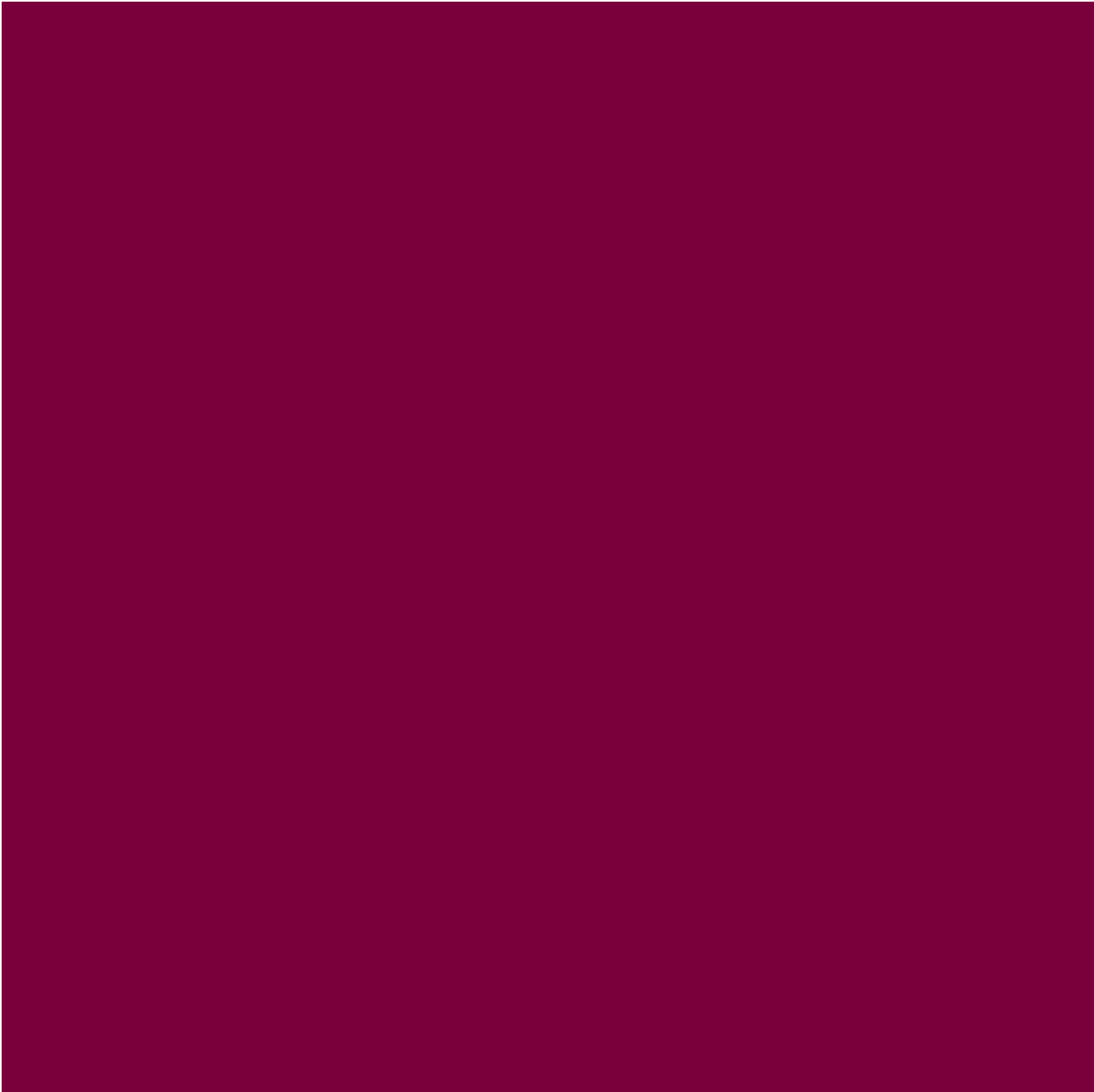


Summary of activities financed
from 1970 to the end of 2006

The Energy Sector



Summary of Activities within

The Energy Sector

which have received financing
from Sida and its predecessors
SIDA/BITS from 1970 to
31 December 2006

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Preface

The first part of the summary is a compilation of the activities in the Energy Sector that have received financing from Sweden through Sida during the period 1st July 1995 to the end of 2006.

Information about activities initiated by the previous SIDA and BITS before 1st July 1995 and that were continued by Sida/INEC is available in Annex 1: “Sammanställning av insatser inom energiområdet fr. o. m. 1970 där Sida (inklusive f.d. SIDA och f.d. BITS) är/varit finansiär” dated June 1997 and Annex 2: “Tillägg till Sammanställning av insatser inom energiområdet fr. o. m. 1970 där Sida (inklusive f.d. SIDA och f.d. BITS) är/varit finansiär” dated January 2000.

A few interventions in the Baltic States and Poland were transferred from BITS to Sida/ÖST on 1st July 1995. These are included in the first part of the summary and it is indicated in the “comments” when they commenced.

The Summary has been compiled by Lars B. Lagging.
Stockholm October 2007



Anders Hagwall
Head of Infrastructure Division

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SUMMARY OF ACTIVITIES WITHIN THE ENERGY SECTOR

WHICH HAVE RECEIVED FINANCING FROM Sida

DURING THE PERIOD 1 JULY 1995 TO 31 DECEMBER 2006. 27 pages

Country: Project	Components	Period	Amount (MSEK)	Executing Agency	Sida Unit	Comments
Angola: Institutional Support to the Energy Sector	Assistant for development of institutional, technical and commercial aspects of the Energy Sector	2005-	4.0	Ministry of Energy and Water	KTS	Consultant: ECON Analysis
Bangladesh: Stand-by Generator for Dhaka Water Supply	A stand-by generator.	1997-1999	16.8 (Grant 8.4)	Dhaka Water Supply and Sewage Authority	FINANS	Supplier: Volvo Penta
Eshwardi-Barapukaria 230 kV Transmission Line	Barapukaria 230/132 kV substation	2005-	66.6 (Grant 20.0)	Power Grid Comp.	FINANS	Contractor: ABB Utilities
Bolivia: Upgrading of Transmission Line San Jose - Senkarta San Jose - Vinto	From 115kV to 230kV	1997	22.7 (Grant 7.1)	Empresa Nacional de Electricidad	FINANS	Contractor: ABB
Botswana: National Control Center (NCC) and Gaborone Distribution	Upgrading of and addition to existing SCADA System.	1996-2000	23.0 (Grant: 12.7)	Botswana Power Corp.	FINANS /KTS	Consultant: SwedPower/Sycon Contractor: ABB Network Partner
Rural Electrification	Fourteen villages.	1996-1999	113.0 (Grant: 39.6)	Botswana Power Corp.	FINANS	Contractor: Transelectric

Country: Project	Components	Period	Amount (MSEK)	Executing Agency	Sida Unit	Comments
<u>China:</u> Guangzhou Pumped Storage Power Project, Phase II	Rock Engineering Consulting Services Increase from 1200 MW (Phase I) to 2400 MW.	1995-1997	4.0	Guangdong Pumped Storage Power Station Joint Venture	KTS	Consultant: SwedPower
Jiamusi, Distribution System for District Heating	Hard ware and soft ware for production of pipes and 18 sub-centers.	1995-1997	29.5 (Grant 10.3)	China Nat. Ind. Machine Import/Export Corp.	FINANS	Supplier: Powerpipe
Fushun, Middle area District Heating Project	Refurbishment of the existing system	1997	30.9 (Grant 12.3)	Fushun Heat & Power Comp.	FINANS	Supplier: ABB
Shijiazhuang, District Heating System	Refurbishment of the existing system and training of staff.	1997	34.8 (Grant 12.2)	Shijiazhuang Thermal Gas Comp.	FINANS	Supplier: ÅF Energikonsult
Tianshui, Distribution System for District Heating	To build a District Heating System to replace 89 local heating stations.	2006-	45.0 (Grant 15.0)	Tianshui Hualai Heating Power Comp.	FINANS	Supplier: YIT Vatten och Miljöteknik
<u>Dominican Republic:</u> National Control Center (NCC)	Technical assistance for the installation and utilization of the NCC.	1998-2002	8.4	Corporacion Dominicana de Electricidad (CDE)	KTS	Consultant: SWECO/BECO The NCC was delivered by ABB and financed by NDF.
<u>Ecuador:</u> Paute-Mazar Hydro Power Plant	Consultant Services for Investigations & Detailed Design.	1996-1997	6.0	Instituto Ecuatoriano de Electrificación (INECEL)	KTS	Consultants: SWECO
<u>Egypt:</u> Computer based Maintenance System for the Power Industry	Updating of the existing Amplissa System.	1999-2000	4.2	Egyptian Electricity Authority (EEA)	KTS	Consultant: SwedPower The Amplissa System was bought from Sweden.

Country: Project	Components	Period	Amount (MSEK)	Executing Agency	Sida Unit	Comments
Eritrea: Energy Cooperation Programme	Rural Electrification: Phase 1: Debarwa, Aid-Teclesan and Teseney Areas. Phase 2: Himbiri, Mekerka and Mendefera Areas. Rehabilitation of three substations in Asmara. Modernization of Standards, Regulations and Laws for the Energy Sector. Wind and Solar Assessment.	1998-2000	40.0	Eritrea Electric Authority (EEA)	INFRA	Consultants: SwedPower (Regul. & Laws) SWECO/COWI (Wind & Solar Assessm.) Contractor: ABB The original project included an Energy Master Plan that was postponed and a study on the modernization of the EAA Accounting System that was not carried out. In addition, a Pilot Wind Generator could not be procured due to lack of bids. Instead, Phase 2 of the Rural Electrifica- tion was added.
Ghinda Substation	A 132 kV substation together with power lines connecting it to the power grid and to Ghinda Village.	1999-2005	18.0 (Grant: 14.4)	Eritrea Electric Authority (EEA)	FINANS	Consultants: SwedPower Contractor: ABB Distribution
Estonia: Energy Saving in Tartu	Pilot project in energy saving including twelve residential blocks.	1995	0.8	Tartu City	ÖST	Consultant: Fjärrvärmebyrån
Demonstration Project for Tartu	Demonstration of Swedish standards and quality for district heating equip..	1995	0.2	Tartu City	ÖST	Consultant: Fjärrvärmebyrån
Pärnu Boiler Conversion	Consulting services.	1995-1996	0.9 (Incl. the financing by BITS)	Elva Soujus	ÖST	Consultant: JD Gruppen The Swedish assistance started in 1993 financed by BITS. The investments were financed by the WB.
Energy Advisor	Energy Policy, Energy Conservation and Support to WB, EIB, EBRD and Sida financed projects. Attached to the Project Coordinating Unit.	1995-1999	5.2 (Incl. the financing by BITS)	Ministry of Economic Affairs.	ÖST	Consultant: Energiplanerarna The Swedish assistance started in 1993 financed by BITS.

Country: Project	Components	Period	Amount (MSEK)	Executing Agency	Sida Unit	Comments
Estonia: Advisory Services	Two experts attached to the Project Coordinating Unit for implementation of District Heating Projects.	1995-1998	2.1	Ministry of Economic Affairs.	ÖST	Consultant: Hifab International
District Heating Rehabilitation Project	For Tartu and a national program for the conversion of smaller boilers. In addition, strengthening of Tartu Energy Department.	1995-1997	12.8 and MUSD 10.0 (Incl. the financing by BITS)	Ministry of Finance and Tartu Municipality, Energy Department.	ÖST	Consultants: Fjärrvärmebyrån/Stockholms Energi (technical) and Öhrlings, Coppers Lybrand (institutional) The Swedish assistance started 1994 financed by BITS. Cofinanced by the WB (USD 50.0).
Pellets burners for Rakvere, Väike-Marja and Kolga-Jaani	Three pellets burners, capacity: 150 kW, 200 kW and 250 kW .	2001-2002	0.6	The DH Company of Rakvere et. al.	UUM	Part of the DemoÖst Programme Contractor: NE Naturenergi
Hydro Power Plant for Räpina	Mini Hydro Power Plant. Capacity: 365 kW.	2003-2004	2.2	Räpina Vesiveski	UUM	Part of the DemoÖst Programme Contractor: BEVI Teknik & Service/ /Cargo Kraft
Flue Gas Condensation Unit for Tartu	Equipment to condense flue gas to increase the capacity of an existing plant.	2004-2005	3.1	AS Anne Soojus	UUM	Part of the DemoÖst Programme Contractor: Radscan Intervex
Ghana: Rural Electrification in Greater Accra and Volta Regions	About 90 villages.	1995-2000	83.5 (Grant 29.2)	Electric. Corp. of Ghana (ECG)	FINANS	Contractor: Transelectric
Second Bulk Power Supply Point for the City of Accra	A 161 kV substation including a 5 km connecting line to the Accra Power Grid.	1997-2002	61.2 (Grant 22.2)	Volta River Authority/ Electric Corp. of Ghana (ECG)	FINANS /KTS	Consultant: AF Eliteknik (Financed by KTS) Contractors: ABB, Crompton Greaves (India), Sasung (South Korea) & Norelec (France)

Country: Project	Components	Period	Amount (MSEK)	Executing Agency	Sida Unit	Comments
<u>Ghana:</u> Rural Electrification: Self Help Electrification Programme	About 85 villages in the Ashanti Region.	1999-2000	115.0 (Grant 40.3)	Electric Corp. of Ghana (ECG)	FINANS	Supplier: Europartners/Wespro. Installation by local contractors and ECG. Poles provided and installed by the villages.
Technical Assistance to Electric Corp. of Ghana (ECG)	Technical Assistance to ECG's efforts to combine and commercialize the Volta River Authority and ECG.	2000-2002	1.9	Electric Corp. of Ghana (ECG)	KTS	Consultant: SwedPower
Scada Control Centre	Control system	2003	19.7 (Grant 15.8)	Electric Corp. of Ghana (ECG)	FINANS	Contractor: ABB
<u>Iraq:</u> Capacity Development/ Training Program	Training of engineers and technicians in modern techniques and systems.	2006-	20.0	Ministry of Electricity	INFRA	Consultant: National Electric Power Comp. (NEPCO), Jordan
Support to the Electricity and Health Sectors	Emergency electricity supply to four hospitals and the development of an electricity master plan for Iraq.	2006-	37.0	Ministry of Energy/ Ministry of Health	INFRA	Channeled through and managed by UNDP, Amman.
<u>Jordan:</u> Development of the Computer and Information Department of NEPCO	Updating the existing computer system and establishing the Department as a Profit Center.	2000	0.9	National Electric Power Company (NEPCO)	KTS	Consultant: SwedPower
Improvement of Computerized Maintenance System for the Power Industry	Updating the existing maintenance system and training/technical assistance for the implementation.	1997-2003	4.5	National Electric Power Company (NEPCO)	KTS	Consultant: SwedPower In 1997, NEPCO bought the Swedish Amplissima System for the maintenance.
New Invoicing System for Power Consumption	Specification of the new system bas- ed on a review of the requirements.	2001	1.0	Electricity Distribution Company (EDCO)	KTS	Consultant: SwedPower

