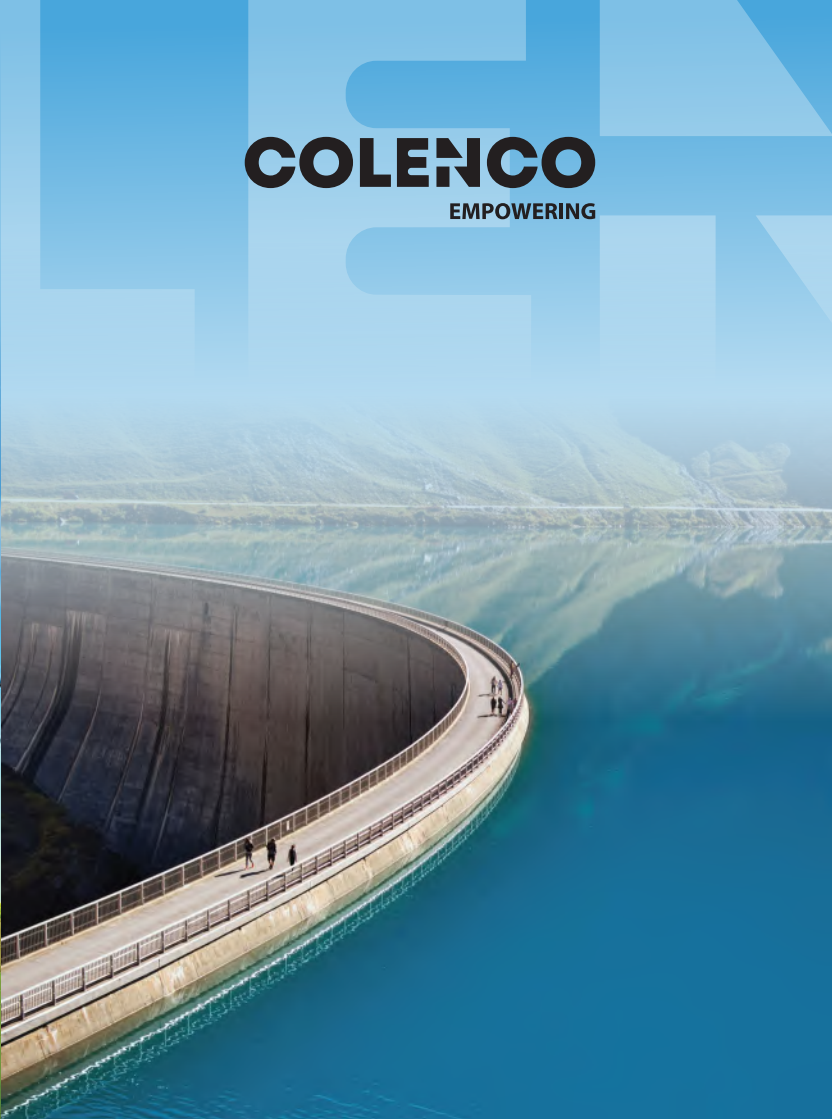
COLENCO

EMPOWERING



We make your ideas, reality.

In an era of rapid technological advancements, where focus, pace, and goal orientation are crucial, COLENCO is dedicated to meeting your needs and propelling you toward success through EMPOWERMENT. Our approach involves a dynamic team specializing in energy, industry, and infrastructure. By investing in our team and fostering innovative ideas, we aim to create a better and more sustainable future. Tackling global challenges, we take localized actions in any chosen location.

Why it matters? In alignment with global sustainable development goals, we guide clients to contribute to sustainability. We advocate for increased availability of renewable energy and enhanced energy efficiency. Our services ensure access to clean water and sanitation, addressing fundamental human rights. We support inclusive and sustainable industrialization, fostering economic forces that create jobs and income. Through technical assistance and capacity development, we consistently achieve our goals.

COLENCO

Turning your ideas into reality. Empowering

Engineering excellence

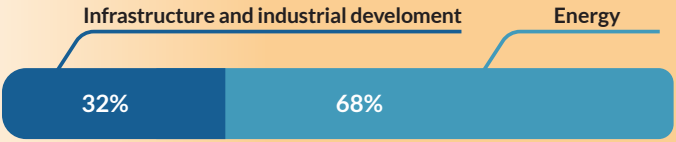
Established in 2012 as AF-Consult Ltd. Skopje, initially under the ÅF Group, COLENCO Ltd. has evolved into a key player in Southeast and Eastern Europe, the CIS region, and African & Asian countries. Over the years, our commitment to excellence has led to our transition into an independent entity, rebranded as COLENCO Ltd. Our strength lies in a dedicated team of experienced engineers, a proficient management team, and specialized units for tendering, finance, and administration. Our engineers possess the Authorization for Supervision of Construction facilities of the first category. Collaborating with COLENCO GmbH, Germany, and COLENCO EOOD Bulgaria, along with COLENCO L.L.T. Albania, we amalgamate local and international expertise to offer a diverse range of specialized solutions tailored to your company's needs.

