

Chapter 1 Electrical Power

Termoelectrica

Termoelectrica is a stock company owned by the state, through the Ministry of Economy. With an experience of over 50 years, Termoelectrica aims at producing and selling electricity and heat produced by burning fossil fuels, transport and distribution of heat through its own system.

Along with the two basic activities, the company also carries out a series of complementary activities: technical revisions, planning and tracking repair and maintenance activities, implementation of new technologies and modernizations, development and implementation of programs aiming to reduce the environmental impact, acquisition of fuel and technical and material supply necessary for different activities.

Termoelectrica has an installed power of 5520 MW (on December 31st 2007, providing supply of heat and domestic hot water in Bucharest, Constanta, Galati, Deva and Jiu Valley).

As a result of the restructuring of activities, the company now owns Electrocentrale Deva, Electrocentrale Bucharest, Electrocentrale Galati, energy branches from Paroseni, Doicesti, Borzesti and Braila, an assets recovery branch and 12 branches for repairs and services.

In figures

State share: 100%

Joint stock – *Ron : 1,025,005.97

- *Euro: 257,202.14

Financial Situation	2007		2008		2008/2007
	*RON	*EUR	*RON	*EUR	%
Turn-over	673,731.52	169,058.40	639,544.88	160,480.00	94.93
Net profit	705,498.93	177,029.74	-344,714.22	-86,498.60	x
EBITDA			28,842.56	7,237.42	
EBIT			-187,511.15	-47,051.88	

* in thousands

Projects

- E.T.01.09 Flue Gas Desulphurization System for Unit No.4 Paroseni
- E.T.02.09 Changing the Present Ash and Slag Collecting, Transporting and Storage Technology. Paroseni
- E.T.03.09 Flue Gas Desulphurization System for Units no.1 and no.2 Braila Power Plant
- E.T.04.09 Connection of the Natural Gas System to the Transgaz Pipeline. Braila Plant Power
- E.T.05.09 Installation of the Thermal Start-up Plant for Unit no.4. Paroseni Power Plant
- E.T.06.09 Modernization of the Burners into Low NOx Burners for Unit No.1 Braila Power Plant
- E.T.07.09 New Low NOx Burners for Unit No.2 Braila Power Plant
- E.T.01.09 Flue Gas Desulphurization System for Unit No.4 Paroseni

E.T.01.09 Flue Gas Desulphurization System for Unit No.4 Paroseni

Project Description

The project is imposed by the Environmental Directives, following the accession of the Romania to the European Union. The deadline for compliance is December 31st 2010 and the failure of developing this project may lead to the plant closure. The project does not increase productivity in technology, but involves evacuation and storage of slag and ash. The project will provide power for operation of the heat supply for cities in the Jiu Valley (Petrosani, Vulcan, Aninoasa, Lupeni Petrila) at a much lower price than by heating on an individually-based fuel gas system. It also allows selling the resulted material, gypsum.

Duration

Duration of the project is 33 months from signing the contract.

The feasibility Study was endorsed by the Termoelectrica Administration Board on behalf of the Interministerial council for Approval of the Public Works of National Interest and Housing.

Value and funding

The value of investment is 46,8 million Euros. The project will be financed through external loans guaranteed by the state.

E.T.02.09 Changing the Present Ash and Slag Collecting, Transporting and Storage Technology. Paroseni

Project description

To select the technology to collect, transport and store the ash and slag, a Prefeasibility Study was developed, in which were analyzed and compared 3 alternative solutions: dense slurry, transport and closed dry lanes and the land transport vehicles. Analysis of economic and financial condition in the Prefeasibility Study demonstrated that the best solution for the situation in the Electro-thermal Plant in Paroseni is dense slurry.

The implementation of the project will ensure the plant's compliance with the environmental requirements.

Duration

Estimated duration for the project is 28 months from signing the contract. The Feasibility Study was endorsed by Termoelectrica's Administration Board, on behalf of the Interministerial Council for Approval of the Public Works of National Interest and Housing.

Value and funding

The value of investment is 24.1 million Euros, and funding will be secured by external loans guaranteed by the state.

E.T.03.09 Flue Gas Desulphurization System for Units no.1 and no.2 Braila Power Plant

Project description

Under the Plan Implementation Directive 2001/80/EC the Power Branch Braila will have to invest in an installation aiming to reduce SO₂ emissions, until December 31st 2013.

Duration

The estimated period for the project is 2010-2013, including the design stages. The Design Theme and Pre-feasibility Study were completed. In accordance with the Pre-feasibility Study, the operating groups are considered to last at least until 2030.

Value and funding

The total value of investment is 50 million Euros, and according to the Prefeasibility Study the drawback will end in 2029.

E.T.04.09 Connection of the Natural Gas System to the Transgaz Pipeline. Braila Plant Power

Project description

Currently, Braila Thermal Power Plant is fuelled with natural gas from the Natural Gas Adjustment and Measuring Station Chiscani, located at the Braila Power Branch property border. The existing gas station is owned by the Distrigaz South Bucharest in the Braila Gas Sector. Braila branch intends to reduce costs by reducing MWh supplied with fuel costs, something achievable by eliminating the distribution costs of natural gas and connecting the directly to the network operator, Transgaz Medias.

Duration

The planned duration of the project shall not exceed 1 year. The energy groups are estimated to operate at least until 2030. So far, the Design Theme was prepared.

Value and funding

The total investment amounts at 5 million Euros and will be supported entirely from own sources.

The funds will be recovered within 2 years, considering an output of 600 thousand MWh/year.

E.T.05.09 Installation of the Thermal Start-up Plant for Unit no.4. Paroseni Power Plant

Project description

Central heating will provide the start-up steam necessary to operate the 150 MW block no.4 from the Electro-thermal Plant in Paroseni. Enforcement of these works is mandatory ,the boiler having the term due September 2009.

Implementation of the project will solve this problem and will cover its entire thermal energy need, in the period when only one group from the power plant is incidentally turned off, in particular in the cold season, when it is required to ensue a suitable environment, protective to the installations and equipment of group no.4

Duration

The planned duration of the project is 12 months from signing the contract.

The Feasibility Study was drafted by Termoelectrica Administration Board and the Certificate of Urban Planning issued by the City Hall of Vulcan was awarded. In addition, the Specification for design and execution was completed and the procedure of public acquisition was started.

Value and funding

The total value of investment is 3.5 million Euros. The Romanian involvement comprises in designing, installing and providing utilities. Financing will be secured from own sources.

Foreign participation involves import of foreign equipment, know-how and consulting.

E.T.06.09 Modernization of the Burners into Low NOx Burners for Unit No.1 Braila Power Plant

Project description

The burners modernization for group no. 1 has the objective to improve the system of air and fuel, reducing NOx emissions released by the burners. The project will improve combustion and decrease emissions of air pollutants. Also, Braila Branch will be included in the atmospheric concentrations of pollutants in accordance with the Directive to prevent and reduce environmental pollution and the European Directive for large combustion plants The project will ensure continuity of operation of such groups in the state of energy security.

Duration

The estimated duration of the project is 12 months from signing the contract. Up to this moment, the acquisition specifications were completed, advised by the Braila Power Branch.

Value and funding

The estimated investment is 4.2 million Euro, with financing from own sources. Romanian participation in the project involves assembly and construction works and the external design and equipment.

The funds' recovery period is approximately 5 years.

E.T.07.09 New Low NOx Burners for Unit No.2 Braila Power Plant

Project description

In the perspective of operating group no.2 in the future (after 2013) and the requirement to align to the European norms for environmental protection, it is absolutely necessary to replace the combined boiler burners 2A and 2B with new, efficient, low NOx burners (dual gas burners with heavy fuel oils). The project will lead to obtaining the authorization to operate.

Duration

The estimated duration of implementation of works is 24 months. So far, the Feasability Study was completed.

Value and funding

The estimated value of the project is 6.5 million Euros and the investment is to be recovered within 10 years.