Country: Project	Components	Period	Amount (MSEK)	Executing Agency	Sida Unit	Comments
Kosovo (F.R.Y): Kosovo B Thermal Power Station	Emergency repairs of the coal fired power plant near Phristina and installation of a second-hand transformer.	1999	40.0	United Nations Mission in Kosovo (UNMIK)	INFRA	Consultant: SwedPower Contractor: ABB Stal
Emergency Rehabilitation of the Prishtina District Heating System	Delivery and installation of equipment to the distribution system.	1999-2000	30.9	United Nations Mission in Kosovo (UNMIK)	INFRA	Contractor: ABB District Heating The rehabilitation of the Heating Plant financed by GTZ of Germany.
District Heating Systems in Prishtina and Gjakova	Rehabilitation and expansion of the systems including training. In addition, support to the Regulatory Unit. The assistance was carried out in three phases. The first phase included Emergency Repairs, the second mainly Improvements and the third phase concentrated on Management Support	2000-	104.9	United Nations Mission in Kosovo (UNMIK)	INFRA	Consultant: ÅF-International (Regulatory Unit), MVV-Energie AG/SwedPower/Ramböll Contractors: ABB Alstom Power Flow Systems (Phristina) & Powerpipe Systems (Gjakova) EAR financed the expansion works.
Emergency Assistance to the Power Sector	Repairs of machinery and delivery of a 220 kV second-hand transformer.	1999-2000	39.5	United Nations Mission in Kosovo (UNMIK)	INFRA	Consultant: SwedPower Contractor: ABB Alstom
Electrical Distribution Ferizaj	Rehabilitation of the system including training.	2000-2002	32.0	United Nations Mission in Kosovo (UNMIK)	INFRA	Consultant: SwedPower Contractor: ELTEL Networks (previously Transelectric)
Latvia: Electricity Distribution	Training in maintenance of the power network and a pilot project in optimization of the distribution network.	1995	4.6	Latvenergo	ÖST	Consultant: SWECO
Small Scale Energy Demonstration Project	Installation of a electrical supply and heating system at Skangali.	1995-1997	0.7	Latvenergo	ÖST	Consultant: SWECO
District Heating in Four Cities	Prefeasibility study on district heating in Jelgava, Talsi, Kurzema & Zemgale.	1995	2.8	Ministry of Energy	ÖST	Consultant: ÅF Energikonsult Syd

Country: Project	Components	Period	Amount (MSEK)	Executing Agency	Sida Unit	Comments
<u>Latvia:</u> Energy Expert	Energy expert attached to the WB Baltic Office in Riga for donor coordination in the field of energy.	1995-1998	3.1	WB Baltic Office in Riga	ÖST	Consultant: Energiplanerarna
District Heating Rehabilitation, Jelgava	Consulting services for updating of the Feasibility Study and for preparation of tender documents and supervision of installations.	1996-2000	7.5	Jelgava District Heating Company	ÖST	Consultant: Fjärrvärmebyrån The hardware was provided through a MUSD 14.0 loan from the WB.
District Heating Rehabilitation, Riga	Consulting services and a project to demonstrate the gains with new sub-stations in buildings.	1995-2000	12.7 (Incl. the financing by BITS)	Latvenergo/ Rigas Siltums	ÖST	Consultants: Fjärrvärmebyrån The rehabilitation was initially prepared for WB support but was eventually financed by local commercial banks. The consulting services started in 1993 financed by BITS.
District Heating Rehabilitation & Demonstration Project for Daugavpils	The demonstration project: four sub-stations, oxygen analyzers, feed water pump & oil circulation pumps.	1997-2000	4.5	Daugavpils Siltumtiklis	ÖST	Consultant: Fjärrvärmebyrån The consulting services aimed at prepare a project for WB financing that did not materialized.
Combined Heat and Power Plant for Cesis	A CHP Plant with the capacity: 635 kW (power) & 1600 kW (heat).	2001-2002	1.4	Ministry of Economics/ Cesu Buvnieks	UUM	Part of the DemoÖst Programme Contractor: Volvo Aero
Hydro Power Plant for Prusu	Mini Hydro Power Plant. Capacity: 132 kW.	2001-2003	0.5	Sia HES	UUM	Part of the DemoÖst Programme Contractor: Cargo Kraft
<u>Lesotho:</u> Rural Electrification	Included transmission and transforming.	1997-1999	60.4 (Grant 30.2)	Lesotho Electrical Corp. (LEC)	FINANS	Continuation of a previous project financed by NORAD/SIDA/BITS. Co-financing by NORAD(50.0 MNOK)

Country: Project	Components	Period	Amount (MSEK)	Executing Agency	Sida Unit	Comments
Lithuania: District Heating Rehabilitation, Vilnius	Study for rehabilitation of the DH System including financial and institutional aspects.	1999-2001	8.3	Vilnius District Heating Company	ÖST	Consultant: ÅF International
Thermo Camera	Thermo camera to facilitate identification of cost effective maintenance measures.	2001-2002	0.3	Lithuania DH Association	UUM	Part of the DemoÖst Programme Contractor: Flir Systems
Modern District Heating Technology, Kaunas	Demonstration Project: Modernization of a pumping station, upgrading of a boiler plant, installation of heat sub-stations in about 50 buildings and institutional support.	2001-2002	9.9	Kaunas Energy Comp. (KEC)	UUM	Consultants: Fjärrvärmsbyrån (technical) and Göteborg Energy (institutional) Contractors: Vacon, Amaturjonsson, NAF (pumping station); INAC, Amaturjonsson, Gustav Fagerberg (boiler plant); SWEPI Int'l, TA Hydronics, Elvaco (heat substations).
District Heating Rehabilitation, Mazeikiai	Feasibility Study and Demonstration Project: Variable speed controlling equipment, Preinsulated DH pipes and Substations.	2002-2003	6.4	Mazeikiai District Heating Company	UUM	Consultant: Fortum Teknik & Miljö Contractors: Siemens (Variable speed controlling equip.), Powerpipe(DH pipes) & SWEPI Int'l (Substations)
Sub-station for Siauliai	Sub-station for transforming electricity to a new sewage treatment plant.	2003-2005	8.7	Lietuvas Energija	UUM	Part of the DemoÖst Programme Contractor: ABB Utilities
Biofuel Boiler for Kretinga	A biofuel boiler with the capacity 200 kW	2004-2005	0.3	JSC Kretinga Heating Systems	UUM	Part of the DemoÖst Programme Contractor: Swebo Flis & Energi

Country: Project	Components	Period	Amount (MSEK)	Executing Agency	Sida Unit	Comments
Malawi: National Control Centre (NCC)		1998-2000	42.0 (Grant 33.6)	Electric Supply Corp. of Malawi (ESCOM)	INFRA	Consultant: SwedPower Contractor: ABB
Reinforcement of the Power Distribution System of Blantyre	Nine substations.	2000-2005	78.0	Electric Supply Corp. of Malawi (ESCOM)	INFRA	Consultant: SwedPower Contractor: Alstom
Malaysia: Upper Pades River Hydropower Project	Feasibility Study	1995-2000	7.1	Sabah Electricity Board (SEB)	KTS	Consultant: SWECO
Moldova: Strategic Options for Reconstruc. of the Urban Heating System	Feasibility Study	2000-2001	3.4	Ministry of Energy	ÖST	Consultant: Fjärrvärmebyrån/SwedPower
Pilot Project at Ungheni	Technical Assistance for preparation of tender documents, etc.	2001-2002	0.8	Moldova Energy Project Implementation Unit	ÖST	Consultant: Fjärrvärmebyrån/SwedPower The equipment was financed by the WB.
Energy II Project	Technical Assistance for preparation of specifications, tender documents, etc.	2002-	8.4	Moldova Energy Project Implementation Unit	INFRA	Consultant: Fjärrvärmebyrån The investments to be financed by the WB and other donors.
Potential Use of Biomass in the Energy Sector	Feasibility Study	2005-2006	1.2	Ministry of Industry and Infrastructure	INFRA	Consultant: Ilexum Consulting
Capacity Development of the District Heating Company in Chisinau (Termocom)	Technical Assistance	2006-	13.0	Termocom	INFRA	The provider of the T.A. not yet selected.
Capacity Development of the Energy Regulatory Agency (ANRE)	Technical Assistance	2006-	4.0	ANRE	INFRA	The provider of the T.A. not yet selected.

Country: Project	Components	Period	Amount (MSEK)	Executing Agency	Sida Unit	Comments
Mongolia: Central Power Transmission Grid	Review of the grid and preparation of a plan for its rehabilitation.	2000-2001	5.5	Fuel & Energy Authority	KTS	Consultant: Sycon
Central Power Transmission Grid	Rehabilitation	2002 -	80.0 (Grant 57.8)	Fuel & Energy Authority	FINANS	Consult: SWECO Contractor: The works may be re-tendered.
Mozambique: Cahora Bassa-Zimbabwe Interconnection	Extension of Songo Substation	1995-1997	64.0	Electricidade de Moçambique (EDM)	INFRA	Contractor: Consortium of Alstom, France and ABB Co-financed by Caisse Francaise de Dev. (CFD, MFRF 54.0). The cost of the transmission lines within Mozambique (MNOK 150.6) were financed by NORAD, Eksportfinans and the Nordic Development Fund (NDF).
Cahora Basa-Zimbabwe Interconnection	Consulting Services in both Mozambique and Zimbabwe	1995-1999	15.7	Electricidade de Moçambique (EDM)/ Zimbabwe Electrical Supply Authority (ZESA)	KTS/ INFRA	Consultant: SwedPower/Norconsult Co-financed by NORAD (MNOK 11.7) The equipment and the works at the Zimbabwe side were financed by the NDF, the Finish Export Credit (FEC), CFD, and the European Investment Bank (EIB).
Technical Assistance to the Energy Sector	Extension of previous TA to EDM in management, operations & training. Since 2000, the TA has focused mainly on the management level and the Southern Africa Power Pool (SAPP) cooperation.	1997 -	70.0	Electricidade de Moçambique (EDM) & Ministry of Mineral Resources and Energy	INFRA	Consultant: SwedPower The assistance is scheduled to be completed during 2007.
Rural Electrification of the Ribaaue-lapala , Menba Districts in the Nampula Province	Six substations, 160 km transmission lines and 46 km distribution lines.	1997-2000	51.0	Electricidade de Moçambique (EDM)	INFRA	Consultant: SwedPower Contractor: ELTEL Networks (previously Transelectric)

Country: Project	Components	Period	Amount (MSEK)	Executing Agency	Sida Unit	Comments
Mozambique: Rural Electrification of the Morrumbala District in the Zambézia Province	Eleven substations, 200 km transmission lines, distribution lines in five villages and establish. of local capacity for operations, maintenance etc.	2001-2004	40.0	Electricidade de Moçambique (EDM)	INFRA	Consultant: SwedPower Contractor: ELTEL Networks (previously Transelectric)
Transmission Line: Gurué-Cuamba-Lichinga & Distribution Grid in the Niassa Province	300 km transmission lines and distribution lines around Gurué and Lichinga.	2001-2004	120.0	Electricidade de Moçambique (EDM)	INFRA	Consultant: Norconsult/SwedPower Contractor: ABB Co-financed by NORAD (MNOK 192.0).
Rural Electrification in the Sofala, Manica & Tete Provinces	Turn-key contract for supply & - installation of: 66kV, 33kV overhead transmission lines, substations and a 11 Kv cable network in Tete.	2003-	174.0	Electricidade de Moçambique (EDM)	INFRA	Consultants: SwedPower/Norconsult Contractors: EFACEC (Portugal) & ETDE (France) Co-financed by NORAD (MNOK 50.0)
Namibia: Epupa Hydropower Scheme	Feasibility Study	1995-1997	22.0	The Permanent Joint Technical Commission of Angola and Namibia on the Cunene River Basin	KTS/ INFRA	Consultant: NamAng (Norconsult, SwedPower, SOAPRO, Burmeister & Partners) Co-financed by NORAD on 50/50 basis.
South Africa - Windhoek Transmission Line	A 735 kms single circuit 400 kV line. (In addition, 165 kms within RSA.)	1998	200 (Grant 50)	NamPower	FINANS	Contractor: ABB In addition, an exchange risk guaranty for the loan.
Nepal: Feasibility Study for Hydro Power Plants	Rehabilitation of four small plants to provide electricity to the villages around the plants.	1998-1999	1.9	Nepal Electricity Authority	KTS	Consultant: Drive Tech International
Pakistan: Substation (220/132kV) at Bannu	Part of 12th Power Dev. Project formulated by AsDB	1996	91.8 (Grant 29.3)	WAPDA	FINANS	Supplier: ABB Substations

Country: Project	Components	Period	Amount (MSEK)	Executing Agency	Sida Unit	Comments
Palestinian areas: TA for Gaza Transmission System	Advisor for development of the system.	1998-1999	0.8	Palestine Energy Authority (PEA)	INFRA	Consultant: SwedPower
Gaza Transmission Project	Transmission of power from a private power plant to the PEA grid.	2000-	203.0	Palestine Energy Authority (PEA)	INFRA	Consultant: SwedPower Contractor: ABB Switchgear The Project is delayed due to security problems.
Energy Sector Development Programme. Phase IV	Rehabilitation of networks, installation prepaid meters and institutional dev.	2005-	40.0	Palestine Energy Authority (PEA)	INFRA	Co-financed by Norway (MNOR 75.0) Lead donor: NORAD
Poland: Modernization of Heating Stations in the Katowice Region	Feasibility Study and services during the implementation.	1995-1996	0.4 (Inc. the financing by BITS)	P.E.C. Katowice	ÖST	Consultant: Sydkraft The services started in 1994 financed by BITS. Only the feasibility phase was completed.
Support to the Power Company of Wroclaw	Replacement of equipment & materials destroyed by flooding 1997.	1998	11.4	Zakad Energetyczny Wroclaw	ÖST	Contractor: ABB
Biofuel Boiler for Lodz	A biofuel boiler including a system for automatic heat control.	2001-2002	1.9	APE Lodz	UUM	Part of the DemoÖst Programme Contractor: Hotab
Optimization of Energy Production for Warsaw	Computer based system for adapting the heat and power production to the actual consumption.	2001-2002	1.6	Elektroplownie Warszawskie	UUM	Part of the DemoÖst Programme Contractor: Energy Opticon

Country: Project	Components	Period	Amount (MSEK)	Executing Agency	Sida Unit	Comments
<u>Poland:</u>						
Heat Pump System for Okonek	Heat Pump System for heating four buildings with totally 40 apartments.	2002-2003	0.4	Military Agency Department (MAD), Szczecin	UUM	Part of the DemoÖst Programme Contractor: IVT
Heat Pump System for Jelenia Struga	Heat Pump System for heating a medical facility at Jelina Struga.	2003	0.7	Profi Enamel Wronk	UUM	Part of the DemoÖst Programme Contractor: IVT
Sonic Cleaning of coal fired boilers for Tarnow	Sonic cleaning of three coal fired boilers, total capacity 75 kW.	2003	0.4	MPEC Tarnow	UUM	Part of the DemoÖst Programme Contractor: Kockum Sonics
Remote Control of the District Heating System in Wroclaw	System for remote control of sub-centras.	2004-2005	0.3	MPEC Wroclaw	UUM	Part of the DemoÖst Programme Contractor: TAC
<u>Russia:</u>						
District Heating Support, Central Project Dev. Unit (CPDU)	Energy expert to assist in the preparation of projects for donor financing.	1997-2001	5.8	Ministry of Housing	ÖST/ UUM	Consultants: Fjärrvärmebyrån/ Ord & Energi
District Heating Rehabilitation, Archangelsk	Emergency programme to improve essential parts of the district heating system.	1999-2003	28.0	Archenergo DH System	ÖST/ UUM	Consultant: QuEn Tec/Energi & Rörteknik/ Gävle Energi Contractor: ABB/Centralvärmeproduktion The hardware was provided through a MSEK 26.6 grant by the First Baltic Billion Fund.
Demonstration Project and consulting services for Gatchina	The demonstration project: new substations, a 500mm pipe-line, pressure regulators, measuring & maintenance equipment. In addition, institutional support.	1997-2003	20.3	GatchinaTeplovye Seti	ÖST/ UUM	Consultant: ÅF International/Bohlin & Strömberg Initially, the consulting services aimed at prepare a project for World Bank consideration but such financing did not materialize The hardware was provided through a MSEK 15.8 grant by the First Baltic Billion Fund.