What we do

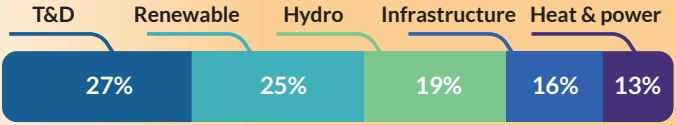
At COLENCO, we serve as the essential consultant for projects spanning Transmission & Distribution, Thermal Energy, Renewable Energy and BESS, Hydropower, Infrastructure, and Industrial Development. Our expertise covers all stages of project development and implementation. With a globally experienced team, we possess in-depth knowledge of energy and infrastructure conditions worldwide, ensuring comprehensive support for your every need.

We take pride in our notable achievements, particularly in providing consulting services for renewable power plants (PV, WPP, SHHP, BIOMASS) with an impressive 860MW and above-installed capacity in the SEE region. Additionally, we offer technical support to public utilities in establishing effective private-public partnerships.

Our segments and markets



Business overview (by markets)



Business overview (by segments)

Fields of operation

ENERGY

- Renewable energy
- Energy storage
- Thermal energy
- Hydro power
- Transmission and distribution
- Power system
- Market analysis
- Policies and regulations
- Oil and gas infrastructure
- Energy efficiency

CONSTRUCTION

- Industrial development
- Logistic center
- Agriculture modernization

INFRASTRUCTURE

- Traffic
- Road & rail
- Water & environment
- Lighting

Transmission and distribution

COLENCO excels in Transmission & Distribution (T&D) activities, covering substations and lines up to 750kV, medium and low voltage installations, transformers, GIS, HV, MV, and LV equipment, earthing, civil and electrical works, telecommunications, SCADA/EMS, MMS, Smart Grid, and Smart Metering. Our T&D projects include feasibility studies, preliminary design, , grid connection solutions, technical specifications, tender preparation, evaluation, contract negotiations, detailed planning, engineering, project management, implementation supervision, FIDIC Engineer activities, and testing/commissioning oversight.

COLENCO is dedicated to delivering T&D projects that uphold the highest standards of quality and efficiency. Trust our expert team to help you achieve your project goals.

Power system and electricity market studies and analyses

COLENCO delivers a comprehensive suite of power system and electricity market studies and analyses tailored to the requirements of project developers, owners, network operators, and investors. Utilizing cutting-edge software for power and market simulations, our expert team recommends the appropriate scope and detail at various project development stages. We offer national-level power systems and market analyses, including studies on market coupling and flexibility for generation and battery energy storage investments. Leveraging our profound understanding of power systems and electricity markets, we provide valuable insights and recommendations to our clients.

Rely on COLENCO for top-level solutions, advice, and support for all your power system and electricity market needs.

Macedonia: Scoping study on grid investments, storage needs, and power plants repurposing potential to support the integration of renewable sources in the Southwest and Pelagonia regions, EBRD

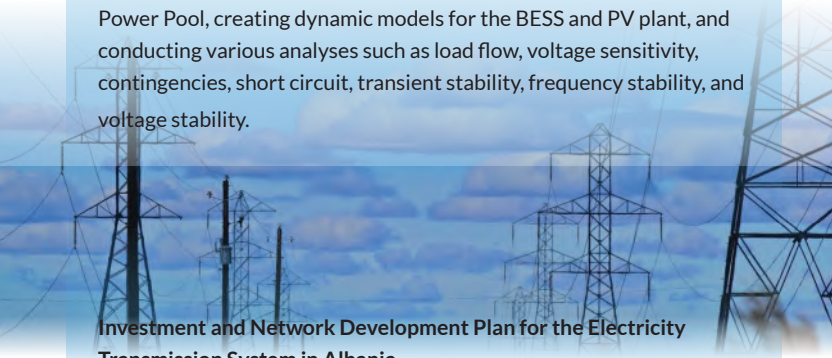
Conducting a scoping study for the EBRD in Macedonia, our assignment assesses grid investments, storage needs, and power plant repurposing for renewable integration until 2030. Objectives include proposing low-carbon energy storage solutions, evaluating thermal power plant repurposing in compliance with environmental policies, and aligning with the CIF ACT Investment Programme. Collaboration with stakeholders ensures adherence to the ACT framework's 'Infrastructure' pillar.