1.2

Deva Power Plant

Deva Power Plant is a company operating as a legal subsidiary of Termoelectrica, under the coordination of the Ministry of Economy. The company's main activity is the production, supply, sale, purchase of electricity and generation, transmission, distribution, dispatching, supply and sale of heat. The Thermal Power Plant is located in the South-Eastern Transylvania, on the bank of Mures river, at 7km distance from Deva town.

It has an installed power of 1285 MW in 5x210MW groups of condensates and a group of 235 MW powered by steam boilers of 660 t/h, 13.72 MPa, 550° C, each representing an independent unit group. The electricity produced is supplied in the national station through the Mintia interconnection station of 110 kV, 220 kV and 400 kV.

Mintia-Deva Thermal Power Plant has a share of approx. 8% of the electricity produced in Romania. The plant is safe, with high availability and has its own provided fuel resources (coal from the Jiu Valley) at a distance of around 115km. It is connected to the 400 kV power line, Sibiu-Arad-Sandrofalva, through the thermal power station nearby. Therefore, it can deliver electricity to export. It has a thermal power of 400 MWt, providing heat in the industrial and urban area.

Mintia Thermal Power Plant plays an important role in the National Energy System, estabkugubg a bakabce between the power produced in the central part of the country and the one produced in the Western art. It is an important point of interconnection with the Western European networks by adjusting the parameters of energy system and is an active participant on the electricity market.

The development strategy for the Mintia Thermal Power Plant has provided a comprehensive program of modernization and rehabilitation of the energy groups and auxiliary facilities, which will allow to increase the service time, increase the safety and efficiency in operation and the alignment with the environmental standards.

Deva Power Plant is concerned with the continuous performance improvement process, by continuously providing the proper quality of electricity and heat produced and fulfilling the needs and expectations of all stakeholders (customers, suppliers, partners, employees, civil society).

In figures

State share: 100%

Joint stock – *Ron : 107,764.43

- *Euro: 27,041.41

Financial Situation	2007		2008		2008/2007
	*RON	*EUR	*RON	*EUR	%
Turn-over	773,884.69	194,189.67	962,843.25	241,604.75	124.42
Net profit	1,424.22	357.38	-77,807.20	-19,524.04	x
EBITDA			-40,797.70	-10,237.30	
EBIT			-25,396.37	-6,372.67	

* in thousands

Projects

E.D.01.09 Rehabilitation of Group No.4

E.D.02.09 collecting and Disposing the Ash, Slag and Products of Desulphurization in the Landfill

E.D.03.09 Flue Gas Desulphurization of Systems 3,4,5 and 6 for the 210 MW Generation Units. Deva Thermal Power Plant

E.D.01.09 Rehabilitation of Group No.4

Project description

The rehabilitation and modernization program has the objective to increase and extend the life of the energy group, as well as reducing emissions of pollutants. The installation has as deadline to comply December 31st of 2011.

Duration

The term for starting the rehabilitation is the third quarter of 2009 and the estimated duration for developing the project is 34 months.

Value and funding

The estimated value of the project is 98.1 million Euros and financing will be secured 69% from bank loans and 22% from joint stock in equipment (lapsed receivables with Russia) and 9% from own sources.

The loan's drawback period is 12 years and is secured from own sources. The recovery if the investment period is 15 years.

E.D.02.09 collecting and Disposing the Ash, Slag and Products of Desulphurization in the Landfill

Project description

According to the Directive regarding the exhaust and storage of the waste resulted from the burning processes, it is necessary to give away the current system that uses water in excess. In this regard, the exhaust, transport and storage of slag, ash and desulphurization products system at the Electrocentrale Deva will change the technology with that of dense slurry. In order to implement the investment, an extension of the current space of Thermal Power Plant at Deva is necessary. The plant will be extended with 2725 sqm.

The efficiency of the investment allows further functioning of the plant and implementing the project will lead to major reduction of expenditure.

The amount of technological water discharged and of waste disposed will be significantly reduced, increasing the duration of storing the waste in the new storehouse.

Duration

The estimated duration of the project is 40 months and the storehouse will be put into operation in several phases, having as a term of compliance (for all the energy groups) December 31st 2010.

Up to this moment, a series of studies was elaborated:

- Environmental Impact assessment study
- Feasibility Study
- Investment approval
- Environment approval

The technical Project and the Specifications are under approval.

Value and funding

The estimated value of the project is 40.9 million Euros and funding will be 75% secured through loans and 25% from own sources.

The drawback period is 10 years, in quarterly instalments, starting with the commissioning date. The repayment will be made from own funds and the investment recovery period is 7.1 years from the commissioning date.

E.D.03.09 Flue Gas Desulphurization of Systems 3,4,5 and 6 for the 210 MW Generation Units. Deva Thermal Power Plant

Project description

Units No.1 to 6 were commissioned before July 1st 1987 and therefore they are considered large combustion plants, for which emissions must be reduced by December 31st, 2013.

As the limit for sulphur dioxide emissions for this type of combustion plant burning solid fuel is 400mg/Nm³, flue gas desulphurization systems need to be installed for the 6 generation units. In the Pre-Feasibility study, there are presented two methods of reducing the sulphur contents in the flue gas: the wet method and the semi-dry method. After reviewing the study, the company's technical committee decided to adopt the semi-dry desulphurization method. Based on the same study approved by Deva Power Plant's Board of Administration, the Feasibility Study was prepared based on the method thereby chosen.

The efficiency of the investment lies in maintaining the operation license for the power plant and in selling the desulphurization by-products to be used in the cement industry and civil works.

Duration

The estimated duration for project development is 8 years.

Until now the Environmental Impact Assessment Study was elaborated, along with the Feasibility Study, brought to date for 4 energy groups.

Value and funding

The estimated value of the project is 125.01 million Euros and funding will be secured 93% from external sources and 7% from own sources.

The share of the Romanian party in project implementation includes engineering, installation and construction works, utility supply and equipment, whereas the foreign share includes financing, equipment supply, know-how, consulting services.

The loan is to be granted in stages for each separate generation unit and will be repaid in 12 years from the commissioning of each plant. The loans will be repaid from own resources.

The time of recovering the invested funds is 20 years.

1.3 Turceni Power Plant

The main object of activity at Turceni Power Plant is producing electrical and thermal power with brown coal and excavating mines and brown coal quarries.

The plant, situated in Turceni, in the district of Gorj, on a total surface of 1293 ha, has an installed capacity of 1650 MW (5x330), being the most important energy producer firing brown coal in Romania, with the biggest installed power. Two of the five energy groups (group 4 and 5) have been rehabilitated and modernized during a complex program, becoming the most powerful energy groups using brown coal in Romania.

The Turceni Power complex has its own brown coal mines:

- the mining excavation in Jilt, Matasari village, with a production capacity of 6,000,000 tonnes of brown coal/year and calorific power of $Q_i > 1700$ kcal/kg;
- the mining excavation in Tehomir, Dragotesti village, with a production capacity of 400,000 tonnes of brown coal/year and a calorific power of $Q_i > 1900$ kcal/kg.

Turceni Power Plant implements and develops an Environmental Management System that assures the necessary conditions for all the activities and processes that have a direct impact on the environment, to be in line with the declared environment policy and with the general and specific objectives which it committed.

The projects that the company intends to develop have as objectives the assurance of competitiveness on the European energy market, in terms of minimizing the production costs and observing the tasks that concern reducing the noxious emissions (dust, NO_x, SO_x) and the emissions of greenhouse gases (CO₂). Moreover, they target at a growth of the coal excavating capacity, as well as the decrease of fuel costs.

In figures

State share: 75,07%

Joint stock – *Ron : 455,371.25

- *Euro: 114,265.60

Financial Situation	2007		2008		2008/2007
	*RON	*EUR	*RON	*EUR	%
Turn-over	1,029,366.23	258,297.26	1,281,375.52	321,533.55	124.48
Net profit	78,332.48	19,655.85	19,951.67	5,006.44	25.47
EBITDA			166,649.04	41,816.99	
EBIT			78,807.22	19,774.98	

* in thousands

Projects

E.Tu.01.09 Rehabilitation and Modernization of Power Groups no.3 and no.E.Tu.02.09 Emission Reduction of NO_x and Dust from 1035 t/h Boilers at Groups no.4 and no.5

E.Tu.03.09 Technical Solutions for Discharge, Transport and Storage of Waste resulted from the Boilers' Combustion Process

E.Tu.01.09 Rehabilitation and Modernization of Power Groups no.3 and no.6

Project description

The rehabilitation of groups no.3 and no.6 has the following objectives:

- increasing the time and energy availability
- extending the operation duration of the groups by 15 years
- improving the economic and technical parameters
- improving the environment conditions by reducing noxious emissions to whether the rules in force
- introduce modern systems of automation, control and adjustment to comply with the technical conditions imposed by the interconnection at UCTE

Also, in a first phase, works of rehabilitation and modernization will be developed in the coal settlement.

The advantages of implementing the project are linked to a high availability, with positive effects on the electrical power production at the necessary parameters, to a decrease of consumption of materials and also to decrease of fixing and maintenance costs, due to the high reliability of the installations.

For the execution of this project, the Feasibility and Pre-Feasibility Studies were developed by the Institute of Studies and Energy Designs in Bucharest, subsequently approved by the beneficiary.

After the implementation of the project, the estimated energy production will be of 2000 GW/year, which will be entirely used in the country.

Duration

The estimated duration of the project is 48 months from signing the contract.

Value and funding

The investment has a value of 453.2 million Euros. Financing will be secured 30% from own sources and 70% from external sources.

The loans will be taken on a period of 13 years with a grace period of 3 years and a drawback period of 10 years.

The investment will be recovered in 6.5 years.

E.Tu.03.09 Technical Solutions for Discharge, Transport and Storage of Waste resulted from the Boilers' Combustion Process

Project Description

The project consists in fitting installations to reduce noxious emissions and in rehabilitation of the electric filters. Groups no.4 and no.5 are considered to be large combustion plants that have to comply with the legislation regarding noxious and powder emissions.

The investment will ensure the business continuity, indicators showing that the economic and financial efficiency is positive and that its successful implementation is important for the compliance with the environmental rules, in line with the European Community standards.

After developing the project, the production will increase to 2,039,000 MW/year/energy group.

Duration

The estimated period to develop the project is 2009-2013.

The Feasibility Study and the Technical Expertise regarding the operation of groups for 15 years of 100,000hours, were completed.

Value and funding

The estimated value of the project is 17.48 million Euros. 62% of this amount will be secured from own sources, and 38% from external sources.

The recovery period of the investment will be 9 years.

E.Tu.03.09 Technical Solutions for Discharge, Transport and Storage of Waste resulted from the Boilers' Combustion Process

Project description

Four lines of preparation and exhaust in dense slurry are provided, two already operating and two for backup, for each one of the two dense slurry stations that serve two boilers of 1035t/h. For safety and crash situation reasons, the classical hydraulic exhaust system for the slag and ash is still operating to the Bagger pump stations. Two other pumping and exhaust lines, one for each energy group are still operating, for the same reasons, from the Bagger pump station to the storehouse no.1 from Ceplea Valley.

Duration

In order to increase the dump height, two periods of time were proposed for the implementation of the project: 2009-2012 and 2013-2022.

Value and funding

The investment value is 159.67 million Euros. The funds will be fully provided from own sources.

1.4 Craiova Power Plant

Craiova Power Plant has as main object of activity the production and sale of electrical and thermal power obtained by burning fossil fuels and the mining and preparation of brown coal.

The plant owns the Isalnita Power Pranch, Craiova II Power Branch and Prigoria Mining Branch.

The company's motto is 'A company's success or failure depends on its availability to make performance'. This is why, at the centre of the company's attention is the increase of product and services quality. In this respect, two of the company's main objectives concerning this are the responsibility towards the company and the civil society, and growth of profit and volume of business.

Implementing the Quality Management System, followed by its certification is considered to be a great achievement, as it provides assurance regarding the high level of services offered to the clients, as well as compliance with the European quality standards. Therefore, Craiova Power Plant becomes one of the leading power producers in the Pan-European area.

The company was audited by KPMG and its activity was appreciated as positive. The company's representatives and participants to different work committees and groups with Eurelectric, the Electricity Industry Union and the Romanian National Committee of the Worldwide Energy Council, where the company is the representative of Romania in the committee 'Cleaner Fossil Fuel Systems'

In Figures

State share: 72,89%

Joint stock – *Ron : 252,460.43

- *Euro: 63,299.31

Financial Situation	2007		2008		2008/2007
	*RON	*EUR	*RON	*EUR	%
Turn-over	812,273.81	203,822.60	861,762.51	216,240.72	103.09
Net profit	32,544.92	8,166.45	8,325.37	2,089.07	25.58
EBITDA			76,349.37	19,158.23	
EBIT			5,275.26	1,323.72	

* in thousands

Projects

E.C.01.09 Flue Gas Desulphurization Installation for Unit no.7 Isalnita Branch

E.C.02.09 Reduction of NOx Emissions for MAN Boilers of Unit 7. Isalnita Branch

E.C.03.09 Desulphurization Installation for Units no.1 and no.2 Craiova II Branch

E.C.04.09 Flue Gas Desulphurization Installation ofr Unit no.8 Isalnita Branch

E.C.05.09 Reduction of NOx Emissions for Man Boilers at Unit no.8 Isalnita Branch

E.C.06.09 Reduction of NOx Emissions for Benson Boilers at Units no.1 and no.2 Craiova Branch

E.C.07.09 Production Capacity of 200 MW Using Modern Technology. Craiova II Branch

E.C.08.09 Production Capacity of 500 MW Using Modern Technology, Including Desulphurization. Isalnita Branch

E.C.01.09 Flue Gas Desulphurization Installation for Unit no.7 Isalnita Branch

Project description

In order to reduce the sulphur dioxide content from burning the brown coal in the steam boilers of 510 t/h at power group no.7, a desulphurization installation will be assembled. The used technology is of wet type and in accordance with the protection of environment policy and will not affect the production capacity.

After implementing the project, power group no.7 will be included within the SO₂ and powders emissions limits provided in the legislation regarding pollutant emissions from large combustion plants and will be kept into operation.

Duration

The project will be implemented between 2010 and 2012.

The Feasibility Study and the Documentation for accessing Structural Fund are being developed.

Value and funding

The value of investment is 54.5 million Euros and payments will be made from loans and later recovered from Structural Funds.

The drawback period is 10 years and the investment will be recovered in 8 years.

E.C.02.09 Reduction of NOx Emissions for MAN Boilers of Unit 7. Isalnita Branch

Project description

The objective of the project is the reduction of nitrogen oxides emissions in order to comply with the legal provisions for environment protection.

The reduction of emissions will be achieved by assembling an installation using the selective non-catalysis method.

From an economical point of view, the investment will allow further operation of the power group no.7, after the compliance date of December 31st 2015.

Duration

The preliminary term for starting the project is 2014.

Value and funding

The estimated value of investment is 3.7 million Euros and financing will be secured through bank loans.

E.C.03.09 Desulphurization Installation for Units no.1 and no.2 Craiova II Branch

Project description

The reduction of sulphur dioxide will be achieved by assembling a common desulphurization installation of wet type for both the steam boilers and power groups no.1 and 2, using crushed limestone and reactive agent. The option of selling the final product, gypsum, is not possible. This technical solution was selected after analyzing the available desulphurization techniques, within the Feasibility Study under the reference Document regarding the best available techniques for large combustion plants.

Duration

The project will be developed in the 2009-2010 period.

The Feasibility Study and the Documentation for accessing Structural Funds have been completed and the Documentation has been sent to the European Commission.

Value and Funding

The value of the project is 64.2 million Euros and will be secured through bank loans and recovered from Structural Funds.

The drawback period is 10 years and the investment will be recovered in 8 years.