Country: Project	Components	Period	Amount (MSEK)	Executing Agency	Sida Unit	Comments
Russia: District Heating Rehabilitation, Archangelsk	Emergency programme to improve essential parts of the district heating system.	1999-2003	28.0	Archenergo DH System	ÖST/ UUM	Consultant: QuEn Tec/Energi & Rörteknik/ Gävle Energi Contractor: ABB/Centralvärmeproduktion The hardware was provided through a MSEK 26.6 grant by the First Baltic Billion Fund.
Gas-Fuel Burner for Gatchina	Gas-fuel burner to demonstrate the advantage of modern gas-fuel burners.	2001-2003	0.9	GatchinaTeplovye Seti	UUM	Part of the DemoÖst Programme Contractor: Petrokraft
Kaliningrad District Heating Rehabilitation	Feasibility Study	2002-2003	6.6	MEK	UUM	Consultant: Carl Bro
Gas-Fuel Burners for Mytischki	Two gas-fuel burners to demonstr. the advantage of modern gas-fuel burners.	2005-2006	1.2	Mytischki Municipal DH Company	UUM	Part of the DemoÖst Programme Contractor: Petrokraft
Gas-Fuel Burners for Pskov	Three gas-fuel burners including equipment for control and monitoring.	2004-2005	1.3	PTS	UUM	Part of the DemoÖst Programme Contractor: Petrokraft
Individual Heating Substations for Pskov	Eight prefabricated heat substations supplying one residential block each.	2005	0.4	PTS	UUM	Part of the DemoÖst Programme Contractor: Armatec
Individual Heating Substations for Voskresensk	Twelve prefabricated heat substations supplying one residential block each.	2005-2006	0.8	Municipal Formation, Voskresensk District (MFVD)	UUM	Part of the DemoÖst Programme Contractor: Armatec
Individual Heating Substations for Murmansk	Thirty heating substations for the Severnaja and Rosta systems.	2004-2005	3.0	TEKOS	UUM	Part of the DemoÖst Programme Contractor: Cetetherm
Pre-insulated District Heating Pipes for Murmansk	A 900m pre-isolated pipeline connecting two separate DH-systems.	2004-2005	3.0	TEKOS	UUM	Part of the DemoÖst Programme Contractor: Powerpipe

Country: Project	Components	Period	Amount (MSEK)	Executing Agency	Sida Unit	Comments
<u>Russia:</u>						
District Heating Rehabilitation and Reform Project, Murmansk	Corporate Dev. Support (Part A) & Support to the Project Impl. Unit (Part B).	2005-	11.2	TEKOS	UUM	Consultant: SWECO The hardware will be provided through a loan from NIB.
Individual Heating Substations for Sosnovyj Bor	Ten pre-fabricated individual heating substations with individual regulation.	2005-2006	0.5	Sosnovyj Bor, Len Oblast	UUM	Part of the DemoÖst Programme Contractor: Armatec
Hot Water Boilers for Kaliningrad	Installing two gas fueled boilers (10 kW each) at the existing boiler room at Severnaja within the city of Kaliningrad	2005	3.0	MEK	UUM	Part of the DemoÖst Programme Contractor: Veå
Pre-insulated District Heating Pipes for Kaliningrad	An about 1000m pre-isolated pipeline.	2005	2.8	MEK	UUM	Part of the DemoÖst Programme Contractor: Powerpipe
<u>Rwanda:</u> Urgent Electricity Rehabilitation Project	Preparation of Tender Documents	2005-2006	1.2	Electrogaz	INFRA/ Amb.	Consultant: SWECO/Carl Bro The WB and NDF will finance the contracts.
<u>Serbia, (F.R.Y.):</u> Emergency Assistance for the Power Transmission Grid	Equipment and training. Installation by the Executing Agency.	2000-2001	20.0	Electric Power Industry of Serbia (EPS)	INFRA	Contractor: ABB Distribution
Electric Distribution Network in Southern Serbia	Six transformers, street-lighting in Rajnice, rehabilitation of low voltage grid in Cokotanci. In addition, technical assistance for capacity-, organization- & commercial developm.	2001-2003	58.0	Electric Power Industry of Serbia (EPS)	INFRA	Consultant: International Management Group (IMG), a NGO Installation by local power units.
Financial Management Accounting System in EPS	A computerized system to make the EPS efficient and with professional accounting and control.	2001-2006	16.0	Electric Power Industry of Serbia (EPS)	INFRA	A component of the Electric Power Emergency Project and co-financed by the WB (MSEK 10.0 and the Lead Donor).

Country: Project	Components	Period	Amount (MSEK)	Executing Agency	Sida Unit	Comments
Serbia, (F.R.Y.): Study for the rehabilitation of the District Heating Systems	To prepare an investment programme leading to energy savings and environmental improvements.	2001-2002	4.1	The District Heating Company of Belgrade	INFRA	Consultant: Göteborg Energy To be presented to EBRD for financing.
Rehabilitation of District Heating in Belgrad	Institutional support and financing of a Demonstration Project (the rehabi- litation of a sub-central at Zemun using energy saving technics).	2003-	47.6	The District Heating Company of Belgrade	INFRA	Consultant: Göteborg Energy/ Helm Corp. The overall rehabilitation financed by EBRD (MEuro 20.0)
Institutional Development of EPS	Focusing on problem areas, plans of action & human resource dev. Follow- ed by long term advisory service.	2002-	17.0	Electric Power Industry of Serbia (EPS)	INRFA	Consultant: Swedish National Grid (Svenska Kraftnät)
Sri Lanka: Anuradhapura Substation	A new 220/132 kV substation and new transmission lines	1997	22,7	Ceylon Electricity Board (CEB)	FINANS	Co-financed by the WB, NDF & NORAD
Technical Assistance for Restruc- turing the Power Sector.	To unbundle CEB into independent power generation companies, a trans- mission company, distribution compa- nies and establishment of a Energy Sector Regulatory Commission.	2002	2.8	Ceylon Electricity Board (CEB)	INFRA	Co-financed by the Lead Donor AsDB (total cost USD 1.0).
Rehabilitation of Laxapana Hydropower Station	To cover cost of export credit guaranteee.	2001-2003	10.0	Ceylon Electricity Board (CEB)	FINANS	Contractor: Alstom Power Generation
Rural Electrification	In six Provinces: Central, Southern, North West, Sabaragamuwa, UVA and North Centre.	2006-	150.0	Ceylon Electricity Board (CEB)	FINANS	Consultant: HIFAB, Finland Contractor: To be determined
			(Grant 80.0)			

Country: Project	Components	Period	Amount (MSEK)	Executing Agency	Sida Unit	Comments
<u>Swaziland:</u> Feasibility Study for Rural Electrification	Feasibility Study	1999-2000	0.2	Ministry of Economic Planning & Development	KTS	Consultant: SwedPower
<u>Syria:</u> Computer Based Maintenance System for Power Plants.	Adaptation of the Amplissa System and on-the-job training.	2000-2001	6.7	Public Establishment for Electricity Generation and Transmission	KTS	Consultant: SwedPower The Amplissa System was bought from Sweden.
Upgrading of Qatineh Power Generation Station	Feasibility Study	2003-2004	2.5	State Planning Commission	KTS	Consultant: SwedPower
<u>Tanzania:</u> Support for the Operation of Gas Turbines. Part of Power VI Project.	Extension of the support for operation of four gas turbines at Ubungu in DAR.	1996-2001	42.5	TANESCO	INFRA/ Amb.	Operator: SwedPower
Feasibility Studies for Hydro-power Projects. Part of Power VI Project.	Evaluation of possible projects followed by feasibility studies of two sites.	1996-1997	15.3	Tanzania Electri. Supply Comp. (TANESCO)	INFRA/ Amb.	Consultant: SwedPower/Norconsult Co-financed by NORAD (MSEK 15.3 equiv.)
Lower Kihansi Hydropower Project. Part of Power VI Project.	The project included the Power Plant (3x60 MW) and a 25 m high dam with a crest length of 220 m.	1995-2000	211.5	Tanzania Electri. Supply Comp. (TANESCO)	INFRA/ Amb.	Consultant: Norplan financed by IDA Contractors: Various. ABB Generations for Electrical Systems. Total cost: MUS\$ 250 eq. financed by the WB, EIB, KfW, NORAD, Sida & Tanzania.
Kidatu Power Plant Rehabilitation, Phase II. Part of Power VI Project.	Complete overhaul of the plant. Phase I consisted of emergency repairs completed in 1993.	1999-2003	60.5	Tanzania Electri. Supply Comp. (TANESCO)	INFRA/ Amb.	Consultant: Norconsult Contractors: ABB, Kvaerner & Siemens Co-financed by NORAD (MNOK 40.0)

Country: Project	Components	Period	Amount (MSEK)	Executing Agency	Sida Unit	Comments
Tanzania: Emergency Repairs of Gas Turbines. Part of Power VI Project	Overhaul of two Gas Turbines at Ubungo financed by Norway/Sweden	2000-2001	20.0	Tanzania Electri. Supply Comp. (TANESCO)	INFRA/ Amb.	Consultant: SwedPower Contractor: ABB. During the repair works, additional damages were discovered resulting in TANESCO financing the amount exceeding the grant.
Rehabilitation of the Ubungo Substation in Dar es Salaam	Rehabilitation and additions. The sub-station serves DAR and Zanzibar.	1998-2003	68.3	TANESCO	INFRA/ Amb.	Consultant: SwedPower Contractor: ABB Distribution
Review of the National Energy Policy	Updating of previous policy from 1992.	1999-2002	3.3	Ministry of Energy and Minerals (MEM)/ TANESCO	INFRA/ Amb.	Consultant: AF-International
Rural Electrification of the Serengeti District	Substations, about 140 km transmission lines from Bunda to Natta, Muguma and Fort Ikoma and one-phase distribution lines.	2002-	50.0	Ministry of Energy and Minerals (MEM)/ TANESCO	INFRA/ Amb.	Consultant: SWECO Contractor: ELTEL Networks (previously Transelectric)
Rural Electrification of the Urambo District	Substations, 85 km transmission lines from Tabora to Urambo and, mainly, one-phase distribution lines.	2002-	50.0	Ministry of Energy and Minerals (MEM)/ TANESCO	INFRA/ Amb.	Consultant: SWECO Contractor: Power Line, RSA
Institutional Support Programme for MEM	TA for establishing the Rural Energy Agency (REA) and the Rural Energy Fund (REF) and training of the staff to be recruited.	2002-2004	28.8	Ministry of Energy and Minerals (MEM)	INFRA/ Amb.	Consultant: ECON Analysis
Performance Management Contract for Operation and Management of TANESCO	TANESCO Management Support Service Contract (MSSC) for operating and transforming TANESCO into an efficient company & Monitoring Consultancy (MC) for MSSC.	2001-2004	45.0	Ministry of Energy and Minerals (MEM)	INFRA/ Amb.	Operator, MSSC: NET Group, RSA Consultant: AF-International (MC)

Country: Project	Components	Period	Amount (MSEK)	Executing Agency	Sida Unit	Comments
Tanzania: Facilitation of Photo-Voltaic (PV) Market Dev. in Rural Tanzania Energy Support to Zanzibar	To develop the market for solar cells in rural Tanzania through commercial and market driven methods.	2002-	27.0	Ministry of Energy and Minerals (MEM)	INFRA/ Amb.	Consultant: Energy for Sustainable Development, UK
	Sida has financed a Diagnostic Energy Study, so far	2005-	3.2	State Fuel & Power Corp. Zanzibar	INFRA/ Amb.	Consultant: ÅF International
	To develop a Master Plan for an underground cable network in Hat Yai & standards for medium and low voltage underground cable networks.	1997-1998	2.0	Provincial Electricity Authority (PEA)	KTS	Consultant: SwedPower
Thailand: Feasibility Study for Underground Cable Development Project Study on System Losses Reduction and Increase in System Reliability	To increase the availability of rural electricity.	1995-1996	4.4	Provincial Electricity Authority (PEA)	KTS	Consultant: SwedPower
Uganda: Owens Falls III	Contracts OFE 3: Generators and OFE 6: Mechanical & Electrical Serv.	1997-2002	156.2	Uganda Electricity Board (UEB)	INFRA/ FINANS	Consultant: Acres Contractor: ABB The WB leading financier. Contract OFE 6 co-financed by NDF (MSEK 51.5 equiv.)
Rural Electrification, Phase 1	Project areas: Katuna-Ryakarimira in the Kabala District & Semuto-Miginje and Wabikokoma-Kiyog in the Luwero District.	2001-2006	15.0	Ministry of Energy and Mineral Development (MEMD)	INFRA/ Amb.	Consultant: Norplan Contractor: ELTEL Networks (previously Transelectric)

Country: Project	Components	Period	Amount (MSEK)	Executing Agency	Sida Unit	Comments
Uganda: Rural Electrification, Phase 2	Electrification of the four rural areas: a) Corner Kilak-Pader-Patongo/Kalongo-Adilang-Abim, b) Fort Portal - Bundibuguo-Nyahuka, c) Rugombe - Kyenjojo - Katooke & d) Namutere - Namayemba	2005-	74.0	Ministry of Energy and Mineral Development (MEMD)	INFRA/ Amb.	Consultant: Norplan Contractor: To be selected Connecting the four areas to the main grid
Mbarara - Nkenda - Fort Portal Transmission Line	Feasibility Study	2006-	3.0	Uganda Electricity Transmission Comp. (UETCL)	INFRA/ Amb.	Consultant: SWECO
Rural Energy Agency	Institutional Support and Training	2005-	10.0	Ministry of Energy and Mineral Development (MEMD)	INFRA/ Amb.	Consultant: Carl Bro
Ukraine: District Heating Project, Sevastopol	Feasibility Study	1996-1997	3.1	Sevteploenergo	ÖST/ UUM	Consultant: AF Energikonsult The Study indicated that the initially proposed upgrading of the DH system would not be cost efficient and the use of smaller gas-fuelled boilers was recommended.
Oil/Gas-burner for Odessa	Gas-burner to demonstrate the advantage of modern oil/gas-burners.	2004-2006	1.1	Odessateploenergo	UUM	Part of the DemoÖst Programme Contractor: Petrokraft
Individual Heating Substations for Odessa	45 pre-fabricated individual heating substations with separate regulators for 34 residential blocks.	2004-2006	2.6	Odessateploenergo	UUM	Part of the DemoÖst Programme Contractor: Alfa Laval
Pre-insulated District Heating Pipes for Odessa	About 11 000m pre-isolated pipes of various sizes for connecting the boiler at Gormolzavod to 34 residential blocks.	2004-2006	2.3	Odessateploenergo	UUM	Part of the DemoÖst Programme Contractor: Alstom Powerflow Systems