Ten years development plan for electricity distribution dystem , EVN Macedonia

Creating a 10-year Network Development Plan for EVN Macedonia's Distribution System Operator involves comprehensive planning across legislative, technical, and operational aspects. The project addresses network optimization, consumption trend forecasting, loss reduction strategies, and integration of renewable energy sources. It culminates in a detailed investment plan, emphasizing infrastructure improvements and financial resource identification, providing a roadmap for enhanced system performance and effective renewable energy integration

West African Power Pool (WAPP)- Feasiblity study for a regional solar park "Plug and play" - Technical and financial feasibility studies following the concept of 150MW regional solar park "plug & play" in Gambia.

Conducting a Feasibility Study for a regional Solar Park Plug and Play in The Gambia involves preparing network integration studies for a 150 MW PV plant and a 50 MW Battery Energy Storage System (BESS) around Soma. This includes network modeling for the West African Power Pool, creating dynamic models for the BESS and PV plant, and conducting various analyses such as load flow, voltage sensitivity, contingencies, short circuit, transient stability, frequency stability, and voltage stability.



Investment and Network Development Plan for the Electricity Transmission System in Albania

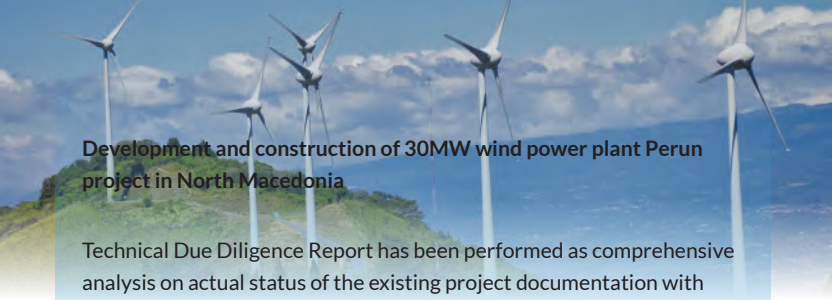
The primary aim of the Investment and Network Development Plan for the Electricity Transmission System in Albania is to formulate a comprehensive plan for the country's transmission sector. This involves evaluating the current system, identifying bottlenecks, and forecasting loads and generation for 5, 10, and 15 years. The project encompasses tasks such as network study methodology, power system modeling, load flow analysis, security assessments, short-circuit calculations, transmission loss evaluation, TTC/NTC calculation, voltage profile analysis, and transient stability analysis.

Renewable energy

Our Renewable Energy (RE) team offers consultancy services across major renewable technologies, including PV power plants, battery energy storage, wind, and small hydropower. Catering to diverse clients, from government bodies to private corporations globally, our team of over 40 professionals comprises engineers, energy economists, management experts, geologists, and legal specialists. Aligned with global trends, we emphasize sustainability, ensuring our team remains at the forefront of developments in the renewable energy sector for a sustainable energy future.

Supervision of the construction ofPVPP Novaci with 55 MW power, 110/33 kV evacuation transformer station, 110kv cable connection and supply field in SS Bitola

Supervised Contractor performance, ensuring compliance with building approval, project documentation, and legal requirements. Provided detailed weekly and monthly Minutes of Meetings (MoMs) and a Final Report outlining supervision progress. Monitored construction quality and quantity, identifying deficiencies and irregularities, and maintained accurate construction logs. Reviewed and certified the construction log regularly, approved monthly and final situations, and compiled a comprehensive Final Report for technical review, summarizing the overall project and its technical aspects



Development and construction of 30MW wind power plant Perun project in North Macedonia

Technical Due Diligence Report has been performed as comprehensive analysis on actual status of the existing project documentation with purpose to present the final findings of the analysis, to detect all the weaknesses and shortcomings and to identify the main risks for the further project development. The TDD has been base for further actions that followed the process of support and assistance during the re-permitting procedure until obtainment of Construction Permits for all facilities of the WPP as a functional system, as well as, assistance during design aligned with the requirements for connection to the grid. Preparation of tender documentation and implementation of a procedure for selection of the most favorable Bidder for construction of a new 110 / 33kV substation, construction of the 110kV double transmission line, construction works for the wind park and for 35kV underground MV cable. Study for Compliance of WPP Perun with the Macedonian Transmission and Distribution Grid Code has been performed including detailed technical analyses, steady state analyses, dynamic simulations, harmonic analyses, flicker analyses, assessment of permissible voltage change and network disturbances, and SCADA requirements.

