

(RE)Generating Opportunities



ANNUAL REPORT

2013

(RE)Generating Opportunities



CONVERTING WASTE **TO ENERGY**

Contents

- 4 Company Profile
- 6 Romelectro Group
- 8 President's Statement
- 9 Certificates
- 10 Waste-to-Energy in Timișoara
- 12 Major Projects in 2013
- 32 Romelectro References
- 34 \ Projects in Romania
- 37 \ Major External Projects
- 41 \ Other Export Projects
- 46 Independent Auditors' Report
- 48 Financial Highlights
- 50 Energy Trading

Company Profile

Romelectro is known as one of the most important EPC Contractors in Romania for energy projects. We rely on our experience gained and continuously improved during almost 45 years of national and international projects in the energy field — power and heat generation, transmission and distribution, environmental protection and energy trading.

Our role on the market

- ▶ Investor
- ▶ Project Developer
- ▶ EPC Contractor
- ▶ Strategic Partner
- ▶ Electricity Trader

Thermal Power

As Romelectro's expertise over the years extends to most of the heat and power plants in Romania, we have the necessary competencies, technologies, resources and know-how to answer to our clients' needs for both green field projects and existing power plants.

Cogeneration

Romelectro promotes, as investor and project developer, the highest efficient technologies for transforming existing power plants into modern Combined Heat & Power Plants as well as for developing new cogeneration units, combining classical with renewable resources.

Hydro Power

Romelectro is actively involved, as EPC Contractor and Investor, in developing the hydropower potential, offering turnkey execution services for projects in hydrotechnical and hydropower fields.

THERMAL
POWER



HYDRO
POWER



ENVIRONMENTAL
PROTECTION



COGENERATION



POWER
TRANSMISSION &
DISTRIBUTION



ENERGY
TRADING



Power Transmission & Distribution

Power Transmission & Distribution field has been since the beginning the core business of Romelectro. Our expertise is continuously expanded while new dimensions, technologies and standards are developing. One such example is its leading role in providing electrical grid connection for power generation plants based on renewable sources.

Environmental Protection

In line with the latest environmental protection-related directives set by EU, Romelectro promotes and implements the most advanced technologies. We are among the first companies in Romania that implemented such solutions as: flue gas desulphurization (FGD), ash and slag removal and storage in dense slurry system and NO_x burning systems.

Energy Trading

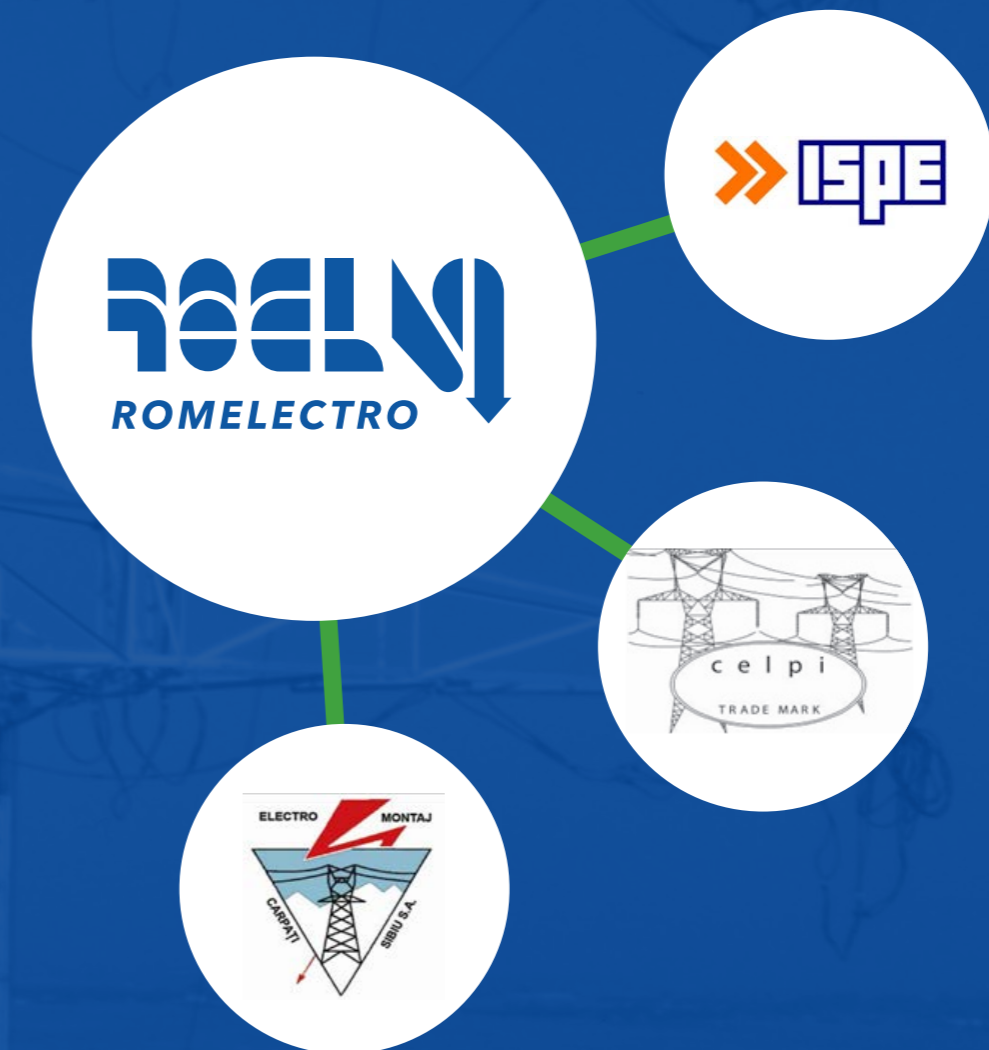
Being backed by a dedicated team with a large expertise in energy trading, we offer long-term solutions to satisfy our clients' needs.

Our offer

- Pre-investigational studies
- Technical and financial consultancy
- Investitional consultancy
- Basic and detail engineering
- Project management
- Equipment supplier
- Installation and assembling services
- Civil works
- Site supervision
- Commissioning
- Operation monitoring during guarantee period
- Rehabilitation and modernisation programs

Romelectro Group

Expanding our offer and services, between 1995 and 2006, Romelectro became the major shareholder in ISPE, CELPI and Electromontaj Carpați Sibiu companies, thus laying the foundation for ROMELECTRO Group.



Romelectro

EPC Contractor, Project Developer and Investor in the fields of power and heat generation, power transmission & distribution and environmental protection.

ISPE

With its history dating since 1949, ISPE (Institute for Studies and Power Engineering) is continuously consolidating its position as leader in engineering. Services for private and public Romanian and international clients are offered by ISPE through teams of specialists with solid and large expertise in these fields. Its experts, dedicated to research, engineering and management activities offer the safest and most efficient technical and financial solutions, in all project development stages.

CELPI

CELPI has an ongoing activity of over 60 years, being the first equipment supplier in the power transmission field in Romania. CELPI manufactured almost the entire equipment (towers, accessories, equipped shapes) for development of the National Power Grid referring to the electricity transmission and distribution. In the last 5 years, CELPI has executed and delivered a range of pillars for telecommunication, for domestic and export projects.

Electromontaj Carpați Sibiu

Established in 1949, Electromontaj Carpați Sibiu is one of the most important companies in Romania, specialized in mounting, assembly, and commissioning services for turnkey electrical substations and OHTLs.

Referring to Romelectro Group's competences, our domestic and international references speak for themselves:

- ▶ Sophisticated design and engineering solutions for projects of over 15,000 MWi in conventional power plants
- ▶ Complex rehabilitation and retrofitting in the field of thermal power plants and cogeneration plants developed for more than 3.000 MWi
- ▶ Projects for new facilities using both conventional fuels and renewable energy sources (biomass, biofuel, waste)
- ▶ Design, engineering, construction for more than 150 high voltage Electrical Substations
- ▶ Approximately 22.000 km of designed or executed OHTLs in Romania and approximately 10.000 km of OHTLs in countries from Middle East, Asia, North Africa and Latin America.

Alingning with the latest EU environmental protection related goals, Romelectro has successfully developed environmental projects, such as installations for ash and slag removal and storage using dense slurry technology, low NO_x burners and flue gas desulphurization for coal-fired power plants.

Renewable energy projects represent another business line of great importance to our group of companies. Specialized teams of engineers cover practically all market-available technologies. For wind energy farms, our specialists have

already prepared grid connection studies for more than 30,000 MW installed.

Moreover, Romelectro is working on developing important waste-to-energy and biomass cogeneration projects.

While recent works focused on the Romanian market—due to the high need for rehabilitation, development and renewable energy projects—Romelectro's international experience is also considerable. The company is known on all continents as EPC contractor for complex energy projects. Vafregan and Saveh Dams

in Iran, Ksob and El Fakia Dams in Algeria, 10,000 km of OHTLs in Iran, Iraq, Philippines, Jordan, Syria, Algeria, Malaysia and Nigeria, are just some of the most important projects in Romelectro's portfolio.

Romelectro is the key partner on the Romanian market for complex power generation and power transmission and distribution projects. Moreover, our strategic partnerships and agreements with the world's most important equipment, technology and know-how suppliers ensure strong competitive advantages for consolidating our export activity.

President's Statement

Dear Shareholders, Partners and Colleagues,

To Romelectro, 2013 was a year of continuing the projects for providing classical thermal power plants with pollution control equipment, with particular reference to projects for collecting, transport and storage of ash and slag in dense slurry system, flue gas desulphurization, electrostatic precipitators and reducing nitrogen oxides.

On the renewable energy market, Romelectro was awarded significant contracts and recorded value-added in promoting biomass and biogas projects. Nevertheless, in 2013, our most notable success was signing the contract with Timișoara Municipality for the first waste-to-energy project in Romania, a project that implies the execution of a 78,750 tons/year municipal waste incinerator.

I could say that, on the electricity transmission and distribution market, 2013 can be considered a good year, proof stands the references set forth in substations and transmission lines by performing six very important contracts and several other smaller ones.

The year 2014 shall be branded by the re-engineering actions to be adopted by Romelectro and the Romelectro Group of Companies, in two major directions, namely:

- ▶ a better synergy and integration of the companies within the Group,

with the target of becoming a full developer of projects and resource integrator;

- ▶ a considerable come-back to the export market by gathering other companies holding competencies in complex power projects.