Country: Project	Components	Period	Amount (MSEK)	Executing Agency	Sida Unit	Comments
Vietnam: National Hydro Power Study, Phase 1	Development of a National Hydro Plan based on water resource planning with a multi-sectorial approach and where the use of alternative power systems were taken into account.	1998-2006	31.7	Ministry of Planning and Investment	INFRA/ Amb.	Consultants: Norplan/Statkraft/SWECO Co-financed by NORAD on 50/50 basis.
Song Hinh Multi Purpose Project	A multi purpose project for hydro power generation (70MW), downstream irrigation (8770 ha) and fish farming in the reservoir (41 km ²).	1996-2003	251.0 (Grant 112.6)	Electricity of Vietnam (EVN) / Ministry of Agriculture & Rural Dev.	INFRA/ FINANS Amb.	Consultant: Domestic + Swedish advisor Contractors: Domestic (construction) and ABB Generation/Kvaerner. Co-financiers: NDF (MUSD 8.4) and NIB (MUSD 15.0).
Qui Nhon 110 kV, 22 kV Network Project	One 110/22 kV substation, 119 units 22/0.4 kV substations, 30 km 32 kV lines, 88 km 0.4 kV lines & training.	1996-2003	35.0	Binh Dinh Power Distrib. Department (BDPD),	INFRA/ Amb.	Contractor: Transelectric In 1994, MSEK 10 was allocated. In 1996 the amount was increased to MSEK 35 to include the 110/22 kV substation and auxiliary equipment.
Thai Nguyen Network Rehabilitation Project	Reinforcement of the transformer capacity by a new 110/22 kV substation and a new 22 kV system.	1996-1998	34.0	Thai Nguyen Power Distribution Department (TNPD)	INFRA/ Amb	Consultant: SwedPower Contractor: Transelectric
Transformer Stations in Southern Vietnam	A total of six 110/22 substations.	1997-2001	60.0 (Grant 20.4)	Electricity of Vietnam (EVN)	FINANS Amb.	Contractor: ABB
Power Distributions in Central Vietnam	Improved power distrib. at Da Nang, and Tuy Hoa (22 kV networks & low voltage networks), and at An Nhon (110 kV substation, 15 km 110 kV line, 22 kV network and low volt. network). Development of programme for training of trainers.	1998-2006	122.0 (Grant 50.5)	Electricity of Vietnam (EVN)	INFRA/ FINANS	Consultant: SwedPower Contractors: ELTEL Networks (previously Transelectric) for Da Nang & Tuy Hoa, ABB for An Nhon.

Country: Project	Components	Period	Amount (MSEK)	Executing Agency	Sida Unit	Comments
<u>Vietnam:</u> Transformer Stations in Southern Vietnam	Totally six 110/22 substations, two units to be located east of Saigon and four units in the Mekong Delta.	2000-2006	80.0 (Grant 28.0)	Electricity of Vietnam (EVN)	FINANS Amb.	Contractor: ABB for two substations. The remaining substations will not be financed by the credit.
500 kW Transformer Station at Ha Tinh	Sub-Station and Technical Services.	2000-2002	112.0 (Grant 39.2)	Electricity of Vietnam (EVN)	FINANS Amb.	Consultant: SwedPower Contractor: Alstom
Demand Side Management (DSM)	Four contracts: DSM Policy Dev., Load Research & Load Manag. Dev., Energy Efficiency Standards and Energy Efficiency Commercial Building Code(EECBC).	1999-2003	30.0	The World Bank (WB)/ Ministry of Industry/ Electricity of Vietnam (EVN)	INFRA/ Amb.	Consultants: Fishner (for DSM), Haglar Bailly (for EECBC) and Hydro Quebec (for the remaining two contracts). A component of the WB appraised Vietnam Transmission, Distribution & Disaster Reconstruction Project.
Customers Services and Manag. Training for Power Companies	Strengthening the capacity in planning for extension of distribution networks, project management and customers' services.	2000-2002	5.0	EVN/Power Comp. No 3 /Hanoi Power Company	INFRA/ Amb.	Consultant: Sycon/AF-International
Regional Load Dispatch Centre, Hanoi	SCADA system for 35 generation and transformer stations.	2000-2002	50.2	Electricity of Vietnam (EVN)	INFRA/ Amb.	Consultant: SwedPower Contractor: ABB
<u>Zambia:</u> Kafue Gorge Rehabilitation	Feasibility Study, preparation of Tender Documents and Construction /Installation Supervision. In addition, training of ZESCO staff.	1996-2006	27.0	ZESCO	INFRA/ Amb.	Consultant: SwedPower A component of the WB appraised: Power Rehabilitation Programme.
Study of the ZESCO Tariffs	To establish suitable structures and levels of the ZESCO tariffs.	1996-1997	4.8	ZESCO	INFRA	Consultant: SwedPower
Electrification of Low Income Areas	A pilot project: Electrification of the Pamodzi Township in Ndola.	1996-1998	1.4	ZESCO	INFRA	Consultant: SEI Utilization of ready boards.

Country: Project	Components	Period	Amount (MSEK)	Executing Agency	Sida Unit	Comments
Zambia: Environmental and Social Affairs Unit at ZESCO	TA for establishing the unit including training of the appointed staff.	1997-2001	6.0	ZESCO	INFRA	Consultant: SwedPower
Kafue Gorge Regional Training Center (KGRTC), Phase III	The center was managed by regional staff since 1995 with assistance of external specialists. Phase III involved development of new courses, computer training, short term experts and scholarships.	1997-2000	9.2	ZESCO	INFRA	Sweden and Norway has supported KGRTC since 1989 on a 50/50 basis with NORAD as the Lead Donor. In addition, a Grant of MSEK 1.6 was approved in 2001 for Female Engineer Training.
Support to the National Control Center (NCC)	Training of ZESCO staff in the operation and maintenance of the NCC.	1998-2000	6.0	ZESCO	INFRA/ Amb.	Consultant: SwedPower The NCC was financed by Sweden, delivered by ABB and commissioned in 1996. The concerned training is in addition to the one provided by ABB.
Rural Electrification by providing Electricity Services using Photo- voltaic Systems through Energy Service Companies (ESCOs)	Pilot project involving four ESCOs and totally 400 PV systems. The repayments to be paid into a revolving fund for establishing additional ESCOs.	1998-2004	14.1	Ministry of Energy and Water Development	INFRA/ Amb.	Consultants: SEI Supplier of PV units: Electric Maintenance Ltd.
Institutional Building of the Energy Regulation Board (ERB)	Consulting Services and Institutional Support to ERB including training.	1999-2004	8.4	ERB	INFRA/ Amb.	Consultant: Phase I: SWECO, Phase II: Cap Gemini Ernst & Young
Institutional Development of ZESCO	To turn ZESCO into a efficient commercial organization.	1999-2003	8.1	ZESCO	INFRA/ Amb	Consultant: SwedPower
Institutional Building of the Rural Electrification Authority (REA)	Consulting services for the establishment and initial operation of REA.	2006-	10.0	Ministry of Energy and Water Development	INFRA/ Amb.	Consultants: ECON Analysis In addition, Sweden has contributed (MSEK 2.0) to the REA T.A. Fund.

Country: Project	Components	Period	Amount (MSEK)	Executing Agency	Sida Unit	Comments
Zimbabwe: Cahora Basa-Zimbabwe Interconnection	Consulting Services in both Mozambique and Zimbabwe	1995-1999	15.7	Electricidade de Moçambique (EDM)/ Zimbabwe Electrical Supply Authority (ZESA)	KTS/ INFRA	Consultant: SwedPower/Norconsult Co-financed by NORAD (MNOK 11.7) The equipment and the works at the Zimbabwe side were financed by the NDF, the Finish Export Credit (FEC), Caisse Francaise de Dev. (CFD) and the European Investment Bank (EIB).

Country: Project	Components	Period	Amount (MSEK)	Executing Agency	Sida Unit	Comments
Organizations: ESMAP: Continued Support	Policy advice on sustainable energy to governments of developing countries and of economies in transition.	1995-	62.7	The World Bank/UNDP	INFRA	The Energy Sector Management Assistance Project (ESMAP) was established in 1983. Supported by the WB, UNDP, bilateral donors and private companies.
AIT: Electric Power Systems Management (EPSM)	Faculty Support, Short Term Experts and Scholarships (students from Cambodia, Laos and Vietnam).	1996-2000	11.0	Asian Institute of Technology (AIT)	INFRA	The EPSM (with Swedish support) started 1993. Previous financing (MSEK 9.0) included among others a long term expert.
KTH: Intern'l Master Education in Sustainable Energy Engineering	A one year education in the fields of power generation and energy utilization by means of sustainable and environmentally compatible technologies.	1997-2004	4.5	Royal Institute of Technology, Stockholm	INFRA	Open to all students but particularly to students from developing countries or from countries with economies in transition. Sida financed six scholarships until mid-2002 and ten scholarships, thereafter.
SEI's Energy, Environment and Development Programme	Since 1998, the support has been concentrated to SEI's energy library, newsletter and energy seminars to facilitate the distribution of current information on energy, environment and development.	1996-	44.3	Stockholm Environment Institute (SEI)	INFRA/ SAREC	SIDA/SAREC/Sida hade financed the programme since the start of SEI in 1990. At first, the emphasize was on pilot projects that could result in the use of sustainable energy resources with specific consideration of environ. issues & energy efficiency.
ENERGIA Network, Phase 2 & 3	To strengthen the role of women in the energy sector and to promote sustainable energy development.	2000-	9.5	ETC International	INFRA	ENERGIA was founded in 1995 to promote women's active participation in all areas of energy use, supply and management.
Foundation EDP	Promotion of awareness of Energy Conserv. & Renewable Energy among women in Cambodia/Laos/Vietnam.	2000-2002	4.0	The women's unions in the three countries: CWPD, LWU & VWU	INFRA	Foundation EDP is a NGO. (EDP= Energy Development and Planning)
Public-Private Infrastructure Advisory Facility (PIIAF)	Identifying, disseminating and promoting best practices on matters related private sector involvement in infrastructure in developing countries	2000-	82.2	PPIAF's Programme Management Unit hosted at the World Bank	INFRA	Channeling technical assistance to governments on strategies and measures to tap the full potential of private sector involvement in infrastructure.

Country: Project	Components	Period	Amount (MSEK)	Executing Agency	Sida Unit	Comments
<u>Organizations:</u>						
Private Infrastructure Development Group (PIDG)	Encouraging private sector investment in infrastructure in developing countries.	2002-	1.4	PIDG's Programme Management Unit hosted at the Crown Agents for Overseas Development	FINANS	Multi-donor organization.
i) PIDG's Technical Assistance Facility (TAF)	Provides grants to the various PIDG Facilities and Affiliated Programmes.	2006-	MUSD 2.0	PIDG's Programme Management Unit	FINANS	May be used for capacity building activities, provision of advisors, training, technical assistance etc.
ii) Emerging Africa Infrastructure Fund (EAIF)	EAIF may provide lending to projects in 45 countries in the sub-Saharan Africa.	2003-	163.4	PIDG's PMU	FINANS	A conditional loan.
iii) GuarantCo	To mitigate risks for local currency financing of infrastructure by local institutional lenders.	2006-	MUSD 15.0	PIDG's PMU	FINANS	A conditional loan.
Development Collaboration Partnership Fund (DevCo)	To defray the costs of expert consultants in IFC-lead teams to prepare infrastructure projects in PIDG eligible countries.	2005-	24.0	IFC's Advisory Services Department (CAS)	FINANS	DevCo is a PIDG Affiliated Programme.
Global Partnership for Output Based Aid (GPOBA)	To fund, design, demonstrate and document output based aid approaches for sustainable delivery of basic services to the poor.	2006-	MUSD 3.0	The World Bank through a Trust Fund	FINANS	GPOBA is a PIDG Affiliated Programme.

Country: Project	Components	Period	Amount (MSEK)	Executing Agency	Sida Unit	Comments
<u>Organizations:</u> EAC Power Master Plan Study	Master Plan for regional dev. of power production and transmission in EAC-areas. Possible connection to Southern Africa Power Pool to be studied.	2002-2005	10.0	East African Community (ECA) /the World Bank	INFRA	Consultants: BKS ACRES/Scott Wilson Piésold/Kagga & Partners
Southern Africa Power Pool (SAPP) Coordination Centre in Harare, Zimbabwe	Technical Assistance	2005-	10.0	SAPP	INFRA	Consultant: Power Planning Associates, UK
East Africa Regional Project: Rusumu Falls Hydro Power Project	Preparation of a Project Development Program	2006-	16.0	Rwanda, Burundi and Tanzania assisted by the World Bank	INFRA	The World Bank, NORAD and Sida will finance the preparations. AfDB has also expressed interest in the project.

Annex 1

Sammanställning av insatser inom energiområdet från och med 1970

SAMMANSTÄLLNING

AV

INSATSER INOM ENERGIOMRÅDET

F.R.O.M. 1970

DÄR

Sida (inklusive f.d. SIDA och f.d. BITS)

ÄR/VARIT

FINANSIÄRER

INNEHÅLLSFÖRTECKNING

	<u>Antal sidor</u>
Förord	1
Vattenkraftsprojekt	3
Ångkraftverk	2
Gasturbiner	2
Ej kraftgenererande elinsatser	9
Tekniskt samarbete	25

FÖRORD

Efter bildandet av Sida genom sammanslagning av bl. a. f.d. SIDA och f.d. BITS den 1:a juli 1995 har det varit önskvärt att göra en översiktlig sammanställning av de insatser inom energiområdet, som finansierats av dessa organisationer. Sammanställningen sträcker sig bakåt i tiden till 1970. Den har delats upp i följande fem grupper:

- vattenkraftsprojekt
- ångkraftverk
- gasturbiner
- ej kraftgenererande elinsatser
- tekniskt samarbete

Inom de fyra första grupperna redovisas separat de insatser som påbörjats av f.d. SIDA, f.d. BITS resp. Sida. Detta gäller dock inte förteckningen över konsultinsatser som finansierats under begreppet "Tekniskt Samarbete" som utan uppdelning inkluderar insatser som påbörjades av såväl f.d. BITS som Sida.