Phases of the project:

- Technical due diligence
- Wind potential analysis
- Support and assistance during re-permitting procedure
- Study for compliance of WPP Perun with the Macedonian transmission and distribution grid code

Consultancy services for technical due diligence and lender's technical advisor services for construction of 44 MW wind power plant

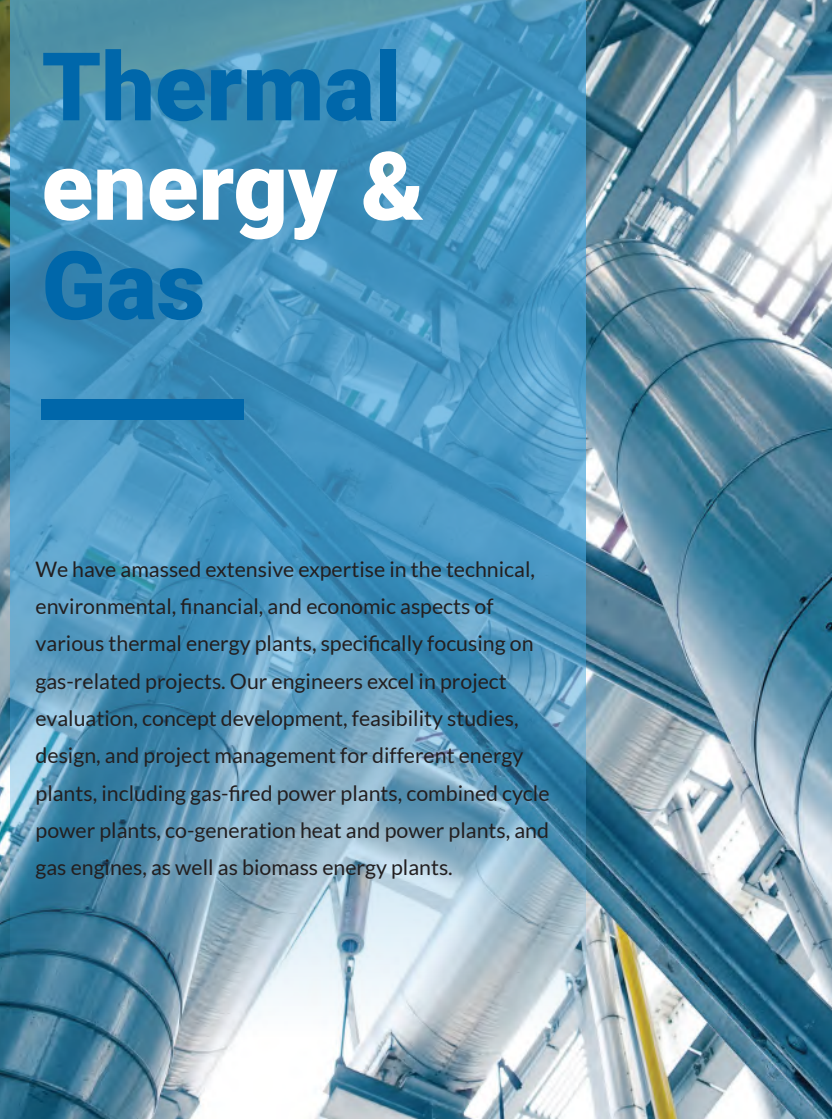
Technical due diligence has been performed included analysis of client's business plan and total project investment costs, review of key operating assumptions in the financial model including CAPEX and OPEX, analysis of construction-technical documentation, review of construction schedule, potential causes for delay, design review, review of permitting, environmental and geological concerns, technology review in terms of frequency, cost, complexity and availability of spare parts, review of EPC and maintenance agreements in terms of availability, performance guarantee, efficiency, comparison with market prices, maintenance cost structure, infrastructure, geotechnical, grid connection review and confirmation of annual energy production at P50, P75 and P90 levels and micro-siting review. Based on the TDD in a role of Technical Lender's Advisor during construction period monthly report has been prepared following the project progress and confirmation of the interim payments, budgeted CAPEX, confirmation of equity ratio.

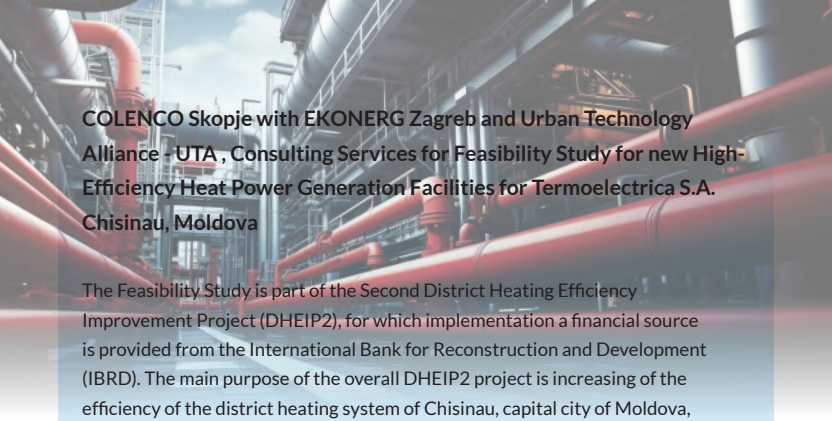
Project development of 40 MW PV Plant Armatush connected to 110 kV network, Bitola region