E.C.04.09 Flue Gas Desulphurization Installation ofr Unit no.8 Isalnita Branch

Project description

The project will be developed in order to reduce the sulphur dioxide content resulted from burning brown coal in the steam boilers at power group no.8, by assembling a desulphurization installation.

The technology used is of wet type, in accordance to the recommendations in the Reference Documentation regarding the best available techniques for large combustion plants.

Duration

The project will be implemented between 2010 and 2012.

The Pre-feasibility Study has already been completed and the Feasibility Study and the Documentation for accessing Structural Funds are to be elaborated.

Value and funding

The total value of the project is 59.5 million Euros and will be recovered from Structural Funds.

The drawback period for the loan is 10 years and the investment will be recovered in 8 years.

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E.C.05.09 Reduction of NOx Emissions for Man Boilers at Unit no.8 Isalnita Branch

Project description

The project has the same objectives as the one for reducing noxious emissions from power group no.7.

Duration

The preliminary term for starting the project is 2014.
Until now the Feasibility Study was completed.

Value and financing

The value of the project is 3.7 million Euros and the amount will be paid through bank loans.

E.C.06.09 Reduction of NOx Emissions for Benson Boilers at Units no.1 and no.2 Craiova Branch

Project description

The project objective is to reduce the nitrogen oxides emissions, in accordance with the legal provisions regarding the environment protection.

The objective will be achieved through primary measures and consists in providing: low emissions coal burners, dust concentrator, advanced dust separator and installation of air injection.

Duration

The preliminary term for starting the project is 2009.

The Feasibility Study has already been completed and the Documentation for Environment Funds was submitted for approval at the Environmental Fund Administration.

Value and Financing

The estimated value of the project is 4.6 million Euros and will be financed from loans and recovered from the environmental funds.

The drawback period is 10 years and funds will be recovered after 8 years.

E.C.07.09 Production Capacity of 200 MW Using Modern Technology. Craiova II Branch

Project description

The project involves building a 200 MW energy group in cogeneration including a desulphurization installation, using advanced technology for production, in accordance with the legislation regarding the European environmental protection.

The economic effects of the projects are: the increase of the production capacity; the increase in productivity; the decrease of raw material, material and energy consumption; the increase of profits.

Duration

The preliminary term for starting the project is 2014 and the implementation will last for 6 years.

Value and financing

The value of the project is 272 million Euros and funding will be provided by Brown Field, through a public-private partnership.

E.C.08.09 Production Capacity of 500 MW Using Modern Technology, Including Desulphurization. Isalnita Branch

Project description

The project is similar to the one involving the increase of production at Craiova II branch.

Duration

The preliminary term for starting the project is 2009 and it will be accomplished in 4 years.

The Feasibility Study has already been elaborated.

Value and Financing

The value of the project is 680 million Euros and will be secured by Brown Field, through a public-private partnership.

1.5. Rovinari Power Plant

Rovinari Power Plant has as main objects of activity the electrical and thermal power production by using coal as primary fuel and development of the Romanian thermal energetics. It also aims to develop technical and technological processes economically efficient in safety conditions with care for the people and the environment.

The company has a power capacity of 1320 MW in 4x330MW groups. Lignite (90%) and natural gas are used as fuels. Lignite is excavated from 5 areas with power lignite, grouped into 3 pits, located in Rovinari, Tismana and Pinoasa.

The lignite store from the excavating areas can ensure plant operation for a period of over 45 years. The extraction is made with a large capacity excavator.

Rovinari Plant is an economically stabile factor, both locally and nationally, as a result of its active position on the labour market, having a major contribution to the Romanian society's sustainable development.

In Figures

State share: 76,27%

Joint stock – *Ron : 232,795.57

- *Euro: 58,415.03

Financial Situation	2007		2008		2008/2007
	*RON	*EUR	*RON	*EUR	%
Turn-over	811,549.51	203,640	957,309.85	240,216.26	117.96
Net profit	79,274.29	19,892.17	1,040.82	261.17	1.31
EBITDA			79,103.36	19,849.29	
EBIT			28,176.69	7,070.34	

* in thousands

Projects

E.R.01.09 New Slag Collecting Unit for Groups no.3 and no.6

E.R.02.09 Reducing of SO2 Emissions for Units no.3 and no.6

E.R.03.09 Modernization of 4 Scoop Shovels

E.R.04.09 New Unit of 500 MW

E.R.01.09 New Slag and Ash Collecting Unit for Groups no.3 and no.6

Project description

According to the directions concerning exhaust and storage of waste resulted after burning processes, it is necessary to give up the present system using big quantities of water. The method used is the technology of dense, self-hardening slurry. This technology is aimed to provide the substantial improvement of the settled geotechnical parameters with good effects on landfill stability, reduction of settlement's

permeability, respectively reduction of infiltrations into the soil and prevention of ash scatter by the wind during droughty periods.

The project is very important for the medium to long future of Rovinari Power Plant and generally, for the national economy. It ensures an increase of competitiveness in the energy sector, avoiding excessive import of electric power and lay-offs of personnel. The project implementation will contribute to the avoidance of price increase for industrial customers and households. Moreover, the project will allow the company to observe the environmental norms, in line with those in the European Union. The investment will assure the continuity of the company's activity, being economically and financially efficient.

Duration

The estimated term for developing the project is 2009.
The Feasibility Study has been completed.

Value and funding

The value of investment is 29.67 million Euros and funding will be assured through own sources (34%) and bank loans (66%).

The drawback period is 10 years, with a 3 years grace period.

E.R.02.09 Reducing of SO₂ Emissions for Units no.3 and no.6

Project description

In order to reduce sulphur dioxide emissions, from burning gases derived from fossil fuel use, a desulphurization technology will be fitted in the steam boilers in each of the 2 power groups.

Each installation will be supervised from an individual control room. The employed technology will be automated system that will supervise and command the entire desulphurization plant.

Duration

The estimated period to complete the project is during 2011. Two Feasibility Studies have been prepared, by the Study of Engineering Institute Bucharest, in 2004, and by SwedPower International AB of Sweden, in 2006.

Value and Funding

The value of investment is 80.09 million Euros. Funding will be provided from own sources (20%) and by bank loans (80%).

The drawback period is 10 years, with a 3 years grace period.

E.R.03.09 Modernization of 4 Scoop Shovels

Project description

The scoop shovel is very important in lignite mining and is the first element in the technological progress of electrical power production (excavator-boiler-vortex wheel-

generator). Without any equipment, especially built for the coal deposit in Rovinari, the necessary lignite quantity cannot be delivered to the power plant, in order to support the National Energy System.

The objective of the project is the mechanical and electrical modernization of 4 scoop shovels: the SRS 2000 from Rovinari East, the ERC 1400 no.10 in Pinoasa, the ERC 1400 no.2 in Tismana II pit and the ERC 1400 no.4 in Tismana I pit.

After the completion of this project, the hourly excavating period will be increased, the electrical power consumption will be decreased by applying new technical solutions and so will the maintenance costs, by decreasing the number of repairs. Moreover, productivity will be increased by reducing the number of accidental stalls.

Duration

The estimated duration for updating each scoop shovel is 18 months (2008-2014).

Value and Funding

The value of investment is 12.6 million Euros and funding will be assured by bank loans.

The fund recovery period is 12 years.

E.R.04.09 New Unit of 500 MW

Project description

Taking into consideration the liberalization on the energy market, the increased competition, the company's role in the market, as well as the physical and moral depreciation of the existent groups, a new power group is mandatory – a new group with a boiler which pulverised burning at overcritical parameters.

On an international level, the current tendency is improving coal capacities at large and very large powers, with low fitting costs that need expensive installations for increasing energy efficiency and for protecting the environment.

Duration

The estimated period of duration is 504.2 million Euros. Funding will be secured by a public-private partnership.

1.6 Transelectrica

Transelectrica is the transmission and system operator in Romania, with a key role on the electric power market.