Anders Hagwall

Chef för Infrastrukturenheten

INEC/INFRA/Juni 1997

VATTENKRAFTSPROJEKT

3 pages

VATTENKRAFTSPROJEKT DÅR											
Sida (SIDA/BITS) ÅR/VARIT MEDFINANSIÄRER											
LAND	MOTTAG. MYNDIG.	PROJEKT	ÅR	KAPACITET (MW)	GWh/år	VATTENMAGASIN		FINANSIERING		KOSTNAD/ EFFEKT (MSEK/MW)	KOMMENTAR
						DAMM- VOLUM (Mm³)	YTA (km²)	SVENSK (MSEK)	TOTALT (MSEK)		
F.D. SIDA (Gäva)						HÖJD (m)					
Etiopien		Yadot	1988 - 90	0.4	2.8		Strömkraftverk	10,7	24	60	Förberett för dubbel kapacitet
Indien	NHPC	Uri	1989 - 97	480	3200	22	Strömkraftverk	700	4991	10,4	Plus svenska kred.
	GEB	Panam	1989 - 95	2,2		55	735 90	28	43	19,5	Bevattningsprojekt
Kenya	Tarda	Kiambere	1980-talet	140		112	600 25	80	804	5,7	CIDA & IBRD med-finansiärer
Mocambique		Corumana	1988-90	14,5	38	45		100 MNOK	184 MNOK	Ca 12,7	Bevattningsprojekt
Nicaragua	INE	Wabule	1988-90	1,5	7,1			23,7			
	INE	Las Canoas	1988-90	1,5	8,4			15,4			Bevattningsprojekt
Laos		Xeset	1988 - 92	45	181		Strömkraftverk	145	330	7.3	
Sri Lanka	Mahaweli Authority	Kotmale	1979 - 84	201	445	95	174 6.2	1753	3280	16,3	Dessutom bevattn.
Tanzania	TANESCO	Kidatu I	1970-75,	100		40	125	80.8	214.4	2.1	Incl. a 220 kV line to
	"	Kidatu II	1976-81	100				89.6	351.4	3.5	Ubungo near DAR
	"	Mtera	1984 - 92	84		45	3800 660	135.3	245	2.9	Incl. construction of the Mtera Dam
	"	Pangani	1990 - 94	66			0,8	208	823	12.5	Incl. a 132 kV line to Tanga
	"	Kihansi	1995 -	180		25	Strömkraftverk	200= 25.6MUSD	263MUSD	11,4	Beräknad kostnad
Zambia	ZESCO	Kafue Gorge	1970-talet	900				50			Byggnation
			1970-talet-1996					155	274		Driftstöd,ung. belopp Rehabilitering
Uganda	UEB	Owen Falls III	1994-	252 (utökning 102)		26	hela Viktoriasjön	30	MUSD306		IBRD/IDA huvud-finansiär. Rehab. + utökning jämte rehab. av 132 kV kraftledning

[illegible]

ÅNGKRAFTVERK

2 pages

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GASTURBINER

2 pages

EJ KRAFTGENERERANDE ELINSATSER

9 pages

EJ KRAFTGENERERANDE ELINSATSER						
LAND	MOTTAG. MYNDIG.	PROJEKT	AR	FINANSIERING		
F.D. SIDA (Gåva)				SVENSK (MSEK)	TOTALT (MSEK)	Kommentar
Angola	ENE/SONEFE	Dembos	1983-1987	32 (Dessutom BITS-kredit)		Elektrifiering av 8 byar belägna 100-200 km NO Luanda med sammanlagt 120 000 innevånare. Projektet bestod av totalt ca 300 km 60 kV, 30 kV & 0,4 kV ledningar jämte 43 transformatorstationer.
Angola	ENE/SONEFE	Dembos 2	1987	11,2 (Dessutom BITS-kredit)		Tilläggsfinansiering för det ovan beskrivna Dembos-projektet
Angola	ENE/EDE 2	Distribution	1990-1997	88		Rehabilitering och underhåll av distributionssystem och belysning i Luanda med förorter jämte nytt ställverk.
Eritrea	EEA	Stöd till energisektorn	1992-1995	28		Institutionsutveckling, reservdelar & studier av elgenerering och transmission.
Indien	National Power Transmission Corp. (NPTC)	The Vindhychal HVDC Back to Back Station	1984-1989	45 (Dessutom BITS-kredit)	*	Projektet är en del av "the Rihand Power Transmission Project" under NTPC. Det utgör en sammanbindningslänk mellan de norra och västra elnäten i Indien för att underlätta elkraftsutbyte mellan näten och samtidigt öka stabiliteten i de två systemen.
Indien	National Power Transmission Corp. (NTPC)	The Rihand-Dehli HVDC Transmission Line	1986-1992	50 (Dessutom BITS-kredit)	*	Projektet är en del av "the Rihand Power Transmission Project" under NTPC och består av en 814 km lång 1500 MW (2x750 MW) HVDC transmissionsledning sammanbindande Rihand beläget nära elproducerande kolkraftverk med Dahi beläget nära New Dehli.
Indien	Maharashtra State Electricity Board (MSEB)	The Chandrapur - Padge HVDC Transmission Line	1994-	215 (Dessutom BITS-kredit)	*	Projektet är en del av "the Second Maharashtra Power Project" under MSEB och består av en 735 km lång 1500MW (2x750 MW) HVDC transmissionsledning sammanbindande Chandrapur, där det finns koleldade kraftverk, med Padge nära Bombay.
* Det har inte varit möjligt att omräkna finansieringen i SEK pga stora kursfluktuationer mellan de aktuella valutorna.						

		EJ KRAFTGENERERANDE ELINSATSER		DAR	
		Sida (SIDA/BITS) ARVARIT MEDFINANSIÄRER			
LAND	MOTTAG. MYNDIG.	PROJEKT	AR	FINANSIERING SVENSK (MSEK) TOTALT (MSEK)	Kommentar
F.D. BITS (Krediter)					
Algeriet	SONELGAZ	Utrustning för eldistribution	1985-	16,4 (Gåvodel 8)	Leverans för restaurering & utbyggnad av landets elnät bestående av transformatorer, och brytare till 15 transformatorstationer.
Algeriet	SONELGAZ	Transformatorstation, Tilrehmt	1986-	93,4 (Gåvodel 40,8)	Ställverksprojekt för att möjliggöra industriutveckling i de södra delarna av landet.
Algeriet	SONELGAZ	Högspänningsbrytare	1989-	8,8 (Gåvodel 2,1)	Målsättning: Att förstärka elnätet i Jijel mellan Alger och Annaba. Leverans av 40 högspänningsbrytare jämte montageövervakning.
Angola	ENE/SONEFE	Dembos	1983- 87	108,8 (Gåvodel 18,6 jämte MSEK 32 från SIDA)	Elektrifiering av 8 byar belägna 100-200 km NO Luanda med sammanlagt 120 000 innevånare. Projektet bestod av totalt ca 300 km 60kV, 30kV & 0,4 kV ledningar jämte 43 transformatorstationer.
Angola	ENE/SONEFE	Dembos 2	1987	25 (Gåvodel 6,3 jämte MSEK 11,2 från SIDA)	Tilläggsfinansiering för det ovan beskrivna Dembos-projektet.
Ecuador	INECEL	Nationellt kontrollcentra	1992-	70 (Gåvodel 28,4)	Leverans, montage och igångkörning av en nationell driftcentral.
Etiopien	EELPA	Ställverk & utrustning för transformatorstat.	1987-	29,9 (Gåvodel 11,7)	Leverans av 132 kV ställverk och kringutrustning för 7 transformatorstationer och utökning av 3 existerande transformatorstationer.
Filippinerna		HVDC Leyte - Luzon	1994-	350 (Gåva)	Elöverföring från Leyte till Manila. Den svenska insatsen avser 2 HVDC-stationer. Världsbanken garanterar ett obligationslån på c:a MSEK 500 & står för en gåva på c:a MSEK 15 från Global Environment Facility
Anmärkning: Tekniskt samarbete (f.d. BITS) ej redovisat					

				EJ KRAFTGENERERANDE ELINSATSER			
				DAR			
				Sida (SIDA/BITS) ÅR/VARIT MEDFINANSIÄRER			
LAND	MOTTAG. MYNDIG.	PROJEKT	ÅR	FINANSIERING	Kommentar		
F.D. BITS (Krediter)				SVENSK (MSEK)	TOTALT (MSEK)		
Ghana	Ghana Electricity Corp. (GEC)	Landsbygdselektrif.	1993-	56,6		Projektet består av 34,5 kV ledningar från distrikthuvudstaden Nkawakaw till Donkkorkrom (125 km) och till New Abirem (42 km). En utökning av transformatorutrustningen i Nkawakaw ingår.	
				(Gåvodel: 18)			
Indien	National Power Transmission Corp. (NPTC)	The Vindhyachal HVDC Back to Back Station	1984-1989	425,4	*	Projektet är en del av "the Central Power Transmission Project" under NTPC. Det utgör en sammanbindningslänk mellan de norra och västra elnäten i Indien för att underlätta elkraftsutbyte mellan näten samtidigt öka stabiliteten i de två systemen.	
Indien	National Power Transmission Corp. (NTPC)	The Rihand-Dehli HVDC Transmission Line	1986-1992	900	*	Projektet är en del av "the Rihand Power Transmission Project" under NTPC och består av en 814 km lång 1500 MW (2x750 MW) HVDC transmissionsledning sammanbindande Rihand beläget nära elproducerande kolkraftverk med Dahri beläget nära New Dehli.	
				(Gåvodel: 175 jämte MSEK 50 från SIDA)			
Indien	Maharashtra State Electricity Board (MSEB)	The Chandrapur - Padge HVDC Transmission Line	1994-	535	*	Projektet är en del av "the Second Maharashtra Power Project" under MSEB och består av en 735 km lång 1500MW (2x750 MW) HVDC transmissionsledning sammanbindande Chandrapur där det finns ett koleldat kraftverk med Padge nära Bombay.	
				(Gåvodel 175 jämte MSEK 215 från SIDA)			
Jordanien	Jordanien Electricity Authority (JEA)	Driftledningscentral	1987-1989	45,7		Uppgradering av en nationell driftcentral för att förbättra övervakning och styrning av elnätet. Leverans av driftövervakningssystem jämte installation, utbildning och idrifttagande.	
				(Gåvodel: 13,4)			
Jordanien	JEA	Utökning av drift-övervakning	1989	2,5		Insatsen omfattade ytterliga utbildning och utrustning för den ovan beskrivna driftcentralen.	
				(Gåvodel: 1)			
Anmärkning: Tekniskt samarbete (f.d. BITS) ej redovisat							
* Det har inte varit möjligt att omräkna finansieringen i SEK pga kursfluktuationer mellan de aktuella valutorna							

		EJ KRAFTGENERERANDE ELINSATSER		DÅR	
		Sida (SIDA/BITS) ÅR/VARIT MEDFINANSIÄRER			
LAND	MOTTAG. MYNDIG.	PROJEKT	ÅR	FINANSIERING SVENSK TOTALT (MSEK)	Kommentar
F.D. BITS (Krediter)				(MSEK)	
Kenya	Kenya Power & Light Corp. (KPLC)	Driftövervakning	1987-	82,5 (Gåvodel: 22,5)	En nationell och två regionala (östra Kenya) driftledningscentraler
Kenya	KPCL	Tilläggsfinansiering	1990-	6 (Gåvodel: 2)	För att täcka kostnadsökningar pga förseningar av ovanstående projekt för driftövervakning.
Kenya	KPCL	Transmission, Embakasi	1988-	30,9 (Gåvodel: 9,4)	En 12 km dubbel 220 kV ledning mellan Embakasi och Nairobi jämte en 220 kV transformatorstation i Embakasi.
Kina	China Nat Tech Imp/Exp Corp	Kolvattenanläggning	1989-	35,4 (Gåvodel: 14,7)	Kombinerad anläggning för koltvätt och produktion av kolvattenbränsle.
Kina	China Nat Ind Mach Imp/Exp Corp	Fjärrvärme, Dahlian	1993-	25,1 (Gåvodel: 8)	Projektet avser utbyggnad av fjärrvärme för 120 000 personer
Lesotho	Lesotho Electricity Corporation (LEC)	Elektrifiering	1985-	32,7 (Gåvodel: 9,6 jämte MSEK 21 från SIDA)	Anläggning av 33 kV kraftledningar inklusive ett kontrollsystem för övervakning och styrning av nätet.
Lesotho	LEC	Elektrifiering II	1993-	82,8 (Gåvodel: 41,4)	Fortsättning på tidigare elektrifieringsprojekt i Lesotho finansierade av BITS (1985) och Sida (1986). Det aktuella projektet omfattade ledningar och transformatorstationer och samfinansierades med NORAD (60 MNOK)
Malaysia	NEB	Transformatorstationer	1987-	28,6 (Gåvodel: 8)	Anläggning av sju nya och utökning av två befintliga transformatorstationer.
Malaysia	SESCO	Eldistribution.	1987-	31,4 (Gåvodel 7,9)	Sex 33/11 kV transformatorer och 24 km transmissionsledningar för elektrifiering av mindre orter i Sawarak
Anmärkning: Tekniskt samarbete (f.d. BITS) ej redovisat					

EJ KRAFTGENERERANDE ELINSATSER				DÅR	
Sida (SIDA/BITS) ÅR/VARIT MEDFINANSIÄRER					
LAND	MOTTAG. MYNDIG.	PROJEKT	ÅR	FINANSIERING	Kommentar
F.D. BITS (Krediter)				SVENSK TOTALT (MSEK)	
Malaysia	NEB	Transformatorstationer	1987-	28,6 (Gåvodel: 8)	Anläggning av sju nya och utökning av två befintliga transformatorstationer.
Malaysia	SESCO	Eldistribution.	1987-	31,4 (Gåvodel: 7,9)	Sex 33/11 kV transformatorer och 24 km transmissionsledning för elektrifiering av mindre orter i Sawarak
Malaysia	SESCO	Transmission	1989-	56,4 (Gåvodel: 19,7)	Tredje etappen av ett större energiförsörjningsprojekt med vattenkraftstationen Batang Ai som bas. Projektet består av en 275 kV-kraftledning mellan Sibul och Bintulu. Den svenska leveransen avsåg två st. transformatorstationer inkl. installation och igångkörning.
Pakistan	Water & Power Dev. Authority	Driftövervakning	1987-	24,5 (Gåvodel: 8)	Ingår i ett större projekt finansierat av AsDB för att utveckla och effektivisera landets transmissionsnät. De svenska finansieringen omfattade en nationell driftcentral och två regionala kontrollcentraler.
Pakistan	Water & Power Dev. Authority	Transformatorstation	1995-	91,8 (Gåvodel: 30)	Transformatorstation i Bannu. Ingår i Världsbankens 12th Power Project.
Tunisien	Société Tun. de L'Electricité	Eldistribution	1984-	10,4 (Gåvodel: 3,7)	Finansiering av ställverk.
Zimbabwe	Central African Power Corp.	Driftsledningssystem	1984-	91,8 (Gåvodel: 33,5)	Driftcentral för övervakning och styrning av landets kraftnät.
Zimbabwe	ZESA	Utbyggnad av driftledningssystem	1992-	22,7 (Gåvodel: 7,8)	Utbyggnad och komplettering av tidigare finansierat (1984) nationellt driftövervakningssystem.
Zimbabwe	Bulawayo Munic. Electricity Departm.	Driftsystem	1987-	32 (Gåvodel: 12,6)	Finansiering av en driftcentral med fjärrkontrollsystem för övervakning och drift av 18 kraft- och distributionsstationer.
Anmärkning: Tekniskt samarbete (f.d. BITS) ej redovisat					

TEKNISKT SAMARBETE

25 pages

970610

**** BITS ****

Sida : 1

TECHNICAL COOPERATION - COMMITMENTS BY BITS - ALL

Allocation....: Tekniskt Samarbete; C003 002

Region.....: All

Country.....: All

Sector.....: Energy

BITS No Project	Commitment	Swedish partner	Local partner	Status	Completion Project information / Follow up
Algeria					
Energy					
DZA0171 Hydro Power personnel forma	2,823,000	Purac Nordic AB	WEDEA Vattenkraft	Completed	1985
Subtot Energy	2,823,000				
Subtot Algeria	2,823,000				
Botswana					
Energy					
BWA0101 National Control Centre upg	2,448,000	Swedpower	Botswana Power Corporation	On-going	1986
					Advisory services for the supervision of the up- grading and expansion of the national control system for distribution of electricity and install of Scada-system.
Subtot Energy	2,448,000				
Subtot Botswana	2,448,000				
Egypt					
Energy					
EGY0021 High Tension Transm 1-3	3,499,000	Swedpower	EEA	Completed	1985
					Most suggested proposals adopted by EEA according to independent evaluation 1987.
EGY0022 High Tension Transm IV	5,640,000	Swedpower	EEA	Completed	1988
EGY0023 High Tension Transm 4	119,000	Swedpower	EEA/Kons.Goldamith	Completed	1988
EGY0024 High Tension Transm.Tele	4,000,000	Swedpower	EEA	Completed	1994
					Technical specification prepared.