The project encompasses an overview of the location, including solar resource analysis, ownership review, and infrastructure assessment. It involves preparing layouts and conceptual designs for the PV Power Plant, presenting three technical solutions for each, and determining the optimal grid connection. This includes Load Flow, Short Circuit, and identifying the best configuration concepts for the Armatush substation, addressing both simple and more complex scenarios. Additionally, the project covers the permitting process and legal aspects.

Thermal energy & Gas

We have amassed extensive expertise in the technical, environmental, financial, and economic aspects of various thermal energy plants, specifically focusing on gas-related projects. Our engineers excel in project evaluation, concept development, feasibility studies, design, and project management for different energy plants, including gas-fired power plants, combined cycle power plants, co-generation heat and power plants, and gas engines, as well as biomass energy plants.





COLENCO Skopje with EKONERG Zagreb and Urban Technology Alliance - UTA , Consulting Services for Feasibility Study for new High-Efficiency Heat Power Generation Facilities for Termoelectrica S.A. Chisinau, Moldova

The Feasibility Study is part of the Second District Heating Efficiency Improvement Project (DHEIP2), for which implementation a financial source is provided from the International Bank for Reconstruction and Development (IBRD). The main purpose of the overall DHEIP2 project is increasing of the efficiency of the district heating system of Chisinau, capital city of Moldova, and support for the improvement of the quality of district heating and domestic hot water supply services in the city. The objective of the Feasibility Study is to recommend the most suitable solution for a new combined heat and power (CHP) plant in Chisinau, by providing a technical and economic analyses of viability of different alternatives for a new long-term CHP plant, to examine various modern technologies, fuel solutions, complementary technologies and considering the international environmental and social requirements for sustainable development. The new CHP will be the main heat and power source for coming decades after the actual old one reaches the end of its operational life.

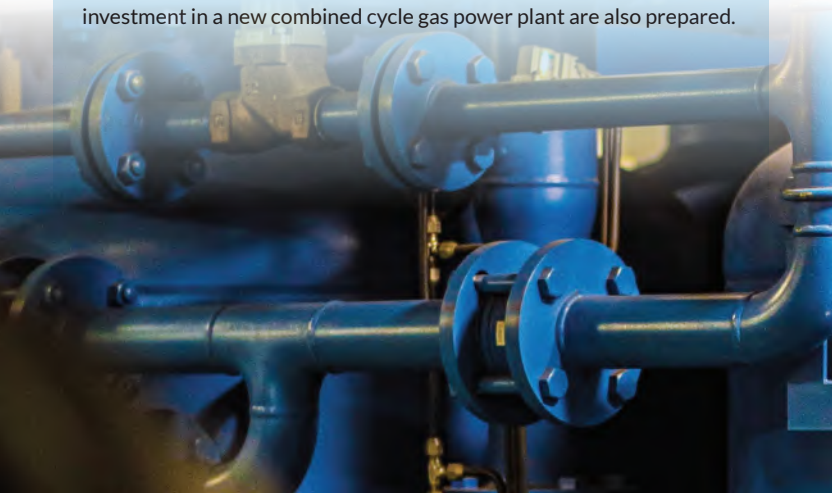
The successful implementation of this project is poised to significantly enhance the long-term stability of Moldova's electrical energy system by introducing advanced technologies and improving grid infrastructure, ensuring a reliable and resilient power supply for the nation. The adoption of eco-friendly technologies within the district heating system will play a crucial role in minimizing environmental impact, as it will significantly lower the carbon footprint associated with energy consumption in Chisinau.

The improved energy efficiency and environmental sustainability achieved through this project will not only benefit the present generation but will also leave a lasting positive legacy for future generations, ensuring a cleaner and more sustainable energy landscape for Moldova.

Preparation of feasibility study for the justification for awarding a contract for public-private partnership or possible sale of the joint stock company – thermal power plant (TPP) Negotino

The objective of this assignment was to prepare a Feasibility Study for justification of awarding a Public Private Partnership Agreement or eventual sale of AD TEC Negotino

An overview and analysis of the actual electricity and natural gas markets in the country and the region are elaborated. The current state of the existing TPP Negotino, the possibility for refurbishing and converting on natural gas of the existing facility and the possibility of construction of a new combined cycle gas power plant at the same location are elaborated. Considering the current offers from the manufacturers of this type of power plants in the world, a several configurations are presented. The financial and legal analysis for possible solutions by awarding the public-private partnership for investment in a new combined cycle gas power plant are also prepared.