Related to market segments, we will concentrate on the traditional market segments, energy — power generation, transmission and distribution, but we also have increasing targets on other markets, particularly Industry, Municipalities and Infrastructure.

We are also studying consolidation possibilities on subjects with greater and greater interest, namely: distributed energy generation, industrial energy efficiency, energy storage, intelligent networks, intelligent cities, as well as future subjects, such as carbon capture and storage, for which we are in the process of elaborating domestic research-development programs.



Besides our position as business integrator, we are further interested in the position of investor, with special focus on renewable energy projects.

We trust we will succeed in continuing our consolidation on the energy market and in convincing our clients by both internal actions of increasing our competence and cooperation actions with all our Romanian or foreign partners who add value to our projects.

We look upon 2014 and the years to follow with the trust and confidence that these targets shall be achieved!

Viorel Gafița
President

Certificates

QUALITY MANAGEMENT

Romelectro is certified by IQNet and SRAC as General Contractor for construction-mounting, Power Supplier and Import-Export Services, which has implemented and maintains a Quality Management System which fulfils the requirements of the standard ISO 9001:2008.



OCCUPATIONAL HEALTH AND SAFETY SYSTEM

Romelectro is certified by IQNet and SRAC as General Contractor for construction-mounting, Power Supplier and Import-Export Services, which has implemented and maintains an Occupational Health and Safety System which fulfils the requirements of the standard OHSAS 18001:2007.

ENVIRONMENTAL MANAGEMENT SYSTEM

Romelectro is certified by IQNet and SRAC as General Contractor for construction-mounting, Power Supplier and Import-Export Services, which has implemented and maintains an Environmental Management System which fulfils the requirements of the standard SR EN ISO 14001:2005 (ISO 14001:2004).



INFORMATION SECURITY MANAGEMENT SYSTEM

Romelectro is certified by IQNet and SRAC as General Contractor for construction-mounting, Power Supplier and Import-Export Services, which has implemented and maintains an Information Security Management System which fulfils the requirements of the standard OHSAS 27001:2005.

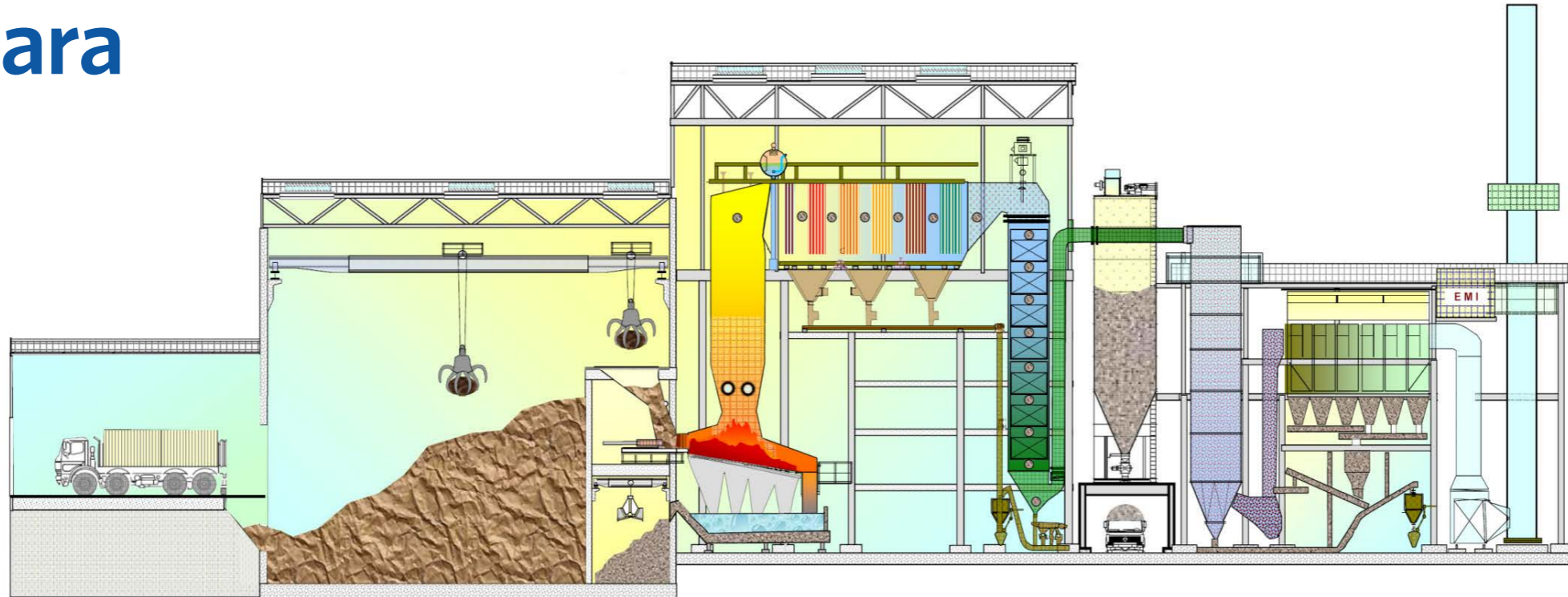


WASTE-TO-ENERGY TECHNOLOGY

Waste-to-Energy in Timișoara

It is the first project in Romania in the field of Waste-to-Energy, according to the National Waste Management Strategy, being included in the Waste Management Plan.

Client: **S.C. International Recycling Energy S.A. Timișoara**
 Project starting year: **2013**
 Project completion year: **2016**



Pursuant to Government Ordinance 349/2005, Romania established the legal framework to carry out the waste storage activity, for the execution, operation, monitoring, shut down and post shut down follow up of new storages and of the existing ones as well, correlated with Expedite Government Ordinance 34/2002 on the prevention, reducing and integrated control of pollution.

Main technical characteristics

This project proposes the execution of an alternative fuel incineration plant,

fuel resulting from the sorting process of municipal waste and generation of electricity and heat in a turbo-generator with condensation and intakes.

Objectives

- ▶ Discarding the sorted waste by conversion of the resulting alternative fuel into energy, by means of a high efficiency cogeneration plant;
- ▶ Reducing the methane gas consumption by replacing it with this alternative fuel, the result being approximately 16 million m³/year.

The supply of the future plant shall consist of:

- ▶ Unloading station and storage bunker, provided with travelling crane with grabs, to feed the boiler;
- ▶ Firing plant in fixed layer of 9,375 tons/h alternative fuel and 1,310 tons/h biocoal;
- ▶ High efficiency cogeneration plant with:
 - Steam boiler, with informative parameters 40 tons/h steam at a pressure of 42 bar and a temperature of 430°C;
 - Flue gas treatment plant, in semi-wet system;
 - Steam turbine with condensation and intakes for

3.5 bar/0.8 bar, with minimum 5.64 MWe electric power and minimum 20.5 MWt (18 Gcal/h) thermal power at intakes;
 • 7.5 MVA power generator (adapted to the above-specified turbine parameters).

Plant availability will be 8,400 h/year.

The plant shall use a fuel quantity of 78,500 tons/year, from household waste and biocoal resulting from the fermentation and drying of the biodegradable fraction.

Key Figures

- 42 t/h steam boiler
- Power efficiency calculated according to the "Waste Directive" 2008/98/CE: min. 121%
- Installed electric power min. 5.64 MWe
- Boiler efficiency min. 86%
- Noxious emissions at the stack according to Directive 2008/98/EC

Partnership

- ROMELECTRO**
EPC Contractor, Consortium Leader
- Baumgarte Boiler Systems**
Consortium Partner
- ISPE**
Engineering

Major Projects in 2013

- Flue gas desulphurization system at Işalnița TPP
- Dense slurry system for slag and ash discharge, transport and storage at Turceni TPP
- Modernization of electrostatic precipitators at Govora CHPP
- Execution of the interface between the dense slurry plant and the flue gas desulphurization plant
- Modernization of the electric and automation installations related to Power Unit No. 4 in SE Rovinari
- Valves with electrical and pneumatic actuators — Power Unit No. 4 in SE Rovinari
- Modernization of the generator excitation and protection system of Power Unit No. 7 in SE Işalnița
- Low NO_x burners and automatic BMS and DCS at Galați CHPP
- Refurbishment of the 400/110 kV Braşov Substation
- Refurbishment the 220/110 kV Barboși Substation
- Connection of 300 MW Ivești, 88 MW Falciu 1 and 18 MW Falciu 2 Wind Power Plants to the Electricity Transmission Network through the new (400)/220/110 kV Banca Substation
- Connection of 99 MW Dumești and 30 MW Românești Wind Power Plants to the Electricity Transmission Network

Major Projects in 2013

Flue gas desulphurization system at Işalnița TPP

Client: **Oltenia Energy Complex**

Project starting year: **2012**

Project completion year: **2014**

In 2013, Romelectro continued the complex works for flue gas desulphurization at power unit no. 7 and power unit no. 8, at Işalnița TPP, part of Oltenia Energy Complex. Each of the two power units has an installed power of 315 MW.

Main technical characteristics

The scope of the investment is the design, delivery, construction, erection and commissioning of two full, independent and operational flue gas desulphurization plants, in order to meet the European and national legal environmental requirements related to reducing pollution due to the sulphur dioxide (SO₂) content in the flue gas discharged into the atmosphere. The limit of the SO₂ emissions in the flue gas is:

- ▶ maximum 200 mg/Nm³, when the fuel used is 100% coal (lignite);

- ▶ minimum 185 mg/Nm³, when the fuel used is 90% lignite and 10% natural gas (in dry gas with maximum 6% O₂).

The two plants are being executed identically, with the same type of equipment, delivered by the same suppliers.

The new investment consists mainly in:

- ▶ Flue gas ducts and “booster fans”
 - ▶ Flue gas desulphurization plant
 - ▶ Absorption system
 - ▶ Lime suspension unloading, storage, preparation supply system
 - ▶ Gypsum discharge system and waste water discharge system
- ▶ Operating manner of the flue gas desulphurization plant
 - ▶ Compressed air system
 - ▶ Process water supply system
 - ▶ Hydro-technical installations
 - ▶ Technological networks within the facility
 - ▶ 0.4 kV and 6 kV electricity supply system
 - ▶ Automation – control system of the DCS process.