970610

**** BITS ****

Sida : 2

TECHNICAL COOPERATION - COMMITMENTS BY BITS - ALL

Allocation.....: Tekniskt Samarbete; C003 002

Region.....: All

Country.....: All

Sector.....: Energy

BITS.No	Project	Commitment	Swedish partner	Local partner	Status	Completion	Project information / Follow up
EGY0025	High Tension Transm,Vibrati	731,000	Swedpower	EEA	Completed	1994	
EGY0026	High Tension Transm,Guideli	1,069,000	Swedpower	EEA	Completed	1995	
EGY0031	Electr.Engineers Train. 1-3	2,293,000	Swedpower	EEA	Completed	1978	Egyptian engineers and technicians trained in Sweden and in Egypt. Phase I-V.
EGY0032	Electr.Engineers Train 4	1,260,000	Swedpower	EEA	Completed	1985	Egyptian engineers and technicians trained in Sweden and in Egypt. Phase I-V.
EGY0041	Aswan II, Technical inspect	730,000	Sweco AB	EEA	Completed	1979	IBRD loan for civil works and consultancy services
EGY0091	Feasibility study - Quattrra	2,628,000	Sweco AB	EEA	Completed	1984	The study recommended postponement of the project. Not economically feasible at present oilprices. Also environmental concern.
EGY0131	Minihydroplants, feasibilit	1,279,000	Sweco AB	Min.of Irrigation	Completed	1987	The plants not feasible according to study.
EGY0201	Feasibility study - Esna	1,747,000	Sweco AB	Min. of Irrigation	Completed	1982	Italian loan for construction of dam, powerstation and locks. Under construction in 1991. Capacity will be 6 x 18 MW.
EGY0261	Aswan Hydropower, study	215,000	Swedpower	EEA	Completed	1985	IBRD loan for equipment to training center (2,8 MSUD). Among suppliers Swedish company Terco together with Italian, Norwegian and Danish Companies. EEA finances civil
EGY0262	Hydro Power Training Center	1,515,000	Swedpower	EEA	Completed	0000	
EGY0271	Energy conservation, studie	1,132,000	ÅF Energikonsult AB	OEP	Completed	1986	According to evaluation: implementation of proposals at two fo the industries. At on - some improvements, at one - no improvements.
EGY0292	Energy conservation, studie	3,500,000	ÅF Energikonsult AB	OEP	Completed	1989	According to evaluation: implementation of proposals at two of the industries. At one - some improvements, at one - no improvements.
EGY0311	Aswan I. Technical inspecti	1,825,000	Sweco AB	EEA	Completed	1988	German loan for rehabilitation and consultancy services. Contracts for rehabilitation awarded in the fall of 1991. Modernization scheduled to be completed by 1996 to an estimated cost of 140 MUSD

TECHNICAL COOPERATION - COMMITMENTS BY BITS - ALL
 Allocation....: Tekniskt Samarbete; C003 002
 Region.....: All
 Country.....: All
 Sector.....: Energy

BITS.No Project	Commitment	Swedish partner	Local partner	Status	Completion	Project information / Follow up
EGY0431 Energy conservation, studie	100,000	ÅF Energikonsult AB	OEP	Completed	1988	According to evaluation: implementation of proposals at two of the industries. At one - some improvements, at one - no improvements. Study delivered. Rehabilitation deemed feasible. EEA decided to go ahead with the project.
EGY0461 Nag Hammadi, Minipower plan	1,525,000	Sweco AB	EEA, Min. of Electrici	Completed	0000	
egy0462 Nag Hammadi, tender documen	2,655,000	Sweco AB	EEA	Completed	1995	
EGY0481 Aswan Hydropower, Training	1,000,000	Swedpower	EEA	Completed	1990	12 persons trained in education administration and planning for 6 weeks at Jokkmokkskolan.
EGY0482 Training of teachers, Aswan	2,120,000	Swedpower	EEA	Completed	1992	Training for 18 instructors from ATC at Jokkmokkskolan 8 weeks in May/July 1991. All participants passed final tests. Course found good and useful by participants.
egy0483 Curriculum development, Asw	11,361,000	Swedpower	EEA	Completed	1996	
EGY0491 Computerised Maintenance sy	2,358,000	Swedpower	EEA	Completed	1993	
egy0531 Energy Conservation/Distrib	0	Swedpower	EEA	Request	0000	
EGY0561 Computer. Maintenance Syate	3,600,000	Swedpower	EEA	Completed	1996	
EGY0701 Power Plant, Mount Ataga-stu	8,142,000	Sweco AB	HPPEA	Completed	1996	
EGY0702 Add. decision - Mount Ataga	700,000	Sweco AB	HPPEA	On-going	1996	
EGY0741 Reactive Power Compensation	2,648,600	Swedpower	EEA	On-going	1996	The consultants will study the need for reactive compensation and where the installations should be made. Technical specifications will be made for the installations and a workshop will be held. First phase of the project Measurement of Power Systems Dynamics. The activities for the implementation phase will be planned and pilot stations will be selected.
EGY0801 Power System Dynamics, phas	184,000	Swedpower	EEA	Rejected	0000	
Subtot Energy	69,575,600					

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**** BITS ****

Sida : 4

TECHNICAL COOPERATION - COMMITMENTS BY BITS - ALL

Allocation....: Tekniskt Samarbete; C003 002

Region.....: All

Country.....: All

Sector.....: Energy

BITS.No	Project	Commitment	Swedish partner	Local partner	Status	Completion	Project information / Follow up
Subtot	Egypt	69,575,600					
Ghana							
Energy							
CHA0101	Electrification Central Gha	1,584,500	Swedpower	ECG	Completed	1993	Feasibility Study regarding extension of distribution network in central Ghana
CHA0171	New Electrification proj, tender as	767,800	Swedpower	Min. of Mines and Energy	On-going	1996	Preparation of tender doc., announcement of tender answering queries, evaluation of bids, assistance negotiations. Two consultants are involved with assistance
Subtot	Energy	2,352,300					
Subtot	Ghana	2,352,300					
Jordan							
Energy							
JOR0011		290,000	Swedpower	JEA	Completed	1986	
JOR0021		746,000	Swedpower	JEA	Completed	1987	
JOR0022		1,750,000	Swedpower	JEA	Completed	1989	
JOR0071		1,000,000	Swedpower	JEA	Completed	1992	
JOR0072		0	Swedpower	JEA	Request	1995	
JOR0151	Transm lines to neighb coun	252,000	Swedpower	JEA	Completed	1995	
Subtot	Energy	4,038,000					

Sida : 5

Sector.....: Energy

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BITS.No	Project	Commitment	Swedish partner	Local partner	Status	Completion	Project information / Follow up
	Subtot Energy	2,366,000					
	Subtot Mauritius	2,366,000					
	Namibia						
	Energy						
	NAM0051 HydroPower, EPUPA (Energy D	22,000,000	Swedpower	PJTC	Commitment	0000	Project regarding feasibility study for a hydro-power plant in the north of Namibia. Co-financed with NORAD.
	Subtot Energy	22,000,000					
	Subtot Namibia	22,000,000					
	Sudan						
	Energy						
	SDN0051	3,400,000	Sweco AB	MIN OF IRRIGATION	Completed	1985	
	SDN0071	2,176,000	Swedpower	NEC	Completed	1984	
	SDN0091	394,000	Sweco AB	NEA	Completed	1984	
	SDN0111	285,000	Sweco AB	NEC	Completed	1984	
	SDN0151	577,000	ABB STAL AB	NEC	Completed	1986	
	SDN0181	460,000	Swedpower	NEC	Completed	1988	
	SDN0191	960,000	ABB STAL AB	NEC	Completed	0000	
	SDN0192	2,295,000	ABB Generation	NEC	Completed	1991	
	SDN0201	3,100,000	ABB Generation	NEC	Completed	1993	

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**** BITS ****

Sida : 7

TECHNICAL COOPERATION - COMMITMENTS BY BITS - ALL

Allocation....: Tekniskt Samarbete; C003 002

Region.....: All

Country.....: All

Sector.....: Energy

BITS.No Project	Commitment	Swedish partner	Local partner	Status	Completion	Project information / Follow up
Subtot Energy	13,647,000					
Subtot Sudan	13,647,000					
Tunisia						
Energy						
TUN0150 High Tension Voltage	160,000	ASEA	SOC TUN D'ELECTRICIT	Completed	1982	Training of fifteen technicians in electrical net-work management
TUN0591 Transmission dev.	3,130,000	ABB	STEG	Commitment	1999	New test methods at STRI Ludvika together with the Tunisian part, STEG, teststations in Tunisia
Subtot Energy	3,290,000					
Subtot Tunisia	3,290,000					
Zimbabwe						
Energy						
ZWE0051 Rehabilitation Power Plants	6,930,900	Swedpower	ZESA	On-going	1995	Supervision during refurbishment of power plants.
ZWE0071 Cahora Bassa-consulting ser	14,220,000	Swedpower	ZESA/ EdM Proj.Steering Com	On-going	1997	
Subtot Energy	21,150,900					
Subtot Zimbabwe	21,150,900					
Subtot Afrika och Mellanöstern	144,744,800					

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**** BITS ****

Sida : 8

TECHNICAL COOPERATION - COMMITMENTS BY BITS - ALL

Allocation.....: Tekniskt Samarbete; C003 002

Region.....: All

Country.....: All

Sector.....: Energy

BITS.No	Project	Commitment	Swedish partner	Local partner	Status	Completion	Project information / Follow up
BOL0011	Bolivia Energy	525,000	AF-Elteknik AB	ENDE	Completed	1985	Study incl. in National Energy Plan. Recommendations on investments regarding future expansion of electricity distribution network. Study served as input for decision making on expansion plan.
BOL0031	Wood based Powerplant, Trini	400,000	AF Energikonsult AB	ENDE	Completed	1985	Feasibility study was favourable to dendro power plant (3-4 MW) to supply power to Trinidad. Study was intended to form basis for financing request to IDB.
BOL0032	Wood Based Powerplant, Trini	1,864,000	FEP	ENDE	Completed	1987	Feasibility study was favourable to dendro power plant (3-4 MW) to supply power to Trinidad. Study was intended to form financing request to IDB.
BOL0041	Load Dispatch Centre	547,000	ASEA	ENDE	Completed	1986	Spare parts for LDC originally financed by Swedish International Development. Authority (15 MSEK) installed and taken into operation in 1987. Project led to better operation of network.
BOL0042		154,000	ASEA	ENDE	Completed	1986	
BOL0071	Cachuela Esperanza I	340,000	Swedpower	ENDE	Completed	8889	Swedish experts provide additional input in feasibility study performed by UNDP. Follow up studies were undertaken in 1990 with French assistance.
BOL0072		132,000	Swedpower	ENDE	Completed	8889	Swedish experts provided additional input in feasibility study performed by UNDP. Follow up studies were undertaken in 1990 with French assistance.
BOL0081	Energy Sector Evaluation	118,000	se file	se file	Completed	1989	Report on plans and priorities in energy sector. Led to BITS support for upgrading of Load Dispatch

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**** BITS ****

Sida : 9

TECHNICAL COOPERATION - COMMITMENTS BY BITS - ALL
 Allocation....: Tekniskt Samarbete; C003 002
 Region.....: All
 Country.....: All
 Sector.....: Energy

BITS.No Project	Commitment	Swedish partner	Local partner	Status	Completion Project information / Follow up
bol0101 Extension of Load Dispatch	630,000	BECO Elektronik AB	ENDE	Completed	0000 Center. Preparation fo tender documents finished in Feb 1990. Contact awarded to ABB, Sweden.
BOL0102 Extension of Load Dispatch	12,369,000	ABB	ENDE	Completed	1992
bol0103 Consultancy support, delive	374,000	BECO Elektronik AB	ende	Completed	1995
BOL0131 Telecommunication - Power i	275,000	Swedpower	ENDE	Completed	1993
BOL0141	0		ENDE	Rejected	0000
BOL0151	0		Ministry of Energy	Rejected	0000
BOL0161	0		ENDE	Rejected	0000
BOL0171 Hydmet monitor, modelling	1,664,500	SMHI	ENDE	Completed	1996
BOL0191 Training Personal Safety	842,866	Swedpower	ENDE	Completed	1994
BOL0201 Protection System, training	616,375	Swedpower	ENDE	Completed	1994
BOL0231 Condition Based Maintenance	972,445	Swedpower	ENDE	Completed	1995
Subtot Energy	21,824,186				
Subtot Bolivia	21,824,186				
Chile					
Energy					
CHL0181 Power Systems Control	90,000	KTH	Univ. Catholica de Chile	Completed	1992 3-day seminar in November 1993 on electrical power systems with 60 participants (50 from power industry) discussions with several power companies on Power Control. Recommendations given.
CHL0301 Energy Conserv. Buildings	184,000	CESCAB	La Municipalidad	Completed	1993
CHL0351 Studyvisit on Energy Politi	95,800	Scandiaconsult AB	Comisish Nacional de Energí	Rejected	0000 Study visit concerning Swedish Energy politics, legal framework and the competitive forces on the market.

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Sida : 10

TECHNICAL COOPERATION - COMMITMENTS BY BITS - ALL

Allocation.....: Tekniskt Samarbete; C003 002

Region.....: All

Country.....: All

Sector.....: Energy

BITS.No Project	Commitment	Swedish partner	Local partner	Status	Completion Project information / Follow up
-----	-----	-----	-----	-----	-----
Subtot Energy	369,800				
-----	-----	-----	-----	-----	-----
Subtot Chile	369,800				
-----	-----	-----	-----	-----	-----
Costa Rica					
Energy					
CRI0131	411,000	Swedpower	ICE	Completed	1988
CRI0171	7,000,000	ASEA	ICE	Completed	1988
CRI0181	58,000	Sweco AB	ICE	Completed	1987
CRI0182	11,236,000	ABB	ICE	Completed	1990
					In operation since February 1991. Parallel financing with Austria, capacity increase 50%.
CRI0231	381,000	Swedpower	ICE	Completed	1990
CRI0232	2,500,000	Swedpower	ICE	Completed	1990
CRI0233	8,098,000	Swedpower	ICE	Completed	1990
CRI0234	1,400,000	Swedpower	ICE	Completed	1990
CRI0235	10,314,000	Swedpower	ICE	Completed	1991
CRI0236	1,125,000	Swedpower	ICE	Completed	1995
CRI0237	269,500	Swedpower	ICE	Completed	1995
CRI0271	90,000	Boliden Contech AB	JASEC	Completed	1986
CRI0381	335,000	CECAB	WIRENEW/DSE	Completed	1991
					Advisory services completed, study vist scheduled for May 1991.
CRI0391	6,952,000	Swedpower	ICE	Completed	1994
CRI0531	2,122,000	SEC Energy	ICE	Completed	1995
CRI0601	400,574	SEC Energy	ICE	Completed	1994
CRI0611	2,450,000	Hydroconsult AB	ICE	Completed	1996
CRI0641	694,000	Swedforest International AB	Mirenem	Completed	1996

Cancelled !