The company manages and operates the electrical transmission system and ensures electricity exchanges between Romania and other countries from Central and Eastern Europe, as member of the European Transmission and System Operators. Transelectrica is in charge with electrical power transmission, system and market operation and with the safety of the National Energy System. Moreover, it is the main link between electricity supply and demand, ensuring a balance between the two.

The company's mission is to ensure the National Energy System operation at maximum safety and stability, achieving quality standards. Thereby, an infrastructure of the

electricity market will be compassed and, at the same time, the access to the electric transmission network, in transparent, undiscriminating and equal conditions for all market participants.

In order to answer all the demands imposed by technical and operational regulations of the National Energy System and the Union for Coordination of Electrical Transmission, Transelectrica launched a large modernization and development program, carefully drawn, both technically and economically.

The main objectives of the investment program consist in increasing the efficiency and quality of the transmission service, reducing operation and maintenance costs and ensuring proper relations with members of the Union for coordination of Electrical Transmission.

Starting with 2006, Transelectrica is listed at the Bucharest Stock Exchange.

In Figures

State share: 73,77%

Joint stock – *Ron : 733,031.42

- *Euro: 183,938.43

Financial Situation	2007		2008		2008/2007
	*RON	*EUR	*RON	*EUR	%
Turn-over	2,290,987.21	547,873.84	2,924,508.22	733,842.27	127.65
Net profit	52,043.83	13,059.28	41,943.08	10,542.71	80.59
EBITDA			293,947.52	73,759.80	
EBIT			246,972.88	61,972.52	

* in thousands

Projects

E.TR.01.09 New Technology at the 220/110 kV Station, Turnu Severin East

E. TR. 02.09 New Technology at the 400/110/20 kV Station, Tulcea West

E.TR.03.09 New Technology at the 220/110 kV Station, Barbosi

E. TR.04.09 New Technology at the 400/110 kV Station, Brasov

E.TR.05.09 New Technology at the 400/110 kV Station, Bacau South

E.TR.06.09 New Technology at the 400/110 kV Station, Roman North

E.TR.07.09 The 400/110 kV Station at Grozavesti and 400 kV Connection Lines in Bucharest South and Domnesti Stations

E.TR.08.09 New Technology at the 220/110/20 kV Station, Campia Turzii

E.TR.09.09 Connection Lines for LEA 400 kV Isaccea-Varna and LEA 400 kV Isaccea'Dobrudja in the 400 kV Station, Medgidia South

E.TR.10.09 Extension of the 400 kV Station in Cernavoda and consolidating the Electrical Transmission Network by building LEA 400 kV at Cernavoda-Stalpu and Connection Lines in the 400 kV Station, Gura-Ialomitei

E.TR.01.09 New Technology at the 220/110 kV Station, Turnu Severin East

Project description

The Turnu Severin East Station is situated in the North-Eastern part of Drobeta Turnu Severin Municipality, in a marshland area. The transformer station is an important joint of the South-Eastern network and provides electrical power to consumers in the Municipality, its industrial platform being linked to the Iron Gates station and the Thermal Power Plant, Halanga.

The main directions of the project refer to:

- installation of primary and secondary equipment at an upgraded technological level, ensuring maintenance and reliability indicators adequate for a high safety level in operation;
- implementation of an integrated, remote-managed control and protection system;
- ensuring new technology order from the Remote Management Supervision and Intervention Centre;
- co-ordination with the power grid rehabilitation master plan and also with regular maintenance works and other related projects.

Maintenance and operation expenses, loss and own technological consumption will also be reduced.

Duration

The estimated term for developing the project is 24 months.

The Feasibility Study has been completed.

Value and funding

The value of investment is 16.7 million Euros and will be totally secured through own sources.

The fund recovery period is 12 years.

E. TR. 02.09 New Technology at the 400/110/20 kV Station, Tulcea West

Project description

Tulcea West station is located in the Western part of Tulcea municipality, in a hilly area of «Desindere Hill». It is an important joint of the South-Eastern network, providing electric power for Tulcea Municipality, its industrial platform and to distribution stations within the county. It also recruits the 400 kV sector of the National Energy System, towards the Constanta North station and Isaccea station, ensuring transmission of electrical power to other areas.

The main objectives of the project are:

- installation of primary and secondary equipment at an upgraded technological level, ensuring maintenance and reliability indicators, adequate for a high safety level in operation;
- implementation of an integrated and remote-managed control and protection system;
- ensuring new technology order from the Remote Management, Supervision and Intervention Centre;
- Co-ordination with the power grid rehabilitation master plan and also with regular maintenance works and other related projects.

After project development, remote control will be ensured and maintenance and operation expenses, loss and own technological consumption will be reduced.

Duration

The estimated term for implementing the project is 30 months.

The Feasibility and Pre-feasibility Studies have already been completed.

Value and funding

The value of investment is 44.5 million Euros. Funding will be secured through own sources.

The fund recovery period is 9.7 years.

E.TR.03.09 New Technology at the 220/110 kV Station, Barbosi

Project description

The present equipment at the 220/110 kV station at Barbosi is worn out, has a 400 years old technology and is not safe to operate.

The main rehabilitation directions are similar to the ones for the Severin East and Tulcea-West Station.

The project will determine reduction of maintenance and operation expenses, as well as the decrease of annual fixing costs.

Duration

The estimated implementation period is 17 month, if the rehabilitation will be completed through one turnkey contact, or 24-30 months if the project will be split into different delivery agreements and service lots, under a contract for work execution.

The Pre-feasibility and Feasibility Studies have been completed and the letters of advice and techno-economical indicators have been approved.

Value and funding

The investment value is 8 million Euros and funding will be fully secured through own sources.

The fund recovery period is 18.6 years.

E. TR.04.09 New Technology at the 400/110 kV Station, Brasov

Project description

The station is located in the Timis Triaj district of Brasov. Access to the station is provided through a secondary road of about 1.5 km, derived from the national road, or using the ring road Triaj-Brasov, of 3km. Inside the station, access is possible using the internal road network.

The main rehabilitation objectives for the station are:

- installation of technically competitive primary and secondary equipment, having a favourable performance/cost ratio, which will assure a high level of operation safety;
- implementing an updated control and protection system;
- assuring remote control.

Maintenance and operation expenses will be reduced and events that may lead to abnormal operation of the station, due to the present low performance of equipment, will be avoided.

Duration

The project will be developed in a period of 36 months.

The Pre-feasibility and Feasibility Studies have been completed.

E.TR.05.09 New Technology at the 400/110 kV Station, Bacau South

Project description

The 400/110 kV Bacau South station is located near Bacau city, in the village of Letea Veche. The station is an important joint of the Electrical Network Transmission in the Moldavian area. It provides electrical power to consumers in Bacau Municipality and its industrial platform, being connected to Gutinas/Roman North station and to the Thermal Power Plant Bacau. It also ensures resources to the local power provider, EON Moldova.

The main rehabilitation objectives are similar to those for the rehabilitation of Brasov station, additionally coordinating with the rehabilitation and maintenance of the transmission system and with any other auxiliary projects.

As a result of project accomplishment, the maintenance and operating expenses, as well as the own technological consumption and loss will decrease.

Duration

The project will be implemented in 22.5 months.

The Feasibility Study has been completed.

Value and funding

The value of investment is 10.1 million Euros and funding will be secured through own sources.

The investment recovery period is 2.5 years.

E.TR.06.09 New Technology at the 400/110 kV Station, Roman North

Project description

The 400/110 kV Roman North Station is located near Roman town, was built in different stages starting with 1983 and was developed on 2 voltage levels: 220 kV and 110 kV. In 2008 was upgraded to a 400 kV voltage.

Duration

The project will be completed in 23 months.
The Feasibility Study has been elaborated.

Value and Funding

The value of investment is 7.6 million Euros and funding will be secured by own sources.
The investment recovery period is 2 years.

E.TR.07.09 The 400/110 kV Station at Grozavesti and 400 kV Connection Lines in Bucharest South and Domnesti Stations

Project description

The 400/110 kV station will be placed inside the Grozavesti Thermal Power Plant. The connection to the National Energy System will be provided by LES 400 kV lines in the 400 kV stations in Domnesti and Bucharest South.