Key Figures

- 2 × 315 MW power units
- 3317 ÷ 5543 mg/Nm³ rated sulphur dioxide emission, estimated in the current operation
- 200 mg/Nm³ maximum SO₂ concentration after project implementation
- Technology: Wet desulphurization plant using limestone slurry
- 96% desulphurization efficiency

Partnership

BABCOCK NOELL GmbH
Consortium Leader

ROMELECTRO
Consortium Partner

ISPE
Engineering



Major Projects in 2013

Dense slurry system for ash and slag discharge, transport and storage at Turceni TPP

In 2013 Romelectro continued the works for implementing the dense slurry technology at 4 power units at Turceni TPP (power units 3, 4, 5, 7). Each of the power units has a 330 MW installed capacity.

Client:
Complexul Energetic Oltenia
Project starting year: **2009**
Project completion year:
for power units no. 4 & 5: **2012**
for power unit no. 3: **2014**
for power unit no. 7: **2015**

Main technical characteristics

Using the new technology, all the specified environmental matters are dispelled and, moreover:

- ▶ The quantity of water used in the transport of the slag and ash is reduced drastically
- ▶ The apparent density is high, therefore obtaining a larger storage capacity
- ▶ The storage surface is hardened and insensible to the wind by

increasing the adhesion level of the ash and slag particles

- ▶ The noxious chemical elements are retained and fixed into the inert ash rock

The risk of waste water leaking into the water table is low due to the fact that, under normal operating conditions there is no excess water in the storage, the entire quantity used for preparing the water/ash-slag mixture being consumed in chemical fixing reactions or it evaporates. The essence of the dense slurry technology consists in the continuous mixing of the firing residues, i.e. the dry ash from the electrostatic precipitator, the wet slag from the Kratzer and possibly the sub-products obtained from desulphurization with waste water, by intense hydraulic circulation, in a solid to liquid ratio ≥ 1 , the effect of which is the activation of

The purpose of the contract is to apply the most efficient and sustainable solutions for the discharge, transport and storage of the waste resulting from the coal firing process at the four power units, aiming to comply with the energy and environment related European norms.



Key figures

- 4 × 330 MW units
- 4 × 155 t/h of dry solids (30 t/h bottom ash + 105 t/h fly ash + 20 t/h FGD gypsum)
- 5 × 450 kW + 1 × 250 kW Atlascopco compressors
- 8 sets of Metso Mineral centrifugal pump groups
- CIRCUMIX continuous mixing technology
- 4900 m transport distance
- 24 m geodetic level difference

Partnership

ROMELECTRO
EPC Contractor

GEA EGI
Equipment supply and basic engineering

SAEM Energomontaj
Construction and erection works

ISPE
Engineering and design

the cementing chemical substances in the ashes and creating a homogeneous dense slurry, which is pumped to the storage where it hardens in time, resulting an ash rock within the entire storage volume.

Practically, the dense slurry discharge technology represents a technology that deactivates, transforms non-harmful waste, such as ash and slag, into a construction material inert waste, such as ash rock.

The new investment consists mainly in:

Two dense slurry stations

One for the entire ash discharge system from units 3 and 4, and another for the entire discharge system from units 5 and 7, including dense ash slurry mixers, bottom ash slurry thickeners and distance transport pumps.

New dry ash discharge system

The ash resulting from all the three fields of ESP, from the rotative air preheaters, economizer, and mechanical filters is taken over by a

pneumatic system and conveyed to the ash silo, from where it is dozed into the mixer.

New Bagger pump station

Is achieved by replacing the current Bagger pumps with reduced size and parameter pumps, equipped with frequency converters and automatic control of their charge. The slag is conveyed to a thickener, to provide an optimum slag and water ratio, and then directed to a mixer, where the dense slurry is prepared.

New compressor station

A new compressor station will be built in order to provide the necessary air for dry ash transport installation. Also, instrumental air compressors will be procured to provide necessary air for all the pneumatic consumers inside the project limit.

Wastewater treatment plant

To treat wastewater from units no. 3, 4, 5 and 7, a wastewater treatment plant will be installed in the engine room in block no. 2.

Major Projects in 2013

Modernization of electrostatic precipitators at Govora CHPP

As EPC Contractor, Romelectro started in 2012 the works for the modernization of the electrostatic precipitators for the steam boilers no. 5 and 6, at Govora CHPP. Each of the two boilers has a capacity of 420 t/h. Govora CHPP is the only thermal energy producer for the residential area and industrial platform of Râmnicu Vâlcea.

Client: **Govora CHPP**

Project starting year: **2012**

Project completion year: **2014**

Partnership

ROMELECTRO
EPC Contractor

TECHNO MONTAJ
Mechanical erection

ICPET ECO
Engineering and design

Key figures

- 2 × 420 t/h boilers
- 4 ESP casings are to be fitted with new inner installation components
- 400 mm collecting electrodes spacing optimised design
- 24 new high-performance 120 kW power transformers with high-frequency technology to supply high voltage to the retrofitted ESPs
- 2 new improved ESP monitoring and control systems
- 48 mg/Nm³ maximum dust emissions at ESP's outlet, after project completion



The purpose of the contract is to reduce the level of dust emissions to maximum 48 mg/Nm³, in order to improve the quality of the air in the area and to comply with European environmental standards.



Major Projects in 2013

Execution of the interface between the dense slurry plant and the flue gas desulphurization plant at Turceni TPP

The implementation of the project followed up the need for an installation that could take over the gypsum slurry from the desulphurization plant, as well as the waste water, and integrating both of them in the dense slurry according to a formula.



Modernization of the electric and automation installations related to Power Unit No. 4 in Rovinari TPP

The executed works provide an efficient operation of Power Unit No. 4, in safe and highly reliable conditions. Moreover, the requirements related to the environmental legislation are also achieved in operation.

Client:
Complexul Energetic Oltenia
Project starting year: **2013**
Project completion year: **2014**

Project description

The gypsum slurry resulting as waste following the desulphurization process was transported to the existing bagger pumps and discharged hydraulically to the storage. As this operational diagram is no longer possible due to the implementation of the dense slurry project (a separation is required between the undiluted slag and the gypsum slurry), an interface installation was required. A complex

installation was necessary because the discharge of the desulphurization gypsum slurry is done in stages (100%, 0%), and its dosing in the dense slurry must be constant.

Within the project, two interface stations were executed, each consisting of 2 × 200 m³ and respectively 1 × 300 m³ tanks for waste water and slurry.

Gypsum slurry and waste water recirculation pumps were provided, 100% spares, as well as an automatic gypsum slurry recirculation loop.

All pipelines were made of GRP and thermally insulated.

This project was integrated within the dense slurry DCS (Distributed Control System).

Partnership

ROMELECTRO
Association Leader

ISPE
Association Partner

Socend Construct
Civil construction works

Metso, AxFlow
Delivery of equipment, engineering and commissioning for the slurry preparation plant

Client: **Complexul Energetic Oltenia - SE Rovinari**
Project starting year: **2013**
Project completion year: **2014**

Project description

Power Unit No. 4 was subject to a full refurbishment, fully replacing the 6 and 0.4 kV substations, the DC substations, rectifiers, inverters, and 24 and 220V DC stationary batteries, digital protections for the power unit, static excitation, substation and IT aggregates for the electrostatic precipitators, DCS – Distributed Control System, control and measurement burning control system, of the boiler

and machinery halls, REH command-control system of the steam turbine and boiler feed pump turbine.

Romelectro, as Consortium Leader, identified the best technical solutions and harmonization of the delivered equipment with the existing or refurbished installations.

Partnership

ROMELECTRO
Consortium Leader

Saem-IEA
Consortium Partner

Major Projects in 2013

Valves with electrical and pneumatic actuators — Power Unit No. 4 in Rovinari TPP



Client: **Complexul Energetic Oltenia — Rovinari TPP**

Project starting year: **2012**

Project completion year: **2014**

In order to provide an appropriate operation managed by the DCS, it was required to replace an important number of valves, provided with DCS-compatible actuators and safety valves for the operation of the power unit.

The services offered by Romelectro consisted in the supply of electrically

and pneumatically actuated valves, safety valves, non-return dampers and isolation valves.

The supplied products provide the appropriate safe operation of Power Unit No. 4 in SE Rovinari.

Partnership

ROMELECTRO
Consortium Leader

Saem-IEA
Consortium Partner

Modernization of the generator excitation and protection system of Power Unit No. 7 in Işalnița TPP

Client:
Complexul Energetic Oltenia
Project starting year: **2012**
Project completion year: **2014**

Project description

In order to increase the safety and reliability of the operation of the unit, which has a technological level of the 70s, as well as to conform to the requirements imposed by the National Power Grid, it was required to change to digital protections and static excitation system.

The commissioning of the static excitation system and digital protections of the power unit provides a significant safety in operation of the power unit due to the digital accuracy of the protections and the spare degree of the excitation system.

Partnership

ROMELECTRO
Consortium Leader

ISPE & Energomontaj IEA
Consortium Partners



Major Projects in 2013

Low NO_x burners and automatic BMS and DCS at Galați CHPP

In 2013 Romelectro continued the complex works for modernization and retrofitting of the firing system of 4 steam boilers x 420 t/h (5, 6, 7, 8) at Galați CHPP, by implementing new NO_x burners and automatic BMS and DCS.

Client: **Electrocentrale Galați**
Project starting year: **2008**
Project completion year: **2014**

Main technical characteristics

For C6, C7 and C8 steam boilers, the new installation consists of:

- ▶ low NO_x mixed burners for heavy fuel oil and natural gas
- ▶ a new modern system for heavy fuel oil and natural gas supply
- ▶ a new BMS (Burner Management System) unit
- ▶ a new DCS (Distributed Control System) unit
- ▶ emission monitoring system
- ▶ methane leakage monitoring system

For C5 steam boiler, the new installation consists of:

- ▶ 6 low NO_x burners for natural gas
- ▶ 8 low NO_x burners for blast furnace gas
- ▶ a new modern system for natural gas supply
- ▶ a new modern system for blast furnace gas supply
- ▶ a new BMS (Burner Management System) unit
- ▶ a new DCS (Distributed Control System) unit
- ▶ emission monitoring system
- ▶ methane leakage monitoring system

The purpose of the contract is to apply the most reliable and efficient solutions for decreasing the level of NO_x emissions of the firing systems of the 4 boilers at Galați CHPP, in order to meet the European environmental requirements.