Balkan gas hub feasibility study

The objective of the Feasibility Study was to assess in detail the project's commercial and technical viability, define the precise business model, assess project risks, finalise the regulatory design and structure project financing. The results of the Feasibility Study allowed Bulgartransgaz EAD to decide upon the implementation of Project of Common Interest - PCI 6.25.4, define a detailed schedule for the upcoming development phases until the commercial operation date, as well as develop a detailed financing structure that can be discussed with international financial institutions and private sector investors.

This action supports the implementation of PCI 6.25.4, which involves building a gas distribution center in Bulgaria. The goal is to bring substantial gas quantities from different sources (conceptual entry/exit capacity of 45.55 – 61.3 bcm/y) to a central point near Varna. From there, the gas can be further transported and traded through a gas hub. The Balkan Gas Hub concept includes additional infrastructure to supply new gas to Central/Western, South-Eastern, and Eastern Europe, enhancing overall security of gas supply.

Balkan Gas Hub

Infrastructure and industrial facilities development

COLENCO is committed to aiding clients in formulating and implementing robust industrial and infrastructure development policies and strategies tailored to their specific needs and objectives. This commitment aims to foster socio-economic development in the regions we serve.

Our comprehensive services encompass feasibility studies, project planning and design, construction management, project financing, regulatory compliance, and business development, including investment promotion. Our seasoned consultants offer support at every development stage, ensuring projects are sustainable, efficient, and aligned with our client's unique requirements.

At COLENCO, we recognize that successful infrastructure and industrial development demand a holistic approach, considering technical, financial, and socio-economic factors. Our overarching goal is to catalyze socio-economic growth in our operational markets and empower clients to achieve their development objectives effectively.

LIDL PROJECT DEVELOPMENT – Macedonia

Colenco Ltd. provided assessment and determination regarding selection of the most suitable and appropriate location for construction of Warehouse regarding Clients specific requirements. Project development in terms of technical and procedural support and assistance during urbanistic process with all necessary steps according national legislation, application to the relevant institution for adoption of Basic Design and issuing valid Construction Permit for the Logistic center/Warehouse, as well as, all necessary services have been carried out in order to secure appropriate connection to an electricity grid with required installed capacity. All performed activities have been performed in timely and quality manner for achieving the final goal for reaching Ready-to-Build status and no obstacles for the start of the construction. Additionally, Colenco Ltd. has performed all services related to the design of the Facility, and especially the preparation of the entire Design and Technical documentation for the construction of the Facility, including preparatory activities / works, pre-investment studies and preparation of a Preliminary design, Basic and Main Design with all required phases, drawings, detailed BoQ and technical specification.

REVIEW AND ANALYZE OF THE EXISTING CUSTOMS RELATED EQUIPMENT FOR ALL BCPS AND CUSTOMS UTILITIES - Ministry of Transport and Communications North Macedonia Western Balkans Trade and Transport Facilitation Project

The overall objective of this assignment has been preparation of Design for an integrated centralized IP based solution for new CCTV and ANPR systems and Technical Specification for provision of new equipment for improvement of customs related equipment for video surveillance and automatic number plate recognition systems for all BCPs and all other Customs offices/utilities/locations in North Macedonia, based on revision of the existing customs related solution. For the selected Design preparation of List of Goods and Related Services, the Delivery and Completion Schedules, the Technical Specifications and the Drawings have been prepared. Additionally, the design audit at all stages of the installation and testing of the equipment is planned to be performed.

Support to the implementation of the reconstruction of the public lighting system in Mariupol

The objective of this assignment understands preparation of complete feasibility study to propose rehabilitation measures for the street lighting network, proposition of priority investment plans, preparation of technical specifications and tender documentation to enable detailed design and construction. The project also includes preparation of Environmental and Social Management Plan (ESMP), including but not being limited to Environmental, Health and Safety Plan, waste management plan and a stakeholder engagement plan.

Feasibility study and tender documentation for modernization of public lighting in the Municipality of Shtip (ESCO model)

The main objective of this assignment is ensuring ESCO model solution for the public lighting in the Municipality of Shtip. By providing the requested services the Consultant shall support the Client to find the most appropriate solution. The project encompasses preparation of feasibility study, tender documentation and Contracts models/ templates, proposing solutions for video surveillance and CCTV system to the main entrances and locations in city of Stip and proposing measuring points for measuring equipment for air pollution measurement.

Development of National intelligent transportation system (ITS) strategy for the Republic of North Macedonia

The objective of the project is to develop the National ITS Strategy for the Republic of North Macedonia aligned with national and international (EU) legal framework and plan for its implementation. The action plan shall cover the period of 10 years and shall recommend priority areas, timeline, duration, budget of projects, activities, initiatives, and policies, as well as indicators for progress reporting. Final outputs shall comprise of National ITS Strategy and Action Plan including financial needs for short, medium- and long-term actions.

Logistic centers

AGRICULTURE MODERNIZATION PROJECT - CONSULTING SERVICES FOR SITE SELECTION, URBAN PLANNING, FEASIBILITY, SCHEMATIC AND DETAILED DESIGN OF 2 (TWO) COLLECTION AND CONDITIONING CENTERS (CCCS) IN STRUMICA AND RESEN

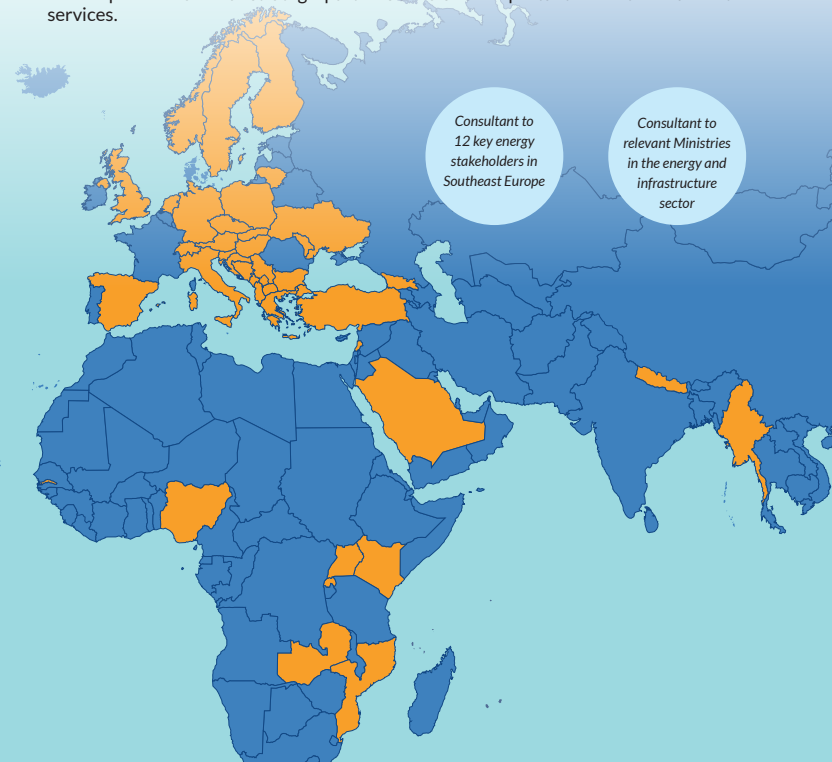
The project supported by World Bank aims to improve the competitiveness in the agriculture sub-sector and strengthen agriculture public sector readiness for EU accession. The project identified Resen and Strumica to build two public owned CCCs to fill the gap of cooling, sorting, grading and packing facilities in the main area of production of the country. The specific objective of this phase is selection of appropriate sites, Development of Feasibility Study and Business Plan, including market survey and preparation of the market study, Development of Schematic Design, conducting the procedure for urban planning and transformation of the land, as a pre-condition to constructing the CCCs, Development of Environmental and Social Impact Assessment, Development of Detailed Design according to national legislation and FIDIC standards, as well as Technical Assistance during the preparation of the bidding documents for construction of the CCCs.

Markets of operation

The primary focus of COLENCO are the markets in the South East Europe, beginning with the market in Albania, Bosnia and Herzegovina, Bulgaria, Croatia, Finland, Greece, Kosovo, Montenegro, North Macedonia and Serbia.

Besides its focus on the Southeast European markets, specialized team of experts is dedicated to supporting clients and partners in international operations, such as Eastern Europe, Sub-Saharan Africa, MENA and Asia.

The benefit that COLENCO brings to its clients is the adaptability of its team to work in various conditions and various countries of operations. Our experts have gained world-wide experience and our strategic partners are also an important link in the chain of the services.