The economical impact will determine the voidance of congestions in the metropolitan area of Bucharest, the decrease of technological loss, decrease of own technological usage as well as the reduction of maintenance and operation expenses.

Duration

The project will be developed in a period of 24 months. The study regarding «New injections from the Electrical Transmission Network to service Bucharest in operation conditions» and the «Planning of transmission networks in the metropolitan area of Bucharest» have been completed.

The Feasibility Study will be drafted in the second quarter of 2010.

Value and funding

The value of investment is 65 million Euros and funding sources have not yet been selected.

E.TR.08.09 New Technology at the 220/110/20 kV Station, Campia Turzii

Project description

The 220/110/20 kV station is located in the South-Western part of the Campia Turzii town, close to the Campia Turzii Integrated Iron and Steel Plant. The station is operating since 1954 and it is the oldest electrical station of Transelectrica.

The project will hold:

- New technology at the 220 kV station;
- New technology at the 110 kV station;
- New technology at the 20 kV station;
- Fitting of a 200/110 kV – 200 MVA regulator.

Duration

The project will be developed in a period of 24 months.

In the first quarter of 2010 the Feasibility Study will be completed.

Value and funding

The estimated value for this project is 15 million Euros and funding sources have not yet been selected.

E.TR.09.09 Connection Lines for LEA 400 kV Isaccea-Varna and LEA 400 kV Isaccea'Dobrudja in the 400 kV Station, Medgidia South

Project description

The 400/110/20 kV Medgidia South Station is located in the Constanta county, at approximately 5 km South from the city of Medgidia, close to Valea Dacilor village. It also lies at 13 km from the interconnection lines with the Bulgarian Energy System.

The project is mentioned in the Perspective Plan of the Electrical Transmission Network for the 2008-2012 period and, roughly, until 2017. The implementation of this project is determined by the wind plants recently built in Dobrogea, close to the interconnection lines with Bulgaria.

The costs of the new cells to be installed in Medgidia South station, including the connection lines mentioned, are included in the connection tariff for the wind farms. The solution studies determined the necessity for the beneficiaries to finance the project from the connection tariff, according to the legislation.

Duration

According to the phasing process mentioned in the Perspective Plan of the Electrical Transmission Network, the project must be developed in a 36 months period (2012-2014).

The Engineering Theme for the Feasibility Study, the Technical Project and the Specifications have been prepared. The design services acquisition will be carried out through public tender in the next period.

Value and funding

The value of investment is 20 million Euros and funding sources have not yet been selected.

E.TR.10.09 Extension of the 400 kV Station in Cernavoda and consolidating the Electrical Transmission Network by building LEA 400 kV at Cernavoda-Stalpu and Connection Lines in the 400 kV Station, Gura-Ialomitei

Project description

The 400 kV Cernavoda Station ensures the injection in the system of the power generated by units U1 and U2, through the Electrical Transmission Network to the National Energy System.

The project consists in engineering of a new line to cover Constanta, Ialomita, Braila and Buzau counties. The line will start at the ened poles, placed in front of the 400 kV station and will reach Stalpu 400kV Station. The route has been determined after drafting the Feasibility Study.

A new 400 kV station will be built to replace the present 200 kV station and it will expand with two 400 kV cells, pertaining to Cernavoda and Stalpu LEA.

The project will have a positive impact on the National Energy System, by increasing the fitted power and by using competitive energy sources, inexpensive and environmentally friendly.

Duration

The project shall be developed during 2011-2016.

The Engineering Theme for the Feasibility Studies, the Technical Projects and Specifications have been completed, associated with works at the stations in Cernavoda, Stalpu and Gura-Ialomitei, and with works at the Cernavoda-Stalpu line and the connection at Gura-Ialomitei. The service acquisition will be made through public tender in the near future.

Value and funding

The value of investment is 100 million Euros.

1.7 Hidroelectrica

The company has as major object of activity the production of electric power and performing technological system based on hydro resources.

Hidroelectrica manages 275 hydropower plants and pumping stations, with a total installed power of 6,374.37 MW. With an output of 17,330 Gwh per hydrological year, generated in 12 branches strategically located throughout the country, Hidroelectrica provides approximately 30% of the total county electricity production. The volume of the system services represents around 90% of the National Energy System requirement.

For the period 2009-2012, the company's growth program implies installing a supplementary power of 325.44 MW, which will generate 1,011.64 GWh/year. The necessary investments have a value of approximately 570 million Euros. The company considers privatizing 150 micro-hydro plants in order to conduct rehabilitation and modernization programs.

The mission of the company is to produce electric power in order to cover the demands of the consumer at present, as well as on the medium and long time, at a low price, adequate to a modern economy and to civilized living standards, in high-quality conditions, safe delivery, in line with the sustainable development principles.

The company's activities and performances determined and improvement of the quotations and epithets awarded by Standard and Poor's to BB, with a positive tendency, and from Moody's to Ba1. These achievements prove the company's capacity to satisfy the demands of the financial institutions as well as those of investors with regard to the development and modernization programs.

In figures

State share: 80,06%

Joint stock – *Ron : 4,433,822.90

- *Euro: 1,112,572.24

Financial Situation	2007		2008		2008/2007
	*RON	*EUR	*RON	*EUR	%
Turn-over	2,060,741.48	517,098.63	2,443.547.79	613,155.62	118.58
Net profit	52,582.23	13,194.38	65,118.09	16,339.98	123.84
EBITDA			726,683.81	182,345.64	
EBIT			264,864.76	66,462.10	

* in thousands

Projects

E.H.01.09 Tarnita-Lapustesti Pumping Station Hydropower Plant

E.H.02.09 Hydrapower Facility on River Olt on the Izbiceni-Dunare Sector. Islaz Hydropower Plant

E.H.03.09 New Technology at the Retezat Hydropower Plant

E.H.04.09 New Technology at the Stejaru Hydropower Plant
E.H.05.09 New Technology at the Vidraru Hydropower Plant
E.H.06.09 New Technology at the Mariselu Hydropower Plant
E.H.07.09 New Technology at the Galceag Hydropower Plant
E.H.08.09 Hydropower Facility on the River Strei on the Subcetate-Simeria Sector. Plopi Hydropower Plant
E.H.09.09 Hydropower Facility on the River Olt on the Cornetu-Avrig Sector. Robesti Hydropower Plant
E.H.10.09 Hydropower Facility Surduc-Siriu. Nechoiasu II Hydropower Plant
E.H.11.09 Hydropower Facility on River Jiu on the Livezeni-Bumbesti Sector
E.H.12.09 Rastolita Hydropower Facility
E.H.13.09 Hydropower Facility Funcu-Firiza. Hydropower Plants Firiza I and II
E.H.14.09 Hydropower Facility on the River Olt on the Cornetu-Avrig Sector. Racovita Hydropower Plant
E.H.15.09 Hydropower Facility on River Strei on the Subcetate-Simeria Sector. Bretea Hydropower Plant

E.H.01.09 Tarnita-Lapustesti Pumping Station Hydropower Plant

The Power Plant will be located in the Cluj county, at approximately 30 km up-river from Cluj-Napoca Municipality, on the river Somesul Cald.

For the present capacity of the National Energy System and for the prospect of the period 2015-2020, concerning the expansion of the nuclear, thermal (with new technologies) and wind capacities, the Tarnita-Lapustesti Power Plant will be equipped with four hydro-assemblages with constant speed and installed power of 250 MW each.

Duration

It is estimated that during the period 2011-2015, two groups of hydro-equipments will be put into operation, and between 2016 and 2017 the following two will be commissioned.

Until now the acquisition procedure for the consultancy services aiming at attracting investors was started.

Value and funding

The value of the project is 1,163 million Euros and financing will be secured from external sources (85%) and from own sources (15%).

The obligations regarding the company's contribution with assets and investment funds as a majority shareholder, will be determined after the selection of the investors and depending on the status of the future company.