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**** BITS ****

Sida : 11

TECHNICAL COOPERATION - COMMITMENTS BY BITS - ALL

Allocation....: Tekniskt Samarbete; C003 002

Region.....: All

Country.....: All

Sector.....: Energy

BITS.No	Project	Commitment	Swedish partner	Local partner	Status	Completion	Project information / Follow up
CRI0651	Industrial electricity educ	550,000	AMU	INA	Completed	1995	
CRI0751	Techn. assist. in OH trans. li	3,228,550	Swedpower	ICE	Completed	1996	
CRI0771	Feasability study La Garita	297,800	SEC Energy	ICE	Completed	1995	
CRI0781	Eff. ctrl.-electrodrom. equipm	257,750	CECAB	ICE	Completed	1996	
CRI0791	Power Engineering Seminar-	50,000	E N Cristiansen	ICE	Completed	1994	
Subtot	Energy	60,220,174					
Subtot	Costa Rica	60,220,174					
Cuba							
Energy							
CUB0191	Energy conservation, paper	435,000	IPK	se file	Completed	1984	Recommendations implemented "step by step". Result: Decrease in oil consumption.
CUB0211	Mini Power Plant - Study	845,000	NAB	se file	Completed	1986	
CUB0212	Mini Power Plant - Study	278,000	NAB	se file	Completed	1985	
CUB0232	Briquette Equipment	5,014,000	Elof Hansson	se file	Completed	1987	Improving use of straw as combustion on pilot stage.
CUB0401	Heatexchanger, equipment	176,000	Alfa-Laval AB	se file	Completed	1982	Pilot equipment. Not installed in larger scale due to high costs.
Subtot	Energy	6,748,000					
Subtot	Cuba	6,748,000					

Dominican Republic

Energy

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**** BITS ****

Sida : 12

TECHNICAL COOPERATION - COMMITMENTS BY BITS - ALL

Allocation.....: Tekniskt Samarbete; C003 002

Region.....: All

Country.....: All

Sector.....: Energy

BITS.No	Project	Commitment	Swedish partner	Local partner	Status	Completion	Project information / Follow up
DOM0031	Mini Hydro station, prefeas	225,000	Sweco AB	INDRHI	Completed	1984	Los Anones identified.
DOM0061	Producer Gas - equipment	547,000	Regut	Coener	Completed	1985	Experiment concluded and suspended.
DOM0062	Producer Gas - Equipment	177,000	Regut	Coener	Completed	1986	See (DOM0061).
DOM0101	Los Anones - electronech.eq	1,740,000	Sweco AB	INDRHI	Completed	1991	
DOM0111	Renewable Fuel - Study	500,000	Beijerininst.	Energy Institute	Completed	1987	
DOM0121	Coal Operator training	521,000	Ångpanneföreningen (ÅP)	CDE	Completed	1986	Investment not recommended.
DOM0131	Palomino hydroplant	1,635,000	Sweco AB	CDE	Completed	1989	
DOM0151	Manabao Bejucal hydropower	31,000	Uppsala Universitet	CDE	Completed	1987	
DOM0161	Generators - equipment suga	4,800,000	ASEA	CEA	Completed	1984	
DOM0221	Load Dispatch Centre - stud	346,000	BECO Elektronik AB	CDE	Completed	1991	Cost savings estimated to 1-2 MUSD annually when balance between available generation capacity and load demand.
DOM0261	Nat. contr. centre: tender	1,905,000	BECO Elektronik AB	CDE	Completed	1995	
DOM0301	Implementation control cent	5,950,787	BECO Elektronik AB	CDE	On-going	1996	Local adaptation of existing network installations , supervision of manufacturing and installation of SCADA-system
Subtot	Energy	18,378,787					
Subtot	Dominican Republic	18,378,787					
Ecuador							
Energy							
ECU0011		678,000	Swedpower	INECEL	Completed	1986	
ECU0081		761,000	M-Gruppen	INECEL	Completed	1986	
ECU0082		296,000	M-Gruppen	INECEL	Completed	1988	
ECU0091		754,000	Chalmers	ESPOL	Completed	1987	
ECU0101		4,140,000	Swedpower	INECEL	Completed	1992	ABB i recommended as supplier.

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**** BITS ****

Sida : 13

TECHNICAL COOPERATION - COMMITMENTS BY BITS - ALL

Allocation.....: Tekniskt Samarbete; C003 002

Region.....: All

Country.....: All

Sector.....: Energy

BITS.No Project	Commitment	Swedish partner	Local partner	Status	Completion	Project information / Follow up
ECU0111	490,000	Swedpower	INECEL	Completed	1985	
ECU0112 SVC and Relay Protection	1,100,000	Swedpower	INECEL	Completed	1989	Technical and economic analysis of the possible use of SVC to improve operation security of the national 230 KV system.
ECU0241 Energy Conservation in Indu	600,000	ÅF Energikonsult AB	INE	Completed	1989	Three industries made substantial savings within the first year.
ECU0281 Spare parts management - st	600,000	Idhammar System TSL AB	INECEL	Completed	1990	Report giving recommendations for improved management presented, implementations made.
ECU0282 Spare parts management	2,900,000	Idhammar System TSL AB	INECEL	Completed	1994	
ECU0283 Training storage staff	153,040	Idhammar System TSL AB	INECEL	Completed	1993	
ECU0321 Power System Control - semi	72,000	CEGRELL	EEQ	Completed	1990	37 participants during 3 days, 2 days workshop with 10 participants.
ECU0391 Supervision install. NCC	2,340,000	Swedpower	INECEL	Completed	1996	
ECU0501 Work environment - INECEL	2,113,720	IFA	INECEL	Completed	1997	
ECU0601 Review power masterplan	192,000	Sweco AB	CONADE	Completed	1993	
ECU0621 Operation and mainten.train	1,306,200	Idhammar System TSL AB	INECEL	Completed	1995	
ECU0622 Cont.maintenance courses	492,000	Idhammar System TSL AB	INECEL	On-going	1995	5 operative and maintenance courses to be held in Setember and November, 1995. Approximately 135 employees at INECEL to be trained in generators, transformers, switch gear,trans.lines, control system
ECU0651 Purchasing for Pate Mazar	175,000	Övriga		On-going	1997	
ECU0652 Hydropower Paute Mazar	6,000,000	Övriga	INECEL	Commitment	1997	
Subtot Energy	25,162,960					
Subtot Ecuador	25,162,960					

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TECHNICAL COOPERATION - COMMITMENTS BY BITS - ALL

Allocation.....: Tekniskt Samarbete; C003 002

Region.....: All

Country.....: All

Sector.....: Energy

Energy BITS.No Project	Commitment	Swedish partner	Local partner	Status	Completion Project information / Follow up
GRD0011 Modernization distribution	0	BECO Elektronik AB	GRENEC	Request	0000
Subtot Energy	0				
Subtot Grenada	0				
Jamaica					
Energy					
JAM0031 Blue Mountain Tunnel - stud	3,618,000	Sweco AB	WIN MINING NAT RES	Completed	1983
JAM0041 Ocean Thermal Energy - stud	1,204,000	Sweco AB	PETROJAM	Completed	1983
JAM0061 Minihydroplants - study	560,000	Sweco AB	PETROJAM	Completed	1982
JAM0081 Peat - Feasibility Study	1,031,000	SMHI	PETROJAM	Completed	1984
JAM0121	13,000	se file	Se file	Completed	1987
JAM0161 Bioenergy - feasibility stu	60,000	ÅF Energikonsult AB	SC RESEARCH COUNCIL	Completed	1984
JAM0171 Transformer spares - equipm	1,243,000	ASEA	JFSCO	Completed	1988
JAM0191 Wood stave pipes - status i	94,000	Sweco AB	JFSCO	Completed	1986
JAM0211 Bernard Lodge - tender docu	412,000	Ångpanneföreningen (ÅF)	PETROJAM	Completed	1987
JAM0221 Peat - environmental study	1,899,000	Lunds universitet	PETROJAM	Completed	1987
JAM0251	40,000	PIOJ	GÖTEBORG	Completed	1986

Project implementation for drinking water.
Not economically viable at the time, technology improvements may change basis for evaluation.
Project implementation at 3 sites with German funding inaugurated March 1990.
Use of peat for fuel possible without negative environmental effects identified. Need to test drying mechanisms on pilot scale in order to fully evaluate economic viability (oil price level).

No follow up due to change of personnel.
Partly installed, remainder in storage for use at later stage.

Recommendations to be implemented with German funding.

Investment pursued though under new (private) ownership.

TECHNICAL COOPERATION - COMMITMENTS BY BITS - ALL

Allocation.....: Tekniskt Samarbete; C003 002

Region.....: All

Country.....: All

Sector.....: Energy

BITS No Project	Commitment	Swedish partner	Local partner	Status	Completion	Project information / Follow up
JAM0281 Peat test equipment	1,239,000	Jaakko Pöyry AB	PETROJAM	Completed	1986	
JAM0371 Spanish Town Substation	7,426,000	ASEA	JPSCO	Completed	1990	Still in storage.
JAM0391 Load Demand Forecast - stud	800,000	Sweco AB	JPS	Completed	1991	Urgent need for generation capacity expansion identified.
JAM0392 Least Cost Power Expansion	2,500,000	Sweco AB	JPSCO	Completed	1992	Diesel Power plant recommended in short term.
JAM0393 Power distribution master P	5,497,225	Sweco AB	JPSCO	Completed	1993	
JAM0491 econ.evaluat.- dieselpow.pl	178,300	Sweco AB	JPS	Completed	1992	
JAM0511 Prep. financ. documents MPI	2,560,000	BECO Elektronik AB	JPSCO	Completed	1994	
Subtot Energy	30,374,525					
Subtot Jamaica	30,374,525					
Panama						
Energy						
PAN0011	1,129,000	Sweco AB	Se file	Completed	1985	
PAN0012	1,325,000	Sweco AB	Se file	Completed	1988	
Subtot Energy	2,454,000					
Subtot Panama	2,454,000					
Peru						
Energy						
per0071	450,000	Ångpanneföretagen (ÅF)	Cenergia	Completed	0000	
per0072	0	Ångpanneföretagen (ÅF)	cenergia	Request	0000	

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**** BITS ****

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TECHNICAL COOPERATION - COMMITMENTS BY BITS - ALL

Allocation.....: Tekniskt Samarbete; C003 002

Region.....: All

Country.....: All

Sector.....: Energy

BITS.No	Project	Commitment	Swedish partner	Local partner	Status	Completion	Project information / Follow up
Subtot	Energy	450,000					
Subtot	Peru	450,000					
Uruguay							
Energy							
URY0041	Energy Conservation, study	2,635,000	Ångpanneföreningen (ÅF)	DNE	Completed	1988	6 different industries audited and staff trained. Consultant presented a report for each industry with recommendations and payback time calculations. Energy savings potential ranged from 15-45%.
URY0042	Energy Conservation, implem	2,400,000	Ångpanneföreningen (ÅF)	DNE	Completed	1992	Final report submitted in November 1991.
URY0181	Dendro Power Plant, study	2,000,000	Swedforest International AB	UTE	Completed	1991	Final report submitted in Apr. 1990. According to UTE, project, if implemented, planned to be developed by private sector. Study by consultant highly appreciated by several parties in Uruguay.
URY0261	Electric Power training	624,000	Sydskraft	UTE	Completed	1991	75 generation engineers trained in transmission, distribution and safety. Courses highly valuable according to UTE, partly because of the training and partly because of contact with visiting expert.
URY0291	Energy Conservation, study	168,000	ÅF Energikonsult Syd AB	CALNU	Completed	1993	Visit by consultants in Uruguay ins September 1991. Final report submitted in November 1992 with recommendations on energy conservation which some already implemented.
URY0311	Power Utilities, training	568,000	Sydskraft	UTE	Completed	1992	10 day course, divided into 3 blocks, held in Uru in Nov 1992. More than 200 persons participated all together. Courses valuable according to UTE, partly because of the training and expert advice.
URY0351	Reliability, training	269,190	Sydskraft	UTE	Completed	1993	5 day course held in November 1992 with about 20

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**** BITS ****

Sida : 17

TECHNICAL COOPERATION - COMMITMENTS BY BITS - ALL

Allocation.....: Tekniskt Samarbete; C003 002

Region.....: All

Country.....: All

Sector.....: Energy

BITS.No	Project	Commitment	Swedish partner	Local partner	Status	Completion	Project information / Follow up
URY0361	Power distribution study	293,000	Swedpower	UTE	Completed	1993	Participants. Course considered valuable by UTE.
URY0362	DDC Montevideo, feasibility	465,000	Swedpower	UTE	Completed	1993	Study on Distribution Control Center planned for February 1993.
URY0363	Electricity distribution, I	1,606,600	Swedpower	UTE	Completed	1996	
URY0401	Rehabilitation of powersyst	825,860	Swedpower	UTE	Completed	1996	
Subtot	Energy	11,854,650					
Subtot	Uruguay	11,854,650					
Subtot	Latinamerika	177,837,082					
India							
Energy							
IND0021	Satellite Gravity Survey	9,650,000	PETROSCAN AB	Min of Petroleum and Nat. G	On-going	1996	The project concerns a satellite gravity survey for the mapping of sedimentary basins offshore Western and Eastern India. The objective is to increase domestic production of petrol and nat.gas
Subtot	Energy	9,650,000					
Subtot	India	9,650,000					

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Sida : 18

TECHNICAL COOPERATION - COMMITMENTS BY BITS - ALL

Allocation.....: Tekniskt Samarbete; C003 002

Region.....: All

Country.....: All

Sector.....: Energy

BITS.No	Project	Commitment	Swedish partner	Local partner	Status	Completion	Project information / Follow up
MYS0021	Prefeasib.study Padas River	3,652,000	Sweco AB	SEB	Completed	1991	Technical, economic and environment aspects of Hydro Power dev in Padas River studied. SEB decided to develop the site. Request for Swedish assistance in the feasibility study (pending).
MYS0022	Upper Padas Hydropower/feas	7,116,000	Sweco AB	Sabah Electricity Board	On-going	1994	
MYS0031	Transmission System Study	1,650,500	Swedpower	NEB, SESCO	Completed	1987	HVDC specifications for transmission from planned hydro power dams in Sarawak to peninsular Malaysia. Dams not built due to expected environmental impact. SESCO considers smaller dam alternatives. Study on improvement of reliability and reduction of losses, including on-the-job training of SESCOs personnel. Final report March 1988, containing recommendations.
MYS0041	Study on Transmission Line	1,400,000	Swedpower	SESCO	Completed	1987	
MYS0051	Distribution Study, Sarawak	1,171,000	Swedpower	SESCO	Completed	1989	Study on improvement of network planning and consumer billing. Load recording equipment supplied, on-the-job training performed. Final report June 1988, containing recommendations.
MYS0061	Transmission Line Training	1,295,000	Swedpower	SESCO	Completed	1989	Training of altogether 28 linesmen and instructors in Sarawak and Sweden, including supply of equipment. Maintenance procedures developed.
MYS0091	Supervision of SVC and BSR	4,945,000	Swedpower	NEB	Completed	1992	12 plants for stabilization and control of the power system procured (corresponding to appr. SEK 250 million), installed and tested under supervision of the consultant. Technical training.
MYS0131	Managem. Engineering Traini	512,000	Swedpower	NEB	Completed	1989	Training during 4 weeks for 30 managers and engineers regarding power generation, transmission and distribution.
MYS0132	Managem. Engineering Traini	500,000	Swedpower	SESCO	Completed	1989	Management and engineering training. 16 full-time, 44 part-time participants. Relevance, importance

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**** BITS ****

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TECHNICAL COOPERATION - COMMITMENTS BY BITS - ALL

Allocation.....: Tekniskt Samarbete; C003 002

Region.....: All

Country.....: All

Sector.....: Energy

BITS.No Project	Commitment	Swedish partner	Local partner	Status	Completion Project information / Follow up
MY30151 Interconnect. between THA,	3,335,000	Swedpower	NEB	Completed	1993
MY30171 Maintenance of Power Statio	1,105,000	Swedpower	SESCO	Completed	1991
MY30181 Organization of Operation e	1,265,000	Swedpower	SESCO	Completed	1992
MY30191 System Study/Extended Grid	1,135,000	Swedpower	SESCO	Completed	1992
Subtot Energy	29,081,500				
Subtot Malaysia	29,081,500				
Pakistan					
Energy					
PAK0041 Hydro Power - Chitral Valle	851,000	Sweco AB	WAPDA	Completed	1987
PAK0241 Energy saving	532,000	ÅF Energikonstult AB	ENERCON/Min. of Energy	Completed	1992
PAK0361 PS Hydro power	0		WAPDA	Request	0000

and benefit was considered moderate to high at the course evaluation.