Partnership

ROMELECTRO
EPC Contractor

M&S Germany
Basic engineering



Key figures

- 4 x 420 t/h steam boilers
- 6 x 53 MW mixed heavy fuel oil – natural gas low NO_x burners/boiler body (for C6, C7 and C8)
- 6 x 53 MW natural gas low NO_x burners/boiler body (for C5)
- 8 x 21 MW blast furnace gas low NO_x burners/boiler body
- BMS type SIL3, failsafe, double redundant/boiler body
- DCS type Ovation /boiler body



Major Projects in 2013

Refurbishment of the 400/110 kV Braşov Substation

In 2013 Romelectro finished the works for the implementation of the complete rehabilitation program aiming to ensure the security of supply and operational safety of the 400/110 kV Braşov Substation.

Client: **Transelectrica – ST Sibiu**

Project starting year: **2010**

Project completion year: **2013**

Project description

The 400/110 kV electrical substation in Braşov has a particular importance for the National Power System and for the local grid. Firstly, it represents a junction for 400 kV OHTL connecting Muntenia, South Transylvania and the poorly covered Moldavian area. Secondly, the substation is important for the local distribution network as it supplies the consumption area (approx. 167 MW), being also the

connection point for CET Braşov. The purpose of this project was to complete a new 400 kV outdoor electrical substation, equipped with the modern high-performance conventional equipment, as well as a new indoor 110 kV electrical substation, equipped with SF6 insulated cubicles (110 kV GIS bays). During this project, all primary and secondary equipments were replaced (command – control – safety devices, internal services DC/AC, backup generators, batteries, remote-controlled safety devices).

The purpose of this project was to complete a new 400 kV outdoor electrical substation, equipped with the modern high-performance conventional equipment, as well as a new indoor 110 kV electrical substation, equipped with SF6 insulated cubicles (110 kV GIS bays).

Partnership

ROMELECTRO
EPC Contractor,
Consortium Leader

**CG Holdings Belgium NV
Systems Divisions**
Consortium Partner

**ISPE,
Electromontaj Carpați Sibiu**
Subcontractors



Major Projects in 2013

Refurbishment of the 220/110 kV Barboși Substation

In 2013 Romelectro signed the contract with Transelectrica for the rehabilitation works of 220/110 kV Barboși Substation.

Client:
Transelectrica - ST Constanța
Project starting year: **2013**
Project completion year: **2014**

Partnership

ROMELECTRO
EPC Contractor, Consortium
Leader

Electromontaj Carpați Sibiu
Consortium Partner

Project description

In 2013, Romelectro began the works for refurbishing the Barboși substation, consisting of:

- ▶ Replacing the existing primary equipment in the substation due to their old age (over 30 years of operation);
- ▶ Replacing the existing protections with modern digital protections;
- ▶ Introducing the central control system (SCADA) so that the substation will operate with no personnel;
- ▶ Increasing the safety in operation of the substation for both the

The purpose of this contract is to complete rehabilitate a 220/110 kV substation, introducing the central control system (SCADA).

electricity supply of the 0 (zero) degree consumer — Arcelor Mittal Galați and the wind electricity transit in the Dobrogea area towards the Moldova area through 220 kV Lacul Sărat–Filești OHTL in the 220 kV Barboși Substation – 220 kV Foçșani Vest OHTL.



Major Projects in 2013

Connection of 300 MW Ivești, 88 MW Falciu 1 and 18 MW Falciu 2 Wind Power Plants to the Electricity Transmission Network through the new (400)/220/110 kV Banca substation



Client: **Transelectrica**
 Project starting year: **2012**
 Project completion year: **2013**

Project description

The (400)/220/110 kV Banca Substation was conceived to evacuate in National Power Grid a power of approximately 406MW generated by Ivești, Falciu 1 and Falciu 2 Wind Farms.

Description

In 2013, Romelectro finished the works for the “turnkey” execution of (400)/220/110 kV Banca Substation. The characteristics of this project are:

- ▶ execution of a (400)/220/110 kV transformer substation to discharge into the National Power

- Grid an output of approximately 406 MW generated by Ivești and Falciu Wind Farms;
- ▶ connection of the transformer substation in 220 kV DC Gutinas-FAI and Gutinas–Munteni OHTL (belonging to Transelectrica-ST Bacau) by means of an approximately 0.3 km 220 kV DC OHTL;
- ▶ regulating the coexistence of the 110 kV Barlad–Rosiesti OHTL (belonging to EoN Moldova) to the 220 kV OHTL in the Banca Substation.

The transformer substation is equipped with Alstom GIS 220 kV inside equipment for the line cells, autotransformer, coupling and measurement. The GIS cells are located in a separate building erected to such purpose.

Partnership

- ROMELECTRO**
EPC Contractor
- ISPE**
Engineering

Connection of 99 MW Dumești and 30 MW Românești Wind Power Plants to the Electricity Transmission Network



Client: **Transelectrica**
 Project starting year: **2013**
 Project completion year: **2014**



Project description

The purpose of the project was to connect the Dumești Wind Farm to the National Power Grid through a new 110 kV line cell executed in the 220/110 kV FAI Substation.

The connection solution led to the following works on the existing installations of the transmission operator, works which were carried out as per connecting tariff:

- ▶ mounting of the new 110 kV cell in the FAI substation, required to connect the new user;
- ▶ mounting the control and protection equipment in the FAI substation for the new 110 kV cell in Dumești Wind Farm;
- ▶ providing a measurement group in the 110 kV FAI transformer station to meter the electricity consumed / generated by the user;
- ▶ providing the equipment to monitor the quality of the

electricity, electricity quality analyzers, for the new 110 kV cell in Dumești Wind Farm.

Partnership

- ROMELECTRO**
EPC Contractor
- ISPE**
Designer



Romelectro References

- Projects in Romania
- Major External Projects
- Other Export Projects

↗ View from the turbine hall of Voineasa MHPP

Projects in Romania

THERMAL POWER PROJECTS

PROJECT	CLIENT	CONTRACT PERFORMANCE PERIOD
Process water supply installation for the desulphurization plants related to power units no. 4 and 5	Oltenia Energy Complex – SE Rovinari	2014 – 2014
Execution of works for taking over the gypsum slurry from the flue gas desulphurization plant of unit no. 4 to the dense slurry plant related to unit no. 3	Oltenia Energy Complex – SE Rovinari	2014 – 2014
Automation Works — Interconnection of the dense slurry plant to the dry ash collecting and taking over plant of Cenextra related to the project; Ash collecting, transport and automatic loading plant, unit no. 3	Oltenia Energy Complex – SE Rovinari	2014 – 2014
Rehabilitation and modernization of 330MW power unit No. 4 operating on lignite in SE Rovinari; Modernization of the electric power and automation plants	Oltenia Energy Complex – SE Rovinari	2014 – 2014
Rehabilitation / Modernization of the electrostatic precipitator in power unit no. 7, execution and connection of the gas circuit between power unit no. 7 and desulphurization plant no. 6	Oltenia Energy Complex – SE Rovinari	2014 – 2014
Execution of a Waste-to-Energy Plant and incorporating it within Timișoara Sud TPP	International Recycling Timișoara (IRE)	2013 – 2016
Interface execution between the dense slurry plant and the desulphurization plant	Oltenia Energy Complex – SE Turceni	2012 – 2014
Flue gas desulfurization plants for power units no. 7 and no. 8 at Ișalnița TPP	Oltenia Energy Complex – SE Craiova	2012 – 2014
Modernization of the excitation system and protections of unit no. 7 generator in Ișalnița	Oltenia Energy Complex – SE Craiova	2012 – 2014
Electrostatic precipitators modernization at Govora CHPP	Govora CHPP	2012 – 2013
Solutions for discharge, transport and storage of the waste resulting from the coal firing process at Turceni TPP, using dense slurry technology	Oltenia Energy Complex – SE Turceni	2009 – 2012
Modernization and retrofitting of firing systems of 4 x 320 t/h gas fired boilers at Iernut TPP, by implementation of low NO _x burners and automatic BMS	ELCEN București Iernut TPP	2009 – 2011
Modernization and retrofitting of firing systems of 5 x 420 t/h boilers at Galați CHPP, by implementation of low NO _x burners and automatic BMS and DCS	Electrocentrale Galați Galați CHPP	2008 – 2013
Investment for Combined Heat and Power Plant of 6 MWe and 80 Gcal in Buzău	Ecogen Buzău (IPP)	2008 – 2009
Increasing the stability of the slag and ash storage of Ișalnița (2 x 315 MW), on the right and left banks of Jiu river, using dense fluid technology	SE Craiova Ișalnița TPP	2008 – 2010
Refurbishment and upgrade of electrical and automation installation for 330 MW unit no. 6 at TPP Rovinari	SE Rovinari	2008 – 2010

New ash and slag deposit in Gârla and new installations for collecting, preparation, discharge and storage of dense slurry in Rovinari TPP (4 x 330 MW)	SE Rovinari	2008 – 2010
Increasing the stability of the Valea Mănăstirii slag and ash deposit by executing the installations for ash and slag dense fluid and by developing the storage for the first heightening	SE Craiova Craiova II CHPP	2008 – 2010
Rehabilitation of the 420 t/h CR 1737 type boilers in order to increase the safety in operation, especially on heavy fuel oil and for dual operation, including low NO _x burners –Progresu CHPP – boiler 2	ELCEN București Progresu CHPP	2007 – 2007
Rehabilitation of the 420 t/h CR 1737 type boilers in order to increase the safety in operation, especially on heavy fuel oil and for dual operation, including low NO _x burners – Progresu CHPP, boilers 3 and 4	ELCEN București Progresu CHPP	2006 – 2007
Rehabilitation and modernizing of 315 MW unit no. 7 in Ișalnița TPP	SE Craiova Ișalnița TPP	2005 – 2006
Rehabilitation of the firing installations for 525 t/h steam boiler no.2 in București Vest CHPP and no. 5 and 6 in București Sud CHPP, by replacing with modern low NO _x burners	ELCEN București	2004 – 2006
Refurbishment of 330 MW units no. 4 and 5 in Turceni TPP (Program A3)	Turceni TPP	1995 – 2003
Refurbishment of 330 MW units no. 3 and 7 in Turceni TPP and no. 5 and 6 in Rovinari TPP (Program A2)	Turceni TPP Rovinari TPP	1994 – 1998
Refurbishment of 330 MW units no. 2 and 6 in Turceni TPP and no. 3 and 4 in Rovinari TPP (Program A1)	Turceni TPP Rovinari TPP	1991 – 1994