E.H.02.09 Hydropower Facility on River Olt on the Izbiceni-Dunare Sector. Islaz Hydropower Plant

Project description

Islaz Hydropower Plant is a facility with a complex role, placed on the Olt river, 3km up-river from the junction with the Danube. This facility will ensure both the power production and the energy consumption in the charging gaps, in line with the Cernavoda Nuclear Plant. The Hydropower Plant will also ensure water for irrigation, protection against floods and will have an important role in upgrading the road communication.

The plant will have the same type of reversible hydrogenate-bulb as the 5 hydropower plants located in the sector Ipotesti-Izbiceni, which are being equipped with a new technology. By implementing this project, a connection with the Danube will be established, assuring an up-river pumping from the stream.

Duration

The project will be developed in a period of 6 years (2010-2015). The technical process is being updated and the city planning documentation is being initialized by the local and central administration.

Value and funding

The investment value is 253 million Euros and financing will be secured by bank loans (80%) and from own sources (20%).

E.H.03.09 New Technology at the Retezat Hydropower Plant

Project description

Retezat Hydropower Plant is situated in the Mures hydro-basin, in the Hunedoara County. It has an installed flow of 71,6 m³/s and a multi-annual average flow of 8,42 m³/s. The maximum installed power is 2x167,5 MW and produces an average power of 230 GWh/year. It is estimated that after the upgrade, the average power production will reach 400 GWh/year.

The project implies

- rehabilitation of equipments by upgrading the groups to the intended parameters (a rated power of 167.5 MW/group);
- upgrading the plant for a new endurance of 30 years;
- automatic remote operation;
- operation in a synchronous compensatory regime.

Duration

The project will be developed in a period of 5 years (2012-2016). The Feasibility Study will be elaborated, considering the data presented in the studies regarding the diagnosis of the technical condition of the hydro equipment in operation.

Value and funding

The value of investment is 92.3 million Euros and funding will be secured both from bank loans (51%) and from own sources (49%).

E.H.04.09 New Technology at the Stejaru Hydropower Plant

Project description

Stejaru Hydropower Plant is placed on the Bistrita river, in Neamt county.

The investment project presumes:

- equipment rehabilitation in order to prepare for an extended life of 30 years;
- increase of hydro-equipment performance;
- increase of reliability and security of operation;
- automatic remote operation;
- technological service system.

Duration

The execution period is 5 years (2012-2014).

The Feasibility Study is being drafted.

Value and financing

The value of the project is 113.1 million Euros and funding will be made through external (84%) and own sources (16%).

E.H.05.09 New Technology at the Vidraru Hydropower Plant

Project description

Vidraru Hydropower Plant is situated on the Arges river, within Arges county. It has an installed flow of 90m³/s and an average multi-annual flow of 19,7m³/s. The maximum installed power is 4x55 MW and determines a power of 400 GWh/year.

The project consists in

- rehabilitation of the equipment for an extended lifetime of 30 years;
- increase of hydro-equipment performance;
- increase of system services volume (operation in a synchronous compensatory regime and as a secondary power supply);
- automatic remote operation;
- operation in a synchronous compensatory regime.

Duration

The project will be developed in a period of 5 years. The Feasibility Study has not yet been drafted and for this reason information on the project is estimate.

Value and Financing

The value of investment is 74.1 million Euros and funding will be secured from bank loans (42%) and own sources (58%).

E.H.06.09 New Technology at the Mariselu Hydropower Plant

Project description

Mariselu Power Plant is situated on the Somesul Cald river, in Cluj county. It has an installed flow of 60 m³/s and an annually average flow of 12,04 m³/s. The average power produced is 365 GWh/year and it is estimated to grow to 405 GWh/year after the endowment with new equipment.

The project consists in:

- rehabilitation of the equipment for an extended lifetime of 30 years;
- increase of hydro-equipment performance;
- increase of reliability in order to reduce unavailability period;
- increase of active (reactive) power supplied annually;
- automatic remote operation.

Duration

The estimated project course is of 3 years (2011-2013) and the Feasibility Study is being drafted. For this reason, the information regarding the project is estimate.

Value and financing

The value of investment is 64.57 million Euros and funding will be made from bank loans (77%) and own sources (23%).

E.H.07.09 New Technology at the Galceag Hydropower Plant

Project description

Galceag Hydropower Plant is located on the Sebes river, in Alba County. It has installed flow of 40m³/s and an annually average flow of 11.42 m³/s. The maximum power is of 2x75 MW and produces, on average, 260 Gwh/year. After developing this project, the power generated is estimated to reach 265 Gwh/year.

The project has the following objectives:

- rehabilitation of the equipment for an extended service life of 30 years;
- Increase of hydro-equipment of performance;
- Increase of reliability in order to assure plant operation at higher technical parameters;
- Maintenance of the security and availability level in operation;
- Automatic remote operation.

Duration

The project will be completed in a 3 years period. The Feasibility Study is being drafted and for this reason the information provided is estimate.

Value and funding

The value of investment is 41.95 million Euros and funding will be provided both from bank loans (62%) and from own sources (38%).

E.H.08.09 Hydropower Facility on the River Strei on the Subcetate-Simeria Sector. Plopi Hydropower Plant

Project description

The facility is located on the Strei river in Hunedoara County, up-river from the Subcetate Hydropower Plant.

The investment objective was declared of public usability and national interest. Besides the production of electric power, the plant also assures: flows regulation, protection against floods, modernization of connection route.

Duration

It is estimated that in 2009 hydro-equipment no.1 will be completed and in 2010 hydro-equipment no.2 will be put into operation.

Value and funding

The value of investment is 22.3 million Euros and funding will be secured both by bank loans (60%) and by own sources (40%).

E.H.09.09 Hydropower Facility on the River Olt on the Cornetu-Avrig Sector. Robesti Hydropower Plant

Project description

The plant is located on the Olt river, about 20 km upstream from the confluence with Lotru river, in Valcea county. The objective of the project is the improvement of the hydropower potential of Olt river, on a river sector of about 3 km long.

Duration

The term for completing the project is 2011.

A series of developments have already started and reached different stages: works at the dam (95%), hydropower plant (99%) and installation of the hydropower equipment (30%).

Value and funding

The value of investment is 32.4 million Euros and will be financed 60% by bank loans and 40% by own sources.

E.H.10.09 Hydropower Facility Surduc-Siriu. Nehoiasu II Hydropower Plant

Project description

The facility is situated on the river Basca Mare, upstream of Nehoiasu village (counties Buzau and Covasna).

The project aims at improving the hydropower potential of the river Basca Mare, on a river sector of about 75 km.

The object of investment has been declared of public usability and national interest.

Duration

The term for completing the project is 2012.

Works at the main adduction and at the hydropower plant have been completed 65%, respectively 85%. Developments at the dam and fittings of hydro-equipment will follow.

Value and funding

The estimated value of the project is 97.93% million Euros and will be financed by external sources (60%) and own sources (40%).

E.H.11.09 Hydropower Facility on River Jiu on the Livezeni-Bumbesti Sector

Project description

The objective of the project is the improvement of the hydropower potential of Jiu river, in the defile area, on a river sector of about 55 km long. (at the confluence between Eastern and Western Jiu river).

The investment objective has been declared of public usability and national interest.

Duration

In 2012, Dumitra Hydropower Plant is estimated to be completed and Bumbesti Hydropower Plant will follow in 2013.

The works have been complete in different proportions: the dam (20%), main adduction (65%) and the hydropower plants (25%). The next step is installation of the hydro-equipment.

Value and funding

The value of investment is 102.34 million Euros and funding will be provided from external sources (60%) and own sources (40%).

E.H.12.09 Rastolita Hydropower Facility

Project description

The facility is situated on the Rastolita river, in Mures county and the object of investment has been declared of public usability and national interest.

Besides the production of electric power, the project assures other utilities, such as: flow regulation in case of floods, protection against floods, supplementing the flows on the river Mures in times of draught, providing water for Targu Mures Municipality, modernizing the route system.