SESCO's personnel trained during development of maintenance plans for power stations, substations and transmission lines. The plans were accepted by SESCO management and were implemented during 1991.

The project's technical part resulted in a more efficient control of the power system and improved reliability. The recommendations in the organizational part were however not fully applicable.

SESCO reports satisfaction and is as a result of the transfer of know-how during the study in a position to carry out future studies of the same kind themselves.

Study (linked to Lowari tunnel project) identified a number of potential hydro power projects in the Chitral Valley. Investment follow up not confirmed by Pakistan.

Final report submitted sept 1992.

PS re two hydro power stations of 581 MW and

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**** BITS ****

Sida : 20

TECHNICAL COOPERATION - COMMITMENTS BY BITS - ALL

Allocation.....: Tekniskt Samarbete; C003 002

Region.....: All

Country.....: All

Sector.....: Energy

BITS No Project	Commitment	Swedish partner	Local partner	Status	Completion Project information / Follow up
Subtot Energy	1,483,000				261 MW. BITS agreed to further study proposal. Roads to the area were destroyed in 1992, not fixe 1993. No expert contacted for desk study.
Subtot Pakistan	1,483,000				
People's Republic of China					
Energy					
CHN0051 Rock Excavating Study I	4,001,000	Swedpower	MWREP	Completed	1985
CHN0251 Rock Excavation Study, II	1,300,000	Swedpower	MWREP	Completed	1986
CHN0541 Power Transm Dev Centr, EPRI	6,500,000	ABB	EPRI	Completed	1996
CHN0591 HVDC I	1,100,000	KTH	Ministry of Energy	Completed	1989
CHN0592	848,000	KTH	MIN of energy	Completed	1990
CHN0661	160,000	SVIAB	se file	Completed	1986
CHN0681 Power Transm Dev Centr, EPRI	2,080,000	ASEA	EPRI	Completed	1992
CHN1021 Peat Project, Sichuan (traini	4,648,000	Lunds universitet	Sichuan Natural Resources I	Completed	1995
CHN1022 Peat project, Sichuan (equi	2,528,000	Lunds universitet	Sichuan Natural Resources I	Completed	1991
CHN1061 Pumped Storaged Project	6,500,000	Swedpower	Ministry of Energy	Completed	1992
CHN1062 Guangzhou Pumped Storage, P	4,034,600	Swedpower	Guangzhou JVC	On-going	1997
CHN2011 Shi Lou Ti Training Program	400,000		Norad	Completed	1992
					Despite disturbances due to heavy rainfall, the fieldworks were completed in August -92. The final report will be delivered before the end of -92, the Chinese will report during the spring of -93. Phase II to double capacity of Pumped Storage. Similar activities as in ph I. Ph I has been evalu ated. Dut to further complications during the period of reduced co-operation with China, the need for this

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**** BITS ****

Sida : 21

TECHNICAL COOPERATION - COMMITMENTS BY BITS - ALL

Allocation....: Tekniskt Samarbete; C003 002

Region.....: All

Country.....: All

Sector.....: Energy

BITS.No Project	Commitment	Swedish partner	Local partner	Status	Completion	Project information / Follow up
CHN2241 Dalian distr heating. tr cn	0			Request	0000	training programme was further enhanced. The outcome was appreciated by the Chinese. According to agreed minutes may 1994. This project is postponed due to change of the city's master-plan.
CHN2251 Jinweizhou hydropower	0			Rejected	0000	Orig cc prop. june 93. Prot states after submission of prefeas by chinese side, BITS to consider TA. pre feas not received.
Subtot Energy	34,099,600					
Subtot People's Republic of China	34,099,600					
Philippines Energy						
PHL0011 Study on Luzon Power System	3,000,000	Swedpower	NPC & MERALCO	Completed	1989	Recommendations for improvement of system performance and operational reliability. Engineers trained during 30 days in Sweden. Recommendations implemented. Request for further assistance (PHL0012)
PHL0012 Luzon Power System Improvm	7,892,000	Swedpower	NPC, MERALCO	Completed	1994	
PHL0071 Long Range Transmission Stu	3,670,000	Swedpower	NPC	Completed	1990	Long range planning covering power transmission/island interconnection. Request for feasibility study including tender documents for Leyte Geothermal project. IBRD-supported. Decision June -91.
PHL0131 Industrial Comb Heat & Powe	711,000	Swedpower	OEA	Completed	1991	Pilot study performed on CHP alternatives applicable to one textile plant. Request for second phase aimed at 60 industry plants. Positive decision: May 1991 (PHL0132)

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**** BITS ****

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TECHNICAL COOPERATION - COMMITMENTS BY BITS - ALL

Allocation.....: Tekniskt Samarbete; C003 002

Region.....: All

Country.....: All

Sector.....: Energy

BITS.No	Project	Commitment	Swedish partner	Local partner	Status	Completion	Project information / Follow up
PHL0132	Indust. Combined Heat&Power	2,600,000	Swedpower	OEA	Completed	1993	
PHL0141	Managem Engineering Trainin	584,000	Swedpower	NPC	Completed	1990	Result: 30 participants trained during 4 weeks. Follow-up: The recommendations arrived at by the participants are submitted to Napocor Management for consideration and/or action.
PHL0161	Leyte-Luzon, Interconnectio	24,632,000	Swedpower	NPC	Completed	1993	
PHL0241	Leyte-Cebu Transmission Stu	4,654,200	Swedpower	NAPOCOR	Completed	1993	
PHL0291	Angat Rehabilitation Study	1,519,000	Swedpower	Napocor	Completed	1995	
PHL0351	Mgmt of Power Utility/Semin	320,000	Swedpower	Napocor	Completed	1994	
PHL0371	Philippine Energy Facility/	35,000,000	Övriga	Napocor/IBRD	Completed	1994	
Subtot	Energy	84,582,200					
Subtot	Philippines	84,582,200					
Thailand							
Energy							
THA0011	Master Plan, Dendrother. Po	2,850,000	Swedforest International AB	NEA	Completed	1988	Master Plan for Dendro Thermal Power Programme incl. recommendations for further studies. Due to the complex nature of the project with several uncertainties, BITS decided not to contribute.
THA0021	Energy Conservation	852,000	ÅF Energikonsult AB	NEA	Completed	1989	Reports on the energy conservation possibilities of 8 commercial buildings. Certain recommended measures were implemented immediately by NEA, others will be investigated in detail before impl. Five engineers trained during three weeks. Positive evaluation.
THA0031	Maintenance training	230,000	Swedpower	EGAT	Completed	1987	Assistance to EGAT in preparing technical speci-
THA0071	Control Centres, Support/Tr	2,000,000	Swedpower	EGAT	Completed	1989	

TECHNICAL COOPERATION - COMMITMENTS BY BITS - ALL
 Allocation.....: Tekniskt Samarbete; C003 002
 Region.....: All
 Country.....: All
 Sector.....: Energy

BITS.No	Project	Commitment	Swedish partner	Local partner	Status	Completion	Project information / Follow up
THA0081	Dam and Reservoir Operation	2,800,000	Swedpower	EGAT	Completed	1989	fications, tender evaluation and contract negotiations. EGAT personnel trained at four different two-week courses in Sweden and in Thailand. Final report, March 1989, including recommendations regarding meteorological, hydrological and dam instrumentation automatic data collecting systems. EGAT engineers trained in Sweden. Recommendations given on guidelines and priorities for lightning research in Thailand. Proposal for further cooperation (see THA0092).
THA0091	Lightning Impact on Power S	35,000	IFH, Uppsala Univ	Chulalongkorn University	Completed	1986	
THA0092	Lightning Impact Research	1,510,000	Swedpower	Chulalongkorn University	Completed	1993	50 participants. Evaluation showed contents were largely found useful. The clients stated that consultancy work on specific relevant topics raised during training should have been included.
THA0131	Managem. Engineering Traini	500,000	Swedpower	MEA/EGAT/PEA	Completed	1989	53 power system engineers trained during 4 weeks on power system design, operation and maintenance. Reportedly beneficial in upgrading electric power engineering knowledge and managerial capability. Recommendations deemed useful for reducing system failures. MEA is currently procuring recommended equipment and implementing changes in the system. MEA shared results with PEA, having similar probl.
THA0161	Managem Engineering Trainin	635,000	Swedpower	PEA	Completed	1991	
THA0171	System Reliability Evaluati	950,000	Swedpower	MEA	Completed	1991	
THA0181	Industrial Cogeneration Dev	3,227,000	Swedpower	MEA	Completed	1993	
THA0191	Operational Efficiency Stud	2,745,000	Swedpower	EGAT	Completed	1992	The Board of EGAT accepted the conclusions and recommendations and decided on implementation. Request for BITS support in the impl. phase. Positive decision by BITS on cost-sharing basis(THA0192)
THA0192	EGAT Efficiency study, Ph.	3,166,000	Swedpower	EGAT	Completed	1994	

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TECHNICAL COOPERATION - COMMITMENTS BY BITS - ALL

Allocation.....: Tekniskt Samarbete; C003 002

Region.....: All

Country.....: All

Sector.....: Energy

BITS No Project	Commitment	Swedish partner	Local partner	Status	Completion Project information / Follow up
THA0311 Cogeneration in Industries	3,181,000	Swedpower	ECCT	Completed	1993
THA0361 Klong Thung Phen, feasibility	9,616,000	Swedpower	NEA	Completed	1993
THA0381 Technical Instructors Train	2,616,000	Swedpower	MEA	Completed	1993
THA0531 System Reliability Study	4,464,109		PEA	Completed	1997
THA0601 Management Development Prog	1,885,000	Swedpower	PEA	Completed	1994
THA0602 Management Development Prog	3,722,000	Swedpower	PEA	Completed	1995
THA0651 Co-generation seminar	194,000	Swedpower	ERI	Rejected	0000
THA0671 Sediment Probl/Env Concer R	0	Hydroconsult AB	EGAT	Rejected	0000
THA0691 Feasib. underground cables	0	Swedpower	PEA	Request	1995
Evaluate the feasibility to chagne from overhead to underground electricity cables, in order to achieve a higher efficiency lever for systems operation and reduction of system losses.					
Subtot Energy	47,178,109				
Subtot Thailand	47,178,109				
Subtot Asien	206,074,409				
Världsbanken					
Energy					
WOB0031	457,000	Swedpower	IBRD	Completed	1988
Subtot Energy	457,000				
Subtot Världsbanken	457,000				

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TECHNICAL COOPERATION - COMMITMENTS BY BITS - ALL					
Allocation.....: Tekniskt Samarbete; C003 002					
Region.....: All					
Country.....: All					
Sector.....: Energy					
BITS.No Project	Commitment	Swedish partner	Local partner	Status	Completion Project information / Follow up
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-----	-----	-----	-----	-----	-----
Subtot Utvecklingsbanker & FN	457,000	-----	-----	-----	-----

Annex 2

Tillägg till Sammanställning av
insatser inom energiområdet
från och med 1970

Tillägg till

**Sammanställning av insatser inom
energiområdet från och med 1970**

där Sida (inklusive f.d. SIDA och f.d. BITS) är/varit finansiärer

2 pages

VATTENKRAFTSPROJEKT
DÅR
Sida (SIDA/BITS) ÅR/VARIT MEDFINANSIÄRER

TILLÄGG TILL SAMMANSTÄLLNING REDOVISAD I JUNI 1997

<u>LAND</u>	<u>MOTTAG. PROJEKT</u> <u>MYNDIG.</u>	<u>ÅR</u>	<u>KAPACITET</u> <u>(MW)</u>	<u>DAMM- HÖJD</u> <u>(m)</u>	<u>VATTENMAGASIN</u> <u>VOLYM (Mn³)</u>	<u>YTA</u> <u>(Km²)</u>	<u>FINANSIERING</u> <u>SVENSK TOTALT</u>	<u>KOSTNAD/</u> <u>EFFEKT</u>	<u>KOMMENTAR</u>
<u>F.D SIDA</u> <u>(Gåva)</u>									
Kenya	Tarda	Kamburu	1971-75	52	123		31.5	215	4.2 IBRD med- finansier

EJ KRAFTGENERERANDE ELINSATSERDÄRSida (SIDA/BITS) ÄR/VARIT MEDFINANSIÄRERTILLÄGG TILL SAMMANSTÄLLNING REDOVISAD I JUNI 1997

<u>LAND</u>	<u>MOTTAG. MYNDIG.</u>	<u>PROJEKT</u>	<u>ÅR</u>	<u>FINANSIERING SVENSK TOTALT (MSEK) (MSEK)</u>	<u>KOMMENTAR</u>
<u>F.D. SIDA (Gåva)</u>					
Botswana	Botswana Power Corp. (BPC)	Landsbygds- elektrifiering	1975-82	23,5	Omfattande 15 storbyar
Guinea- Bissau	CEIRN	Material & utrustning för produktion & distribution av elektricitet	1975-84	36	1982 - 84 också stöd till drift och underhåll (MSEK 4)
Kenya	EAP&L	Landsbygds- elektrifiering	1974-76	5,5	"Bridgefinancing" tills Kamburukraftverket skulle generera lokal finansiering.
Mocambique	EDM	Kraftöverföring från Cabora Bassa till nordöstra Mocambique	1980-85	50	Konsulttjänster för projektering och kontroll.
Tunisien	STEG	Landsbygds- elektrifiering	1976-81	20	Omfattade cirka 300 byar.
				70	

Januari 2000: Tillägg till sammanställning redovisad i juni 1997

Halving poverty by 2015 is one of the greatest challenges of our time, requiring cooperation and sustainability. The partner countries are responsible for their own development. Sida provides resources and develops knowledge and expertise, making the world a richer place.



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