HYDRO POWER PROJECTS

PROJECT	CLIENT	CONTRACT PERFORMANCE PERIOD
Hydropower development of the Jiu River on the Livezeni – Bumbești stretch, with the execution of 2 hydropower plants with an installed power of 60 MW	Hidroelectrica	2004 – 2014
Rehabilitation of Voineasa Micro Hydro Power Plant, Voineasa I, II, III	Romelectro	2009 – 2011

ELECTRICAL SUBSTATIONS

PROJECT	CLIENT	CONTRACT PERFORMANCE PERIOD
Rehabilitation of the 400/220/110/20 kV Bradu Substation	Transelectrica	2014 - 2018
Switching to a 400 kV voltage of the Porțile de Fier – Reșița – Timișoara – Sacalaz – Arad axis/Stage I: Extension of the 400 kV Porțile de Fier Substation	Transelectrica Craiova Subsidiary	2013 – 2015
Rehabilitation of the 220/110 kV Barboși Substation	Transelectrica	2012 – 2014
Turnkey (400)/220/110 kV Banca Substation	Transelectrica	2012 – 2013
Refurbishment of the 400/110 kV Brașov Substation	Transelectrica	2010 – 2013

Refurbishment and modernization of the 110 kV and 220 kV bays in FAI Substation	Transelectrica Bacău Subsidiary	2007 – 2011
Extension and modernization aiming to increase the safety in operation of the 110/20 kV Dumbrava Sibiu Substation	Electrica Transilvania Sud	2007 – 2009
Primary equipment upgrade in the 110/20 kV Petrila Substation	Transelectrica	2007 – 2007
Refurbishment of the 220/110/20 kV Turnu Măgurele Substation	Transelectrica	2006 – 2011
Modernization of the protection systems of 250 MVA transformer and 110 kV PDB in 400/110 kV Braşov, Dârste, Domneşti, Medgidia Sud, Pelicanu, Tulcea Vest, Smârdan, Drăgăneşti Olt Substations	Transelectrica	2006 – 2009
Upgrade of the 110 kV bays in HPP Ciunget Substation	Hidroelectrica Râmnicu Vâlcea Subsidiary	2006 – 2008
Modernization of the 110 kV Electrical Substation of Râmnicu Vâlcea HPP	Hidroelectrica Râmnicu Vâlcea Subsidiary	2006 – 2007
Modernization of the 110kV Electrical Substation of Govora HPP	Hidroelectrica Râmnicu Vâlcea Subsidiary	2006 – 2007
Turnkey refurbishment of the 110/10 (20) kV Bucureşti Centru Substation	Electrica Muntenia Sud	2005 – 2007
Refurbishment at the 110 kV bay – 220/110/20 kV Baia Mare Substation	Transelectrica	2005 – 2005
Refurbishment of the 400/220 kV Roşiori Electrical Substation	Transelectrica Cluj Subsidiary	2004 – 2006
Modernizing works at the 220/110 kV Vetiş Electrical Substation	Transelectrica Cluj Subsidiary	2004 – 2006
Turnkey modernization of the 110/20 kV Electrical Substation Borsec	Electrica Transilvania Sud	2003 – 2005
Turnkey modernization of the 110/10 kV Cluj Centru Electrical Substation	Electrica Transilvania Nord	2003 – 2004
Turnkey refurbishment of the 6(20) kV Fileşti – Galaţi connection Substation	Electrica Muntenia Nord	2002 – 2003

OVERHEAD TRANSMISSION LINES

PROJECT	CLIENT	CONTRACT PERFORMANCE PERIOD
Connection to the Electricity Transmission Network of 99 MW Dumeşti Wind Farm and 30 MW Romaneşti Wind Farm, by executing a 110 kV line cell in the 220/110 kV Fai Substation	Transelectrica Bacău Subsidiary	2013 – 2014
Coexistence conditions between the existing 110 kV Bârlad – Roşiori OHTL and new 220 kV OHTL connections for the (400)/220/110 kV Banca Substation for connecting 300 MW Iveşti, 88 MW Falciu and 18 MW Falciu 2 Wind Farms to the electric grid	Transelectrica	2012 – 2013
Top overhaul of 400 kV Mintia-Sibiu OHTL	Transelectrica	2011 – 2014
Rehabilitation of the 220 kV OHTL Lotru – Sibiu	Transelectrica	2007 – 2010
400 kV OHTL Oradea – Nadab – Békéscsaba, new interconnexion line with Hungary	Transelectrica	2006 – 2008
Rehabilitation of the 400 kV Bucureşti South – Gura Ialomiţei OHTL	Transelectrica	2006 – 2007

Execution of 220kV and 400 kV connections of Iernut Substations	Transelectrica	2005 – 2006
Emergency works of the Sibiu – Tâncăreşti 400 kV OHTL	Transelectrica	2005 – 2005
Rehabilitation of 220 kV Brazi Vest – Târgovişte OHTL	Transelectrica	2004 – 2005
Improving the dispatcher transmission system by executing the interconnecting of the data transmission system between the National Dispatch Centers in Romania and Bulgaria	Transelectrica	2003 – 2004
Rehabilitation of 220 kV Borzeşti – Gutinaş OHTL	Transelectrica	2003 – 2003

Major External Projects

Asia Region

PHILIPPINES

PROJECT	CLIENT	CONTRACT PERFORMANCE PERIOD
138 kV Compostela – Banilad OHTL Technical specification: Foundation pads and chimneys, double triangle hot zinc plated poles, active 2 × ACSR 400 mm ² Condor conductors, silicon rubber insulation, OPGW and AWG 7 and 6 safety conductors.	National Electric Power Corporation (NPC)	1994 – 1999
230 kV Talisay – Compostela OHTL Technical specifications: Foundation pads and chimneys, double triangle hot zinc-plated poles, active ACSR 772 mm ² MARTIN conductors, silicon rubber insulation, OPGW and AWG 7 and 6 safety conductors.	National Electric Power Corporation (NPC)	1994 – 1999

THAILAND

PROJECT	CLIENT	CONTRACT PERFORMANCE PERIOD
230 kV OHTL Phuket Junction – Phuket 2 Technical specifications: Foundation pads and chimneys, double triangle hot zinc plated poles, active 795 MCM ACSR/AW phase conductors, porcelain insulation, OPGW and AWG 7 and 8 safety conductors.	Electricity Generating Authority of Thailand (EGAT)	1998 – 2002
230 kV OHTL Phangnga – Phuket 2 Technical specifications: Foundation pads and chimneys, double triangle hot zinc plated poles, active 2x1272 MCM ACSR/AW PHEASANT conductors, porcelain insulation, OPGW and AWG 7 and 8 safety conductors.	Electricity Generating Authority of Thailand (EGAT)	1998 – 2000

Middle East Region

JORDAN

PROJECT	CLIENT	PROJECT COMPLETION DATE
D.C Bayader – Amman – Quatrana – Ghar Safi – Ma'an 132 kV OHTL (310 km)	Jordan Electric Authority	1982
D.C. Ma'an – Aqaba and Amman – Sahab 132 kV OHTL (210 km)	Jordan Electric Authority	1984
D.C. Irbid – Yarmouk University 33 kV OHTL (12 km)	Yarmouk University	1984
D.C. Subeihi – 33kV OHTL King Talal dam (11 km)	Yarmouk University	1986
D.C. Irbid – Wadi Arab 33 kV OHTL (25 km)	Jordan Electric Authority	1986
846A JEPSCO – Bringing electricity to 14 villages	Jordan Electric Power Company	1986
Zarqa – Sabha 132 kV OHTL (40 km)	National Electric Power Corporation	1995
25 / 84 – 33 kV and 11kV Medium Voltage OHTL (160 km)	Jordan Electric Authority	1987
D.C. Ma'an – Esheidiyeh – Kharrana – Azraq – Rishah 132kV OHTL (327 km)	Jordan Electric Authority	1988
Queen Alia International Airport – Sweima 132 kV OHTL (38 km)	National Electric Power Corporation	2000
Subeihi – Waqqas 132 kV OHTL	National Electric Power Corporation	2005

IRAQ

PROJECT	CLIENT	PROJECT COMPLETION DATE
33 kV S.C. OHTL (Northern Area – 210 km; Central Area – 220 km; Western Area – 400 km)	General Rural Electricity Department	1984
33 kV S.C. OHTL (Baghdad Area – 90 km)	Baghdad Electrical Distribution	1986
400 kV D.C. OHTL Musaiyb – Baghdad South Musaiyb – Babylon (87.5 km)	Major Electrical Projects Implementation Department	1988
400 kV D.C. OHTL Babylon – Qadisiya (101.5 km)	Major Electrical Projects Implementation Department	1988
D.C. Tuba – 6.9 km; Hammar – 7.5 km; 132 kV OHTL; Ramadi – 11.1km Samadiya – 1.8 km; Mashtel – 0.4 km; Annah – 2.4 km	Major Electrical Projects Implementation Department	1989
D.C. Arbil – Dokan 132 kV OHTL (83.8 km)	Major Electrical Projects Implementation Department	1989
132 kV D.C. OHTL Darbandikhan – Sulaimaniya 111.5 km (Kirkuk Industries – 5 km; Tarmia – 14.8 km, Musaiyb – 42.2 km)	Major Electrical Projects Implementation Department	1989

ELECTRIC TRANSFORMERS & DISTRIBUTION SUBSTATION

PROJECT	COUNTRY	CLIENT	CONTRACT PERFORMANCE PERIOD
Sheich Said – (Aleppo)	Syria	Sheich Said – Aleppo Cement Factory	1975 – 1977
Al Quaim Cement Plant 2X34 MVA; 33/6.6 kV	Iraq	Ministry of Industry and Minerals	1982– 1985
Sinjar Cement Plant S/S	Iraq	Ministry of Industry and Minerals	1982 – 1985
AL Quaim Limestone Quarry S/S	Iraq	Ministry of Industry and Minerals	1994 – 1999

TECHNICAL ASSISTANCE, CONSULTING & EQUIPMENT SUPPLY

PROJECT	COUNTRY	CLIENT	CONTRACT PERFORMANCE PERIOD
Technical assistance and consulting on operating and repairing equipment	Kuwait	Ministry of Energy and Water	1991 – 1999
Delivery of telecommunication poles	Kuwait	National Mobil Telecommunication Company	1998– 1998
Delivery of telecommunication poles	Kuwait	National Mobil Telecommunication Company	1999 – 1999
Technical assistance and consulting on operating and repairing equipment	United Arab Emirates (Abu Dhabi)	Technical assistance and consulting on operating and repairing equipment	1999 – 2001

ALGERIA

Feasibility studies for the RAMDANE DJAMEL and ZAOUIA dams. Expertise of the Technical Project for the dams BOUGOUS and Bouhalloufa

Description

The core business of the contract consisted of Romelectro conducting the projects for the Ramdane Djamel and Zaouia dams in the Feasibility Study stage. Also, for the same client, Agence Nationale des Barrages et Transfert (ANBT), the expertise of the technical project for Bouhalloufa and Bougous was conducted. The core business of the contract was for the APD study expertise to be conducted APD according to the Special Prescription Book.