Duration

Hydro-equipment no.1 and Galaiia Mica-Visa sector are estimated to be completed in 2010, and by 2014 hydro-equipment no.2 and Bistra section will have been put into operation.

The following works have been started: dam (60%), adduction and forced pipe (85%), plant (85%). Electro-mechanical equipment has been fitted 2%.

Value and funding

The value of investment is 98.85 million Euros and will be secured 60% by bank loans and 40% by own sources.

E.H.13.09 Hydropower Facility Funcu-Firiza. Hydropower Plants Firiza I and II

Project description

The facility on the Firiza river is situated in the Maramures county. It improves the regulation as well as the falls of water supply of the natural hydrographer in the Runcu reservoir. It also assures water flow supplementation for Baia Mare Municipality. The project is an investment of the National Company «Romanian Waters».

Duration

The period of time proposed for implementation is 2012-2013.

The following development have been started: adjusting basin (40%), adduction and forced pipes (65%), plant (10%). The fitting of the electro-mechanical equipment follows.

Value and funding

The value of investment is 30.82 million Euros and will be funded by bank loans (55%) and own sources (45%).

E.H.14.09 Hydropower Facility on the River Olt on the Cornetu-Avrig Sector. Racovita Hydropower Plant

Project description

The objective of the project is the improvement of the hydro potential for Olt river, in the defile area, on a river sector of about 4 km long. The facility will be located at around 4 km upstream the confluence with cabin river, in Sibiu county.

Duration

The term of completion is 2012.

Up to now, works at the dam (70%) and hydro plant (95%) have been started and the hydro-equipment has been fitted (10%).

Value and funding

The value of investment is 94.74 million Euros and financing will be provided from external sources (60%) and own sources (40%).

E.H.15.09 Hydropower Facility on River Strei on the Subcetate-Simeria Sector. Bretea Hydropower Plant

Project description

The facility on this sector of the river Strei, downstream the Subcetate reservoir and Hydropower Plant, assures: production of electric power, regulation of water flows, protection against floods and modernization of roads system.

The project has been declared of public usability and national interest.

Duration

The terms for completion are 2012 for hydro-equipment no.1 and 2013 for hydro-equipment no.2.

Works at the sluice (20%) and at the plant (10%) have been started, and the installation of the electromechanical equipment will soon follow.

Value and financing

The value of investment is 45.1 million Euros and will be funded by bank loans (45%) and own sources (55%).

1.8 The Romanian Authority for Nuclear Activities

The Romanian Authority for Nuclear Activities was set-up on July 2nd 1998, by restructuring «Renel» Electric Authority. The company was established as a national authority of strategic interest, very specific, having as main objects of activity the production of heavy water and auxiliary products, electrical and thermal power for households and industrial customers, as well as engineering activities for nuclear objectives and research in the nuclear field.

The Authority holds heavy water production facilities organized as branches, electrical and thermal production branches, engineering for nuclear objectives and research branches.

Romag-Termo Branch has as a main activity technological steam production for Romag-Prod Branch, electric power production for own technological use and delivery in the National Energy System, as well as supplying around 33,000 apartments in Drobeta-Turnu-Severin Municipality with thermal power.

Romag-Prod Branch produces light, heavy and very heavy water.

The Nuclear Research Branch Pitesti is an applied research institute dedicated to constant and fluctuant behaviour nuclear research.

The technological Engineering for Nuclear Activities Branch is an engineering and research institute for nuclear activities.

In Figures

State share: 100%

Joint stock – *Ron : 104,795.96

- *Euro: 26,296.29

Financial Situation	2007		2008		2008/2007
	*RON	*EUR	*RON	*EUR	%
Turn-over	673,337.99	168,959.65	690,885.51	173,362.82	100.61
Net profit	565.37	141.87	-103,723.51	-26,027.18	x
EBITDA			78,454.26	19,686.41	
EBIT			-99,622.16	-24,998.10	

* in thousands

Projects

E.RAAN.01 Water Treatment Plant Modernization at Drobeta Turnu Severin Coal Power Plant

E.RAAN.02 Flue Gas Desulphurization System at Boilers within Romag Termo Power Plant

E.RAAN.03 Installation for Slag and Ash Discharge as Dense Slurry

E.RAAN.04 The Radiowaste Treatment Facility Modernization and Retrofitting from the Institute of Nuclear Research Pitesti

E.RAAN.01 Water Treatment Plant Modernization at Drobeta Turnu Severin Coal Power Plant

Project description

The project implies modernizing and automating operation and recovery for 7 demineralization lines, 5 in operation and 2 in store or being repaired, and for 5 mixed filters. New equipment will also be fitted in the reagent storehouse.

By modernizing and automating the water treatment appliance, the following improvements will be achieved:

- Demineralized water production, in conformity with the present profile of the plant;
- Increase of safety in operation;
- Superior techno-economical performance by decreasing specific consumption of technological water, reagents and electrical power;
- Quality increase of demineralised water for steam generating boilers, with effect on reducing unavailability of energy equipment;
- Decrease of waste water volume;
- Increase of technological capability;
- Decrease of maintenance costs.

Duration

The estimated duration of the project is 12 months.

The Feasibility Study has been completed.

Value and funding

The value of investment is 5.32 million Euros and financing will be provided from external sources (80%) and own sources (20%).

The drawback period is 20 years, with a 2 year grace period.

The investment recovery period is 7.54 years.

E.RAAN.02 Flue Gas Desulphurization System at Boilers within Romag Termo Power Plant

Project description

The method used by the Romanian Authority for Nuclear Activities is the most frequent, and accomplishing this project will lead to an efficient sulphur dioxide

detainment, of over 95%. Economically speaking, the used material can be easily obtained and without high costs. Moreover, part of the operating costs can be recovered from the sale of the resulted material, plaster. The project is the result of the decision to take steps in order to reduce pollutant emissions from large combustion plants. Environment costs will also be reduced.

Duration

The project development period is 2009-2010.

In July 2007, the Study and Engineering Institute in Bucharest prepared the study «Fitting of the desulphurization mechanism of burning gases for boilers with a 420 tonnes/h capacity from Romag-Termo Branch of the Romanian Authority for Nuclear Activities.»

Value and funding

The estimated value of investment is 53.69 million Euros. 80% of this amount will be secured by external sources, and 20% by own sources.

The drawback period is 20 years, with a 2 year grace period.

E.RAAN.03 Installation for Slag and Ash Discharge as Dense Slurry

Project description

The method chosen consists in slag and ash exhaust without excessive water use, with an average dilution of 1/1. As an effect to the chemical reactions between ash components and transport water, new insoluble, cement-like compounds appear, that lead to slurry hardening. The residue will be an ash rock, in all the storage's capacity.

After project development, the slag and ash storage will be closed and negative environmental effects will be avoided. Moreover, investments for periodical aggradations will decrease, as well as the maintenance and operating costs.

Duration

The estimated period for developing the project is 2008-2011.

The Feasibility Study has been completed.

Value and funding

The value of investment is 37.7 million Euros and will be secured 84% by external sources and 16% by own sources.

The drawback period is 10 years, starting the first year after project completion, and the investment recovery period is 9 years.

E.RAAN.04 The Radiowaste Treatment Facility Modernization and Retrofitting from the Institute of Nuclear Research Pitesti

Project description

The objectives of the project are the modernization and completion of the material for radio-chemistry, radiation measurement and spectral analysis laboratories, for

determination and analysis expansion, needed for quality radiowaste and fuel management. These laboratories, equipped with quality materials, will assure partnerships and research themes contracts within the European Union Frame Programs.

After modernization, the capacity of mechanisms will increase by 18% and the production capacity by 80%.

Duration

The estimated duration for project implementation is 35 months.

The Feasibility Study has been completed.

Value and Funding

The value of investment is 2.72 million Euros and funding will be provided from external sources (70%) and own sources (30%).

The investment recovery period is 8 years and the drawback period is 15 years.