



<b>1. Project Data:</b>		<b>Date Posted :</b> 07/25/2002	
<b>PROJ ID:</b> P008479		<b>Appraisal</b>	<b>Actual</b>
<b>Project Name:</b> Energy Environment	<b>Project Costs (US\$M)</b>	US\$197.4 million	US\$184.6 million
<b>Country:</b> Hungary	<b>Loan/Credit (US\$M)</b>	US\$100 million	\$US67.3 million
<b>Sector(s):</b> Board: EMT - Power (50%), District heating and energy efficiency services (50%)	<b>Cofinancing (US\$M)</b>	\$US104.9 million	US\$117.3 million
<b>L/C Number:</b> L3705			
	<b>Board Approval (FY)</b>		94
<b>Partners involved :</b> None	<b>Closing Date</b>	12/31/1999	12/31/2001
<b>Prepared by :</b>	<b>Reviewed by :</b>	<b>Group Manager :</b>	<b>Group:</b>
Angela Crooks	William B. Hurlbut	Alain A. Barbu	OEDST
<b>2. Project Objectives and Components</b>			
<b>a. Objectives</b>			
Reduce Hungary's dependence on energy imports; increase efficiency, reliability and flexibility in the production of electricity and heat; and establish the necessary basis for a strong interconnection with the Western European Power Pool. In addition, support continued environmental improvements in the power sector and assist in improving institutional capabilities.			
<b>b. Components</b>			
(A) Construction of one gas-fired combined cycle cogeneration plant of 235 MWe and 240 MWt at Dunamenti Ltd site. (B) Upgrading the Borrower's (MVM's) Energy Management System (EMS). (i) Upgrading the National Dispatch Center a) replacement of the EMS master station with remote facilities at major substations and power plants; and b ) the expansion and upgrading of the data communication network . (ii) Upgrading of the Regional Distribution Control Centers. (C) Human Resource management and training for the Borrower . (D) Environmental management and training. (i) assistance in carrying out an Environmental Master Plan for the power sector; (ii) training of the Borrower's staff in environmental management, pollution control technology for power plants, environmental assessment, modeling (energy/environmental planning), monitoring and international cooperation; and (iii) installation of water pollution, ambient air and noise level monitoring equipment on selected sites . Due to the privatization of the thermal plants, only the diagnostic phase of the Environmental Master Plan was completed; the new owners are responsible for making environmental improvements to comply with Hungarian environmental regulations.			
<b>c. Comments on Project Cost, Financing and Dates</b>			
The total project cost, excluding duties and taxes, was US\$ 184.6 million, of which US\$67.3 million was funded by the World Bank loan and US\$ 117.3 million was financed by MVM and Dunamenti . The unused portion of the Bank loan, US\$32.7 million, was cancelled. The cogen plant at Dunamenti cost US\$ 110.3 million, of which US\$33.1 million was a WB loan. Upgrading the EMS cost US\$73.6 million, of which US\$33.8 million was a WB loan. Human resource management and training cost US\$.27 million, of which US\$.06 million was a WB loan.			
<b>3. Achievement of Relevant Objectives:</b>			
Energy imports from the CIS declined from 55% in 1992 to 16% in 2000. The proportion of power generated by modern gas-fired combined cycle turbines increased, and efficiency improved in dispatching of generating plants and transmission facilities. Average efficiency of power plants rose from 30.6% in 1990 to 35% in 2000. Forced outages were reduced from 713 in 1990 to 396 in 2000. The EMS component helped the grid become a full member of the Western European Power Pool in 2001 by establishing the necessary technical conditions for synchronous operation. Economic benefits include improved reliability of power supply, increased security and available capacity of transmission network, sharing of spinning reserves with the new UCTE grid, improved dispatch of power facilities and better quality of electricity supply. Seventy-five percent of MVM employees were trained. MVM obtained ISO 9001 certification in 1999 following a training and implementation program. MVM also received ISO 14000 certification (environmental management) in 2001. Assistance was provided in the implementation of the National Grid's Environmental Project, including field evaluation of remediation plans and development of a monitoring system. Environmental management in the power sub-sector has been enhanced and air emission values at			

Dunamenti have been reduced substantially .

**4. Significant Outcomes/Impacts:**

See above.

**5. Significant Shortcomings (including non-compliance with safeguard policies):**

It is unclear whether the newly privatized plants will come into compliance with Hungarian environmental safeguards . No provisions for assisting the new owners are mentioned in the ICR . The continued reluctance of the Government to adopt full cost recovery pricing weakens MVM Rt's creditworthiness .

6. Ratings :	ICR	OED Review	Reason for Disagreement /Comments
<b>Outcome :</b>	Satisfactory	Satisfactory	
<b>Institutional Dev .:</b>	Substantial	Substantial	
<b>Sustainability :</b>	Highly Likely	Highly Likely	
<b>Bank Performance :</b>	Satisfactory	Satisfactory	
<b>Borrower Perf .:</b>	Satisfactory	Satisfactory	
<b>Quality of ICR :</b>		Satisfactory	

NOTE: ICR rating values flagged with '\*' don't comply with OP/BP 13.55, but are listed for completeness.

**7. Lessons of Broad Applicability:**

The commitment of the Hungarian Government to rapid reform and restructuring of the electricity sub -sector reinforced the benefits of the investments made under this project . Privatization and regulatory development ran in parallel with project investments . The reluctance of the Government to introduce full -cost recovery pricing constrains the ability of MVM Rt to conduct energy planning and weakens the company's creditworthiness . This shows that the independence of energy regulation and economic pricing remain key performance indicators to monitor and evaluate in the energy sector well after restructuring and privatization . The highly professional and motivated management provided by MVM Rt was a crucial ingredient in the Project's success .

**8. Assessment Recommended?** ☒ Yes ☐ No

**Why?** Yes. Many lessons related to factors of country performance can be learned from this project, particularly with respect to private sector involvement and the role of sound energy pricing . Many good or best practices can also be derived and made generally available to Bank staff related to improving energy efficiency and environmental performance, measurement of relevant indicators, monitoring and evaluation . In addition, the environmental impacts should be verified .

**9. Comments on Quality of ICR:**

ICR is satisfactory.