Project starting date

November 2002 (Ramdane and Zaouia), May 2001 (Bougous), April 2002 (Bouhalloufa)

Project completion date

November 2003 (Ramdane and Zaouia), April 2002 (Bougous), September 2002 (Bouhalloufa)

EL-Fakia dam execution

Short description of the objective

Dam made of rock blocks piles endowed with a clay core, 49 m high and a 390m crown, which has been built with a view to ensuring water supply for the city of M'Sila and also, to irrigating 80.000 ha of farm land.

Client:

Directorate for Hydraulic Projects and Works (DHPW)

Project completion date

1985

Partnership

SONAGHTER – associate local partner

Turnkey heightening of the Ksob dam

Short description of the objective

Romelectro has conducted the works aimed at heightening the existing dam by 10m by means of a turnkey contract. It is a complex project which has called for rock excavations of over 37.000 cm, casings of over 100.000 mp and nearly 2.500 tones of metallic partners.

Client:

Directorate for Hydraulic Projects (DHP)

Project completion date:

1976

Partnership

SONAGHTER – associate local partner

IRAN

Turnkey execution of the Vafregan dam

Short description of the objective

Arch-shaped concrete dam, having an accumulation volume of 230 million cubic meters, which has been built with a view to ensuring water supply for the city of Saveh and also, to providing irrigation to an area of nearly 60.000 ha. At the same time, a hydroelectric plant has been built, having an overall installed capacity of 11 MW.

Client

Teheran Regional Water Board (TRWB)

Location

Iran, 200 km south of Teheran

Project completion date

1992

Partnership

RAH VA SAHTEMAN (MOLAVI) Teheran – associate partner

Other Export Projects

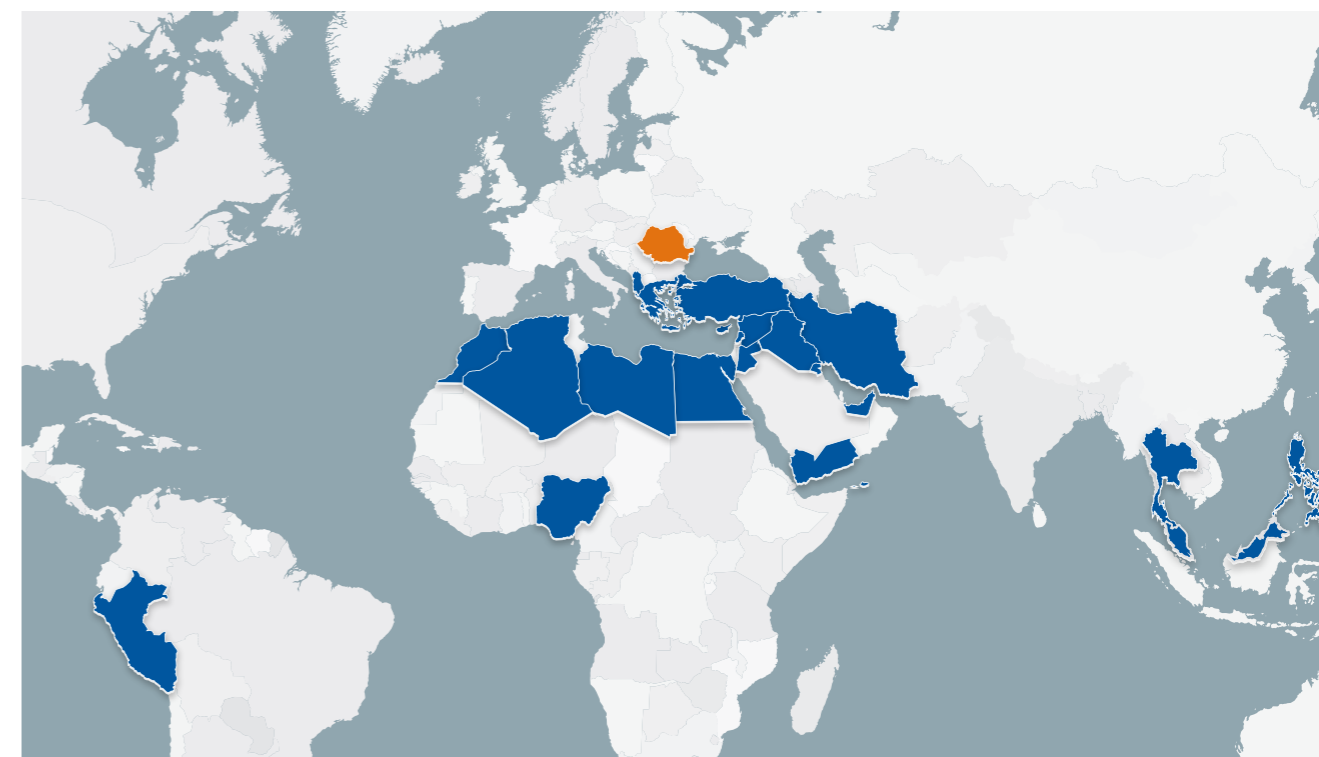
CLIENT	COUNTRY	PROJECT TYPE	SCOPE OF SUPPLY	CONSULTING ENGINEER	YEAR
JEPCO	Jordan	Turnkey	GLST – 132 kV T/L	NEPA	2000
NAPOCOR		Turnkey	GLST, assembling elements – 500 kV	Edwin Ladingnon	2000
Intracom SA Greece, Intrarom SA Romania	Romania	Supply	Hot dip galvanised tubular steel antenna towers – 30, 50 m high	Intrarom SA	2000
NMTC	Kuwait	Turnkey	Lattice steel antenna towers – 70 m high	NMTC	2000
Hayat	Kuwait	Supply	Lattice steel antenna towers – 64 m high	NMTC	2000
NMTC	Kuwait	Supply	Hot dip galvanized tubular steel towers for antennae – 40, 75, 100 m high	MTCO	2000
NMTC	Kuwait	Supply	Hot dip galvanized tubular steel towers for antennae – 25, 30, 40, 75 m high	MTCO	1999
MEM	Peru	Design, Testing, Supply	GLST – 220 kV	MEM	1999
JEPCO	Jordan	Turnkey	GLST, assembling elements – 132 kV	NEPA	1998
MEM	Peru	Design, Testing, Supply	GLST – 138 kV	MEM	1998
ONUR CIVATA	Turkey	Supply	Fittings		1998
JEPCO	Jordan	Supply, Erection	GLST – 132 kV	NEPCO	1998
Consorcio GyM Cosapi	Peru	Supply	GLST – 220 kV	MEM	1998
Consorcio Cosapi –Abengoa	Peru	Supply	GLST – 220 kV	MEM	1998
Consorcio Cosapi –Balarezo	Peru	Supply	GLST – 138 kV	MEM	1998
EGAT	Thailand	Design, Testing, Supply	GLST, assembling elements – 115, 230 kV	EGAT	1997
MEM	Peru	Design, Testing, Supply	GLST, assembling elements – 60-138 kV	MEM	1997
Mobifon	Romania	Supply	Hot dip galvanized lattice steel towers for telecommunications – 40 m high	MOBIFON	1997

CLIENT	COUNTRY	PROJECT TYPE	SCOPE OF SUPPLY	CONSULTING ENGINEER	YEAR
National Mobile Telecommunication Co. (NMTC)	Kuwait	Supply	Steel lattice towers for antennae – 70 m high	MTCO	1997
TREC	Iran	Design, Testing, Supply	GLST, assembling elements – 230 kV	Moshanir	1997
EEA	Egypt	Supply	Fittings	EEA	1997
NAPOCOR		Turnkey	GLST – 138, 230 kV	Sweed Power & EEDD-NPC	1997
Public Establishment for Distribution and Exploitation of Electric Energy	Syria	Supply	Gantry towers for transformer station, clamps & fittings – 66/20 kV	PEDEEE	1996
National Electric Power Authority	Nigeria	Supply	GLST, lighting poles, gantry towers for 132/33 kV substation	NEPA	1996
Avangan	Iran	Design, Testing	GLST – 230 kV	Moshanir	1996
Ministry of Energy and Mines (MEM)	Peru	Supply	GLST – 60 kV	MEM	1995, 1996
National Power Corporation (NAPOCOR)		Turnkey	GLST, clamps, fittings, composite insulator strings, power conductors, OHGW, OPGW – 132, 230 kV	Sweed Power	1995
Power Generation and Transmission Co. – Ramin	Iran	Design, Testing, Supply	GLST, assembling elements – 230 kV	Ghods Niroo	1995
K.E.SH. – Tirana	Albania	Supply	Clamps & fittings – 132 kV	K.E.SH.	1995
Moshanir P.E. Co.	Iran	Design, Testing	GLST – 230 kV	Moshanir	1995
Tavanir	Iran	Design, Testing	GLST – 63 kV	MATN	1995
TREC	Iran	Design, Testing, Supply	GLST – 400 kV	Moshanir	1993
TREC	Iran	Design, Testing, Supply	GLST, assembling elements – 230 kV	Moshanir	1993
AREC	Iran	Design, Testing, Supply	Clamps & fittings – 154, 132, 230 kV	Moshanir	1993
KWPA	Iran	Supply	AAAC conductor	Moshanir	1993
National Iranian Copper Industry Co. – Sirjan	Iran	Design, Testing, Supply	GLST, clamps, OHGW – 230 kV	Moshanir	1993
Ministry of Energy and Water	Kuwait	Supply	Steelworks, assembling elements	MEW	1993