Our clients

Extensive experience with projects financed by IFIs - EBRD, GGF, KfW, IBRD, EIB, SECO, EU, EC

Our esteemed clients come from both private sector and public utilities. COLENCO provides consulting and engineering services to:

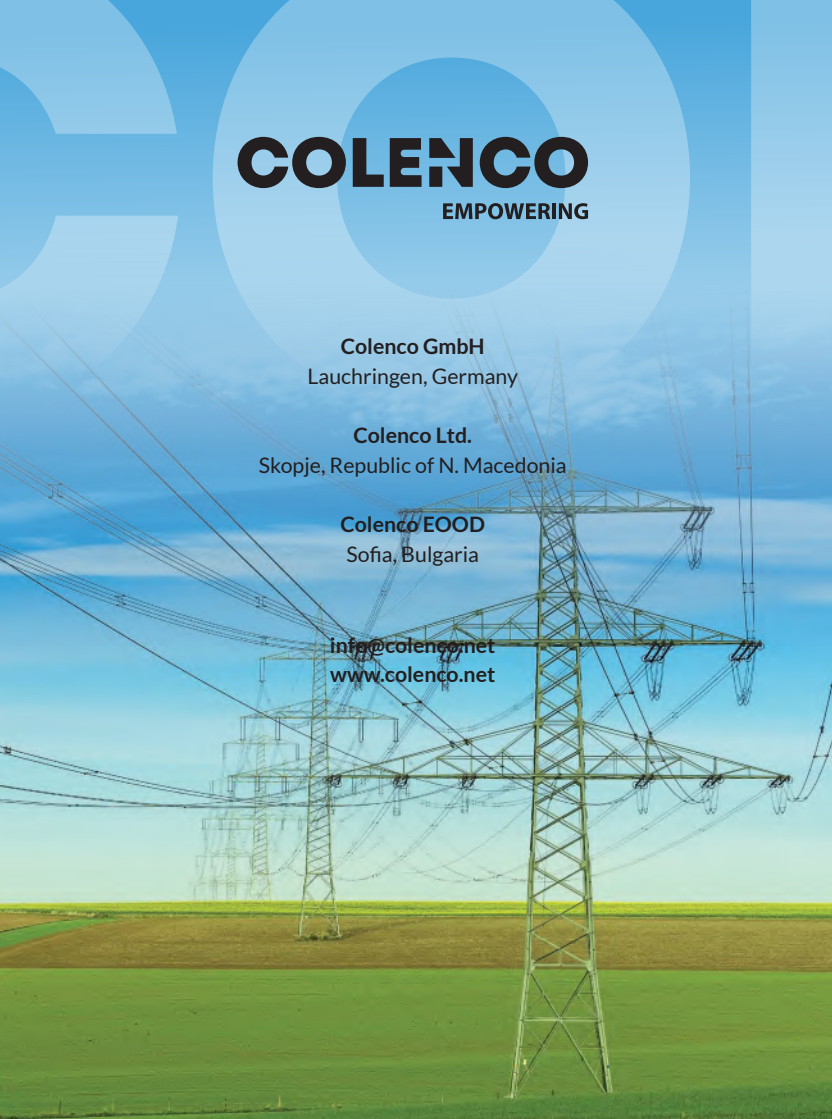
Governments | Ministries | Energy | Regulatory | Public utilities | Financing institutions | Private investors

Financial institutions

European Bank for Reconstruction and Development
European Investment Bank The EU bank
Schweizerische Eidgenossenschaft Confédération suisse Confederazione Svizzera Confederaziun svizra
IFC
WORLD BANK
HALKBANK
SOCIETE GENERALE
KFW Bank aus Verantwortung
GREEN FOR GROWTH FUND TECHNICAL ASSISTANCE FACILITY
financeinmotion

Clients & Partners

ESM
MEPSO
TE-TO
Republic of North Macedonia Ministry of Economy
ESO
OSHEE
OS
IDOM
eft Ideas with energy
НАЦИОНАЛНА ЕЛЕКТРИЧЕСКА КОМПАНИЯ ЕАД
kc stt
epcg
топлофикация софия ЕАД
EPC
BULGARTRANSGAZ
HILL
ENC
ILF CONSULTING ENGINEERS
MINISTRIA E INFRASTRUKTURËS DHE ENERGJISË
Deloitte.
EMC
3TI PROGETTI
ELEM ELGO
COLENCO
AFRY
kelag
HOPS
interEnergo a kelag company
CESI Shaping a Better Energy Future
ENTRO NILE BASIN INITIATIVE INITIATIVE DU BASSIN DU NIL
GSE
УКРЕНЕРГО
EIHP
KETRACO KENYA ELECTRICITY TRANSMISSION COMPANY LIMITED
kesh Energjia e pastër që nuk shterron!
Électricité Du Liban
REPUBLIKA MAKEDONIJA UPRAVA ZA CARINI
Republic of North Macedonia Ministry of Transport and Communications
NNPC
LIDL
Elektroprivreda BiH
M MYTILINEOS
EVN
MEY ENERGY
LEXIA AVVOCATI



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