

ENERGY AND PUBLIC UTILITIES ENGINEERING AND CONSULTING



ENERGY AND ENVIRONMENT CONSULTING COMPANY

A low-angle, upward-looking photograph of a complex industrial facility, likely a power plant or refinery. The image is dominated by a dense network of dark grey metal structural beams and pipes that crisscross the frame. In the upper right, a tall, cylindrical smokestack with alternating red and white horizontal bands rises into a sky filled with large, white, billowing clouds. Yellow safety railings are visible along some of the elevated walkways and platforms. The overall scene conveys a sense of large-scale engineering and industrial activity.

**YOUR STRATEGIC
PARTNER FOR
SUSTAINABLE
PROJECTS'
DEVELOPMENT IN
THE ENERGY AND
ENVIRONMENTAL
SECTORS**



We operate at the intersection of these two critical fields – energy and environment, drawing on the deep expertise of our multidisciplinary team.

The quality and diversity of our services are supported by rigorous professional standards, tailored approaches, and an organisational culture rooted in innovation and excellence.

Our greatest asset is our human capital – dedicated professionals who deliver integrated solutions, aligned with our clients' goals and today's complex challenges.

We are committed to building a sustainable future through smart, efficient, and compliant solutions. By actively supporting the energy transition and environmental protection, we help reduce the environmental impact of industrial and urban infrastructure investments, while ensuring full alignment with national and European regulations.



The key personnel involved in energy and public utilities projects are certified by the national regulatory bodies, line ministries, banking institutions or certified training providers in areas such as electrical systems, energy audits, projects assessment and financing, urban infrastructure and public utilities.

Our Team



CCEM senior experts have over 30 years of experience in preparing the documentation required both for delivering integrated and cost-effective solutions and for obtaining specific permits for construction, urban planning, and environmental protection – including operational authorisations for all types of investments, whether for greenfield or brownfield projects.

CCEM experts recommend environmental oriented, cost-effective and energy-saving solutions for:

- Upgrading / retrofitting / repowering existing systems as:
 - power and/or heat generation (coal-, gas- or other source-based power plants – TPP, CHPP, TP (heat-only boilers), NPP non-nuclear island) including mechanical, technological, electrical, automation and control, as well as auxiliary systems (cooling circuits, wastewater, fuel supply, etc.);
 - electricity and heat networks for self-industrial consumption;
 - electricity distribution & transmission networks;
- Implementing new, flexible and novel technologies (i.e., CCGT, CCGT-CHP, HP, trigeneration, ORC for efficient recovery of waste heat, waste-to-energy, etc.); and electricity and heat smart metering systems;
- Reducing GHG and pollutant emissions (i.e. low NOx burners, FGD, electro-precipitators, dens-slurry ash – slag removal, CCUS);
- Planning and designing the optimal energy mix towards energy transition via RES (solar, wind, geothermal, biomass and/or hydrogen-based power and/or heat plants) and electricity storage (i.e., battery, mechanical, pumped hydro, hydrogen) or thermal storage;
- Increasing energy efficiency in buildings (residential, public, commercial or industrial) and in technological processes;
- Adopting, when appropriate, the distributed generation concept.

Accreditations & Authorisations

CCEM is certified by SRAC and IQNet for the implementation of an Integrated Quality and Environmental Management System, in accordance with ISO 9001:2015 and ISO 14001:2015 standards requirements.



The certified activities include preparation of studies, design, basic and detailed engineering in the energy and environmental sectors, as well as business and management consulting services.

The company is also committed to compliance and service excellence, holding accreditations and authorizations from key national authorities, such as:

- ANRE – National Regulatory Authority for Energy;
- TRANSELECTRICA - National TSO;
- MMAP - Ministry of Environment, Waters and Forests;
- ANIF – National Land Improvement Agency;
- IGSU – CNSIPC - National Centre for Fire Safety and Civil Protection.

A photograph of an industrial facility, likely a power plant or refinery, featuring large vertical and horizontal metal pipes, valves, and a blue-painted structural frame. The scene is brightly lit, showing the metallic surfaces and the organized layout of the infrastructure.

Fields of expertise

ENERGY

1. