agreement, the EBRD is binding the State of Azerbaijan to commitment to sector reform, which will enhance the financial viability of Azerenerji.

In sum, the coordination with the World Bank on related and subsequent policy dialogue was successful. However, EBRD staff and the selected consultants did not really succeed in involving their counterparts before, during or after a TC operation that was supposed to provide: (a)

- a common programme of the development of the sector
- an agreement on the ways to proceed to implement the common programme.

Therefore the rating for bank handling is only “Satisfactory”.

## **7. Key issues and lessons learned**

### ***7.1 TC project design and implementation***

The client was not *completely* involved in project design and implementation for a TC. In fact the OPER team concludes that the client was not interested in the sector study. However, it was clear that the Bank needed such a study in order to convince itself of the investment needs of the sector. In retrospect, it appears that the Bank was acting on the matter mainly for due diligence purposes.

It was no surprise then that the evaluation team found such a dissonance between the Bank’s and the client’s views. The client seemed to have had quite different priorities, and the outcome of the consultants’ study did not suit them. The question can be asked whether there was any chance that, with more policy dialogue, the Bank could have convinced the authorities of the importance of setting the right priorities for investment in the sector and opt for a broader sector study.

#### *Lesson*

The Bank should gather sector-wide information, even in cases where the local authorities want the Bank to pursue their priorities. If a TC recipient does not fully cooperate in the preparation, the discussion on outcomes and the diffusion of the study, then the limited impact of that study on local circumstances is almost a certainty. However, in certain unreformed environments the Bank might pursue a firm path towards gathering adequate information of the entire sector.

This is important for financing future investment in the sector based on real needs. As in this case, the Bank could use the consultant’s report for its follow-on financing of a project in the power generation and transmission sector at times irrespective of the client’s unhappiness with the TC.

### ***7.2 Sector policy dialogue 1***

The EBRD was undertaking a TC that had to be complemented by a policy dialogue on sector reforms. The main interlocutor of the EBRD was a large implementation agency that declared having very little influence on the core policy makers of the country. Another IFI was involved in the energy sector in Azerbaijan through a programme of adjustment loans, which, by the nature of the interventions attached, were to carry high policy leverage.

#### *Lesson*

Tightly collaborate with other international financial institutions (IFIs) when the sector policy leverage is low. It is essential that the Bank works closely with other IFIs, in particular in those circumstances where the leverage with the local authorities in a sector like power generation and transmission, is low. This does not imply any dependence on other IFIs but it is a smart thing to do especially in unreformed environments. The policy dialogue is to be conceived and

implemented as a collaborative effort where each IFI can act according to its comparative advantage.

### ***7.3 Sector policy dialogue 2***

Actually, the follow-on EBRD investment of June 2006 did include conditionalities in the Board document that echoed the conditionalities from the other IFI. The conditionalities, however, were not inserted in the EBRD loan agreement since the contracting agency, Azerenerji, declared to have no authority in committing reforms in the sector.

In the end, most of the reforms were implemented by the Azeri authorities through substantially increasing tariffs and clearly working towards better accounting standards under the other IFI adjustment programme. Consequently, the Bank was acting *de facto* under the policy umbrella of the other IFI rather than under a balanced cross-conditionality structure where conditions would be fully enforceable on both sides.

#### *Lesson*

After completing a sector-level Bank TC operation, select the right set of conditions for follow-on Bank loans when sector reform is at stake. When a TC needs to be complemented by sector reforms, such as in power generation and transmission in some Central Asian countries, or when a list of reforms has been identified in an EBRD TC operation (as part of possible sector intervention of other IFIs), the Bank should pursue intensive policy dialogue at the highest level to ensure that the follow-on investment includes enforceable conditions. Some help from sister IFIs could strengthen the Bank's case.

## APPENDIX 1

### Upgrade and rehabilitation projects: proposed plans and implementation

Plant	Consultant proposals (base case)		Implementation (from Azerenerji)			
	Description	Priority	Done	Under tender	Contract awarded	Not started
AzDRES	Chimney no. 1 flue replacement	Must do	1			
AzDRES	Units 1-8 boiler screen tube replacement	Must do	1			
AzDRES	Units 1-3 and 5-8 regenerative air heater refurbishment	Must do	1			
AzDRES	Switchyard air compressor replacement	Must do	1			
AzDRES	Power plant and switchyard batteries and chargers	Must do	1			
Ali Bayramli	Substation air compressor replacement	Must do	1			
Ali Bayramli	Power plant and switchyard battery/charger replacement	Must do	1			
Ali Bayramli	Switchyard equipment supports and foundation repairs	Must do	1			
Ali Bayramli	Repair of circulating water lines	Must do	1			
Ali Bayramli	Units 1-7 regenerative air heater refurbishment	Must do	1			
Kura Cascade	Kura cascade water management system	1		1		
AzDRES	Cooling water tunnel extension	2	1			
	Central dispatch centre replacement	3			1	
Ali Bayramli	Units 1-4 generator hydrogen cooler replacement	4				1
Ali Bayramli	Units 1-7 Hydrogen Generation Plant Replacement	5				1
Shamkir	Unit 1 Discharge Ring/Runner Blades Replacement	6				1
AzDRES	Units 7, 8 Low-Pressure Turbine Rotor and Inner Casing replacement	7				1
Ali Bayramli	Units 5-7 high pressure feed water heater tube replacement	8				1
Ali Bayramli	Units 5-7 condenser re-tubing	9				1
Mingechaur	Units 1, 3 electric generator and transformer replacement	10				1
AzDRES	Units 1-5 low pressure turbine rotor and inner casing replacement	11				1
Ali Bayramli	Units 1-4 condenser retubing	12				1
AzDRES	Units 7, 8 intermediate/low pressure turbine refurbishment	13				1
Ali Bayramli	Units 1-4 high pressure feed water heater tube replacement	14				1
AzDRES	Units 1-3 intermediate/low pressure turbine	15				1
	<b>Number of occurrences</b>		<b>11</b>	<b>1</b>	<b>1</b>	<b>12</b>
	<b>Percentage</b>		<b>44.0</b>	<b>4.0</b>	<b>4.0</b>	<b>48.0</b>

Source: Consultant report and EvD mission estimates