CLIENT	COUNTRY	PROJECT TYPE	SCOPE OF SUPPLY	CONSULTING ENGINEER	YEAR
JEA	Jordan	Turnkey	GLST – 132 kV	JEA	1993
BREC	Iran	Design, Testing, Supply	Clamps – 230 kV	Moshanir	1993
West Regional Electric Co. (WREC)	Iran	Design, Testing, Supply	Clamps & fittings – 63, 132 kV	Gharb Niroo	1993
Bakhtaran Regional Electric Co. (BREC)	Iran	Design, Testing, Supply	GLST, clamps, assembling elements – 230 kV	Moshanir	1993
BREC	Iran	Design, Testing, Supply	GLST, assembly elements – 400 kV	Moshanir	1993
WREP	Iran	Design, Testing, Supply	GLST – 132 kV	Gharb Niroo	1992
JEA	Jordan	Design, Supply, Erection	GLST – 132 kV	JEA	1992, 1994
KWPA	Iran	Design, Testing, Supply	GLST, clamps & fittings, assembling elements, insulators – 400 kV	Ghods Niroo	1992
WREP	Iran	Design, Testing, Supply	GLST, assembling elements – 63 kV	Moshanir	1992
Guilan Regional Electric Co. (GREC)	Iran	Design, Testing, Supply	GLST, assembling elements – 230 kV	Moshanir	1992
Avangan Co.	Iran	Supply	Galvanized bolts & nuts		1992
AREC	Iran	Design, Testing, Supply	GLST, assembling elements – 230, 400 kV	Mona Co.	1992
Tehran Regional Electric Co. (TREC)	Iran	Design, Testing, Supply	GLST, assembling elements – 400 kV	Moshanir	1992
EAC	Cyprus	Supply	GLST – 132 kV, tower cross arms	EAC	1992
Telecommunications Co. of Iran	Iran	Supply	Assembling elements		1992
AREC	Iran	Design, Testing, Supply	GLST, assembling elements, clamps & fittings, insulators – 230 kV	Moshanir	1991
Electrification of a railway station – Salonic Idomeni	Greece	Supply	Lattice horizontal galvanized girders	Odon Odostromaton	1991
EAC	Cyprus	Supply	Galvanized steel cross arms	EAC	1991
AREC	Iran	Supply	GLST, clamps and fittings insulators and earth system – 63,132, 230 kV	Moshanir	1991

CLIENT	COUNTRY	PROJECT TYPE	SCOPE OF SUPPLY	CONSULTING ENGINEER	YEAR
AREC	Iran	Design, Testing, Supply	GLST, assembly elements, clamps – 132/154 kV interconnection	Moshanir	1991
Azerbaijan Regional Electric Co. (AREC)	Iran	Supply	GLST – 400 kV	Moshanir	1990
EAC	Cyprus	Supply	GLST – 132 kV	EAC	1990
Boyer Tirana	Albania	Supply	Clamps & fittings, insulators	Boyer	1990
EEA	Egypt	Design, Supply	GLST and assembling elements – 220 kV	EEA	1990
WREP	Iran	Turnkey	GLST – 63, 132 kV	Mahab Ghodss	1989
EAC	Cyprus	Design, Supply	GLST – 132 kV	EAC	1989
DGMPRE	Iraq	Design, Testing, Supply	Conductors – 400 kV	DGMPRE	1988
JEA	Jordan	Turnkey	GLST -132 kV	JEA	1987
Electricity Authority of Cyprus (EAC)	Cyprus	Design, Supply	GLST – 132 kV	EAC	1987
DGMPRE	Iraq	Turnkey	GLST – 132 kV	DGMPRE	1986, 1987
DGMPRE	Iraq	Design, Supply	Materials – 132 kV	DGMPRE	1986
EEA	Egypt	Turnkey	GLST – 220 kV	EEA	1986
EEA	Egypt	Design, Supply	Clamps & fittings, insulators – 220 kV	EEA	1986
DGMPRE	Iraq	Turnkey	GLST – 400 kV	DGMPRE	1985
Public Corporation for Electric Power	South Yemen	Design, Erection	Wooden poles – 11, 33 kV	Ewbank	1984
Egyptian Electricity Authority (EEA)	Egypt	Turnkey	GLST – 220 kV	EEA	1984
JEPCO	Jordan	Turnkey	Spun concrete poles – 11, 33 kV	JEA and JEPCO	1984
Jordan Valley Authority	Jordan	Turnkey	GLST – 33 kV	Stanley Consultants Inc. + Harza Eng. (USA)	1983, 1984
DGMPRE	Iraq	Turnkey	GLST – 63 kV	DGMPRE	1983
West Regional Electric Power (WREP)	Iran	Turnkey	GLST – 63 kV	Mahab Ghodss	1983
WREP	Iran	Turnkey	GLST – 132 kV	Mahab Ghodss	1983
Electricity Board of the States of Malaya	Malaysia	Turnkey	GLST – 132 kV	Crown Agency	1983
Yarmouk University	Jordan	Turnkey	GLST – 33 kV	Preece, Cardew & Rider	1982
KWPA	Iran	Design, Supply	GLST – 132, 230 kV	Motor Columbus	1982

CLIENT	COUNTRY	PROJECT TYPE	SCOPE OF SUPPLY	CONSULTING ENGINEER	YEAR
Directorate General Of Minor Projects & Rural Electrification Baghdad Electricity Distribution (DGMPRE)	Iraq	Turnkey	GLST – 33 kV	DGMPRE	1981
JEPCO	Jordan	Turnkey	GLST – 132 kV	Ewbank (GB)	1981
Jordan Electricity Authority (JEPCO)	Jordan	Turnkey	GLST – 132 kV	Preece, Cardew	1979
Azerbaijan Regional Electric Co. (AREC)	Iran	Turnkey	GLST – 63 kV	Mahab Ghodss	1978
TAVANIR	Iran	Turnkey	GLST – 230 kV	Motor Columbus (Switzerland)	1977, 1982
KWPA	Iran	Turnkey	GLST – 230 kV	Development & Resources	1975
Khuzestan Water and Power Authority (KWPA)	Iran	Turnkey	GLST – 132 kV	Development & Resources (USA)	1975
Electricité du Liban	Lebanon	Turnkey	GLST – 150 kV	Surveillance de Geneve (Switzerland)	1975
Electricité du Liban	Lebanon	Turnkey	GLST – 66 kV	Lebanon Electricity	1972



Independent Auditors' Report

To the Shareholders,
ROMELECTRO S.A. (ROMELECTRO,
Joint Stock Company)

Report on the individual financial statements

1. We audited the attached individual financial statements of Romelectro S.A. (Romelectro, Joint Stock Company) ("the Company"), which contain the balance sheet on 31st December 2013, the individual profit and loss account, the individual modification status in the company's equity and the individual cash flow status for the financial year concluded on such date and a summary of the significant accounting policies and other explanatory notes. The specified financial statements refer to:

- ▶ Net assets / Overall equity: lei 94,830,616
- ▶ Net result of the financial year (profit): lei 31,032,232

Management's responsibility for the financial statements

2. The Company Management is responsible for the drawing up and accurate presentation of such financial statements, pursuant to Order No. 3055/2009 of the Minister of Public Finance, subsequently amended, and for such internal audit that the management deems appropriate to allow the drawing up of individual financial statements, which do not contain significant misrepresentations due to fraud or error.

Auditor's responsibility

3. Our responsibility is to express an opinion on such individual financial statements on the grounds of the audit carried out. We carried out the audit according to the audit standards adopted by the Chamber of Financial Auditors of Romania. These standards require that we observe the ethical requirements, plan and carry out our audit in order to obtain a reasonable assurance that the individual financial statements do not contain any significant misrepresentations.

4. An audit consists in the carrying out of procedures to obtain audit evidence related to the amounts and information set forth in the individual financial statements. The procedures selected depend on the auditor's professional reasoning, including the assessment of the risks which bring significant misrepresentations to the individual financial statements due to fraud or error. In assessing such risks, the auditor takes into consideration the internal audit relevant for the drawing up and accurate presentation of the Company's individual financial statements in order to establish the relevant audit procedures in the given circumstances, but not with the purpose of expressing an opinion on the efficiency of the Company's internal audit. Moreover, an audit includes an assessment on how appropriate the accounting policies used are and how reasonable the account estimates drawn up by the management are, as well as an assessment on the presentation of the individual financial statements taken

as a whole.

5. We consider that the audit evidence we obtained is sufficient and appropriate to constitute grounds for our audit opinion.

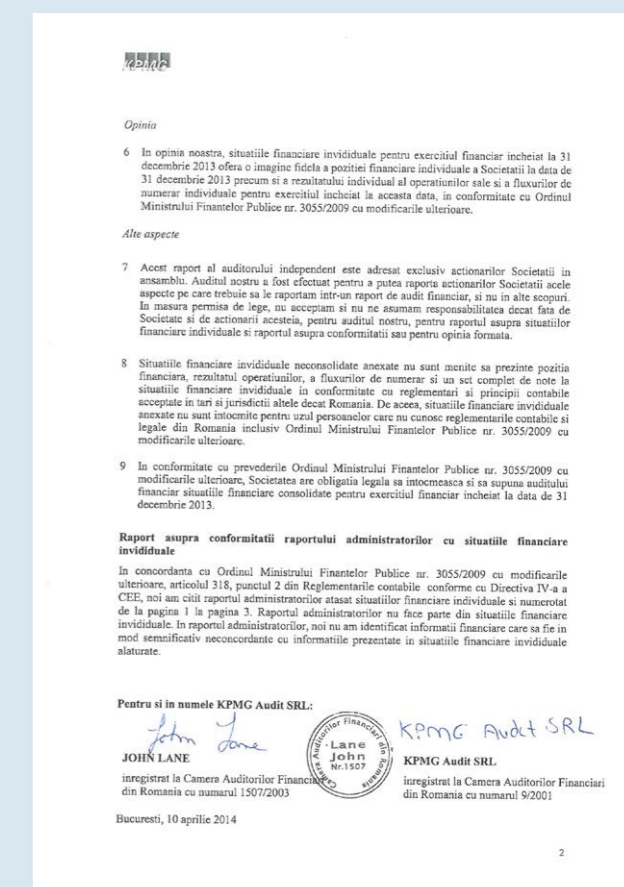
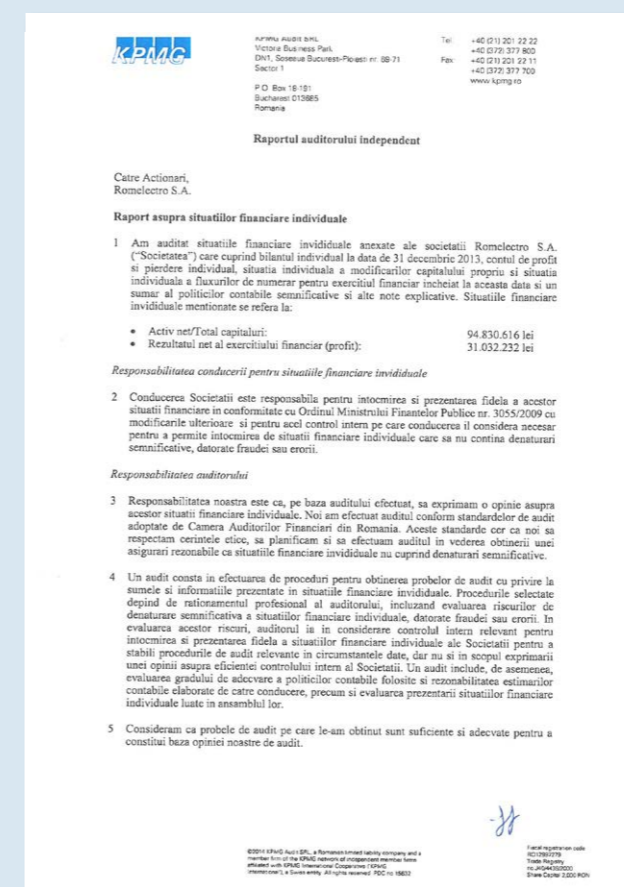
The opinion

6. In our opinion, the individual financial statements for the financial year concluded on the 31st of December 2013 offer an accurate image of the individual financial status of the Company on the 31st of December 2013, as well as the individual result of its operations and individual cash flows for the financial year concluded on such date, pursuant to Order No. 3055/2009 of the Minister of Public Finance, subsequently amended.

Other aspects

7. This report of the independent auditor is addressed exclusively to the Company Shareholders overall. Our audit was carried out so that we may be able to report to the Company Shareholders the aspects that must be reported in a financial audit report, and to no other purpose. To the extent allowed by the law, we admit and are bound for our audit, for the report on the individual financial statements and the report on conformity or for the opinion drawn only to the Company and its Shareholders.

8. The attached non-consolidated individual financial statements are not meant to present the financial standing, the result of the operations, the cash flows, and a full set of notes to the individual financial statements according to accounting



regulations and principles accepted in no countries and jurisdictions others than Romania. Therefore, the attached individual financial statements are not drawn up for the use of persons who do not know the accounting and legal regulations of Romania, including Order No. 3055/2009 of the Minister of Public Finance, subsequently amended.

9. Pursuant to the provisions of Order No. 3055/2009 of the Minister of Public Finance, subsequently amended, the Company is duly liable to draw up and subject for financial audit purposes the consolidated financial statements for the financial year concluded on the 31st of December 2013.

Report on the conformity of the Administrators' Report with the financial statements

Pursuant to Order No. 3055/2009 of the Minister of Public Finance, subsequently amended, article 318, item 2, of the Accounting Regulations conforming to Directive VI of the EEC, we read the Administrators' Report attached to the individual financial statements and numbered from page 1 to page 3. The Administrators' Report is not part of the individual financial statements. In the Administrators' Report, we identified no financial information that is significantly

nonconforming to the information presented in the attached individual financial statements.

For and on behalf of KPMG Audit SRL:

John Lane, recorded with the Chamber of Financial Auditors of Romania under No. 1507/2003
KPMG Audit, Limited Liability Company
recorded with the Chamber of Financial Auditors of Romania under No. 9/2001

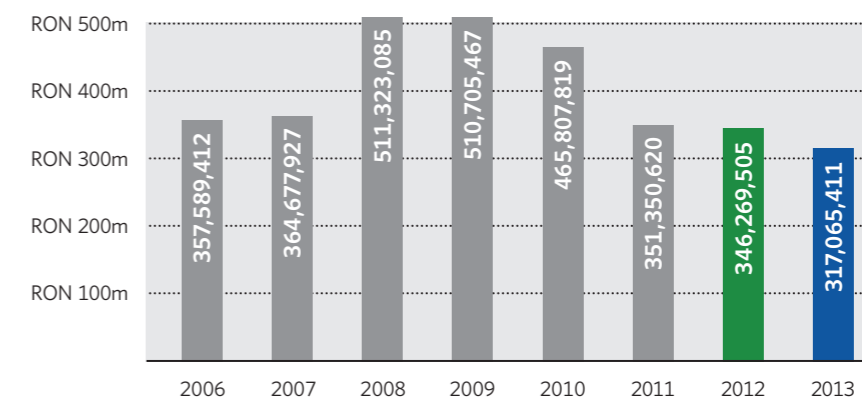
Bucharest, 10th April 2014

Financial Highlights

	2012	2013
RON to EUR exchange rate on 31 December	4,4287	4,4847
RON to EUR average exchange rate	4,4560	4,4190
Key figures		
Employees, average number	88	90
Turnover (RON)	346,269,505	317,065,411
Nominal capital (RON)	15,630,640	15,630,640
Gross profit (RON)	13,514,998	36,904,781
Net profit (RON)	11,122,774	31,032,232
Consolidated profit and loss account		
	RON	RON
Operating income	346,792,212	321,145,038
Financial income	13,241,486	2,634,175
Operating expenses	336,167,134	285,260,897
Financial expenses	10,351,566	1,613,535
Total expenses	346,518,700	286,874,432
Consolidated balance sheet		
	RON	RON
Noncurrent assets	31,356,106	33,132,047
→ Intangible assets	112,567	53,504
→ Tangible assets	20,902,868	20,137,544
→ Financial assets	10,340,671	12,940,999
Current assets	138,980,815	184,756,627
Regularisation & similar account	16,243,788	2,837,215
Assets total	186,580,709	220,725,889
Own capital	74,444,836	94,830,615
Debts	101,464,832	112,322,908
Liabilities total	186,580,709	220,725,889

Turnover Evolution Graph

(RON per year)



	2012	2013
Key figures		
Employees, average number	88	90
Turnover (EUR)	77,708,597	70,699,358
Nominal capital (EUR)	3,529,397	3,485,326
Gross profit (EUR)	3,032,989	8,229,041
Net profit (EUR)	2,496,134	6,919,578
Consolidated profit and loss account		
	EUR	EUR
Operating income	77,825,900	71,609,035
Financial income	2,971,608	587,369
Operating expenses	75,441,457	63,607,576
Financial expenses	2,323,062	359,787
Total expenses	77,764,520	63,967,363
Consolidated balance sheet		
	EUR	EUR
Noncurrent assets	7,080,205	7,387,796
→ Intangible assets	25,418	11,930
→ Tangible assets	4,719,865	4,490,277
→ Financial assets	2,334,922	2,885,589
Current assets	31,381,854	41,197,098
Regularisation & similar account	3,667,846	632,643
Assets total	42,129,905	49,217,537
Own capital	16,809,636	21,145,364
Debts	22,910,749	25,045,802
Liabilities total	42,129,905	49,217,537

Energy Trading

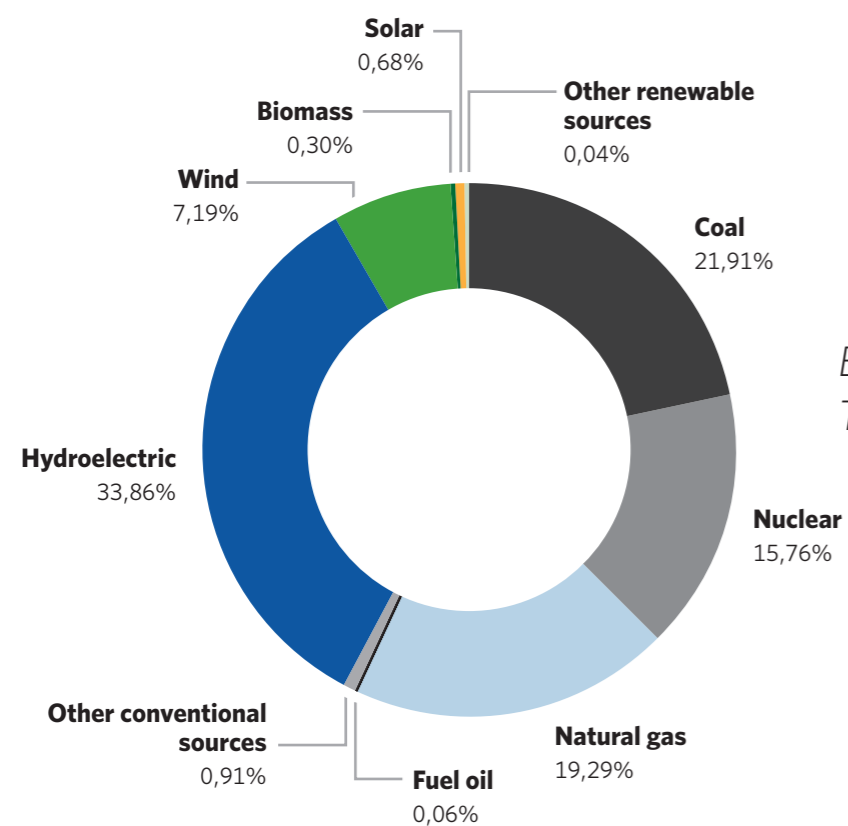
Under the License no. 1173/2013, issued by ANRE (Regulatory Authority for Energy), we diversified our areas of interest, entering the energy trading market.

Being backed by a dedicated team with a large experience in energy trading area, we offer long-term solutions and strategies that satisfy our clients need.

Our partners are strong electricity producers and suppliers that have the operational and financial resources to successfully fulfill their obligations.

At the same time, we have our own power generation capacities, at Voineasa MHPP, a project completed in 2011 and co-financed with EU structural funds, in the framework of the Operational Sectorial Program "Increase the Economic Competitiveness". The rehabilitation and refurbishment works turned the existing plant into an efficient and environmentally friendly capacity for harvesting the renewable potential of Mănăileasa creek.

In 2013, we produced around 4,400 MWh, equivalent of the annual electricity consumption of about 3,000 households in Romania.



*Energy Trading
Tag for 2013*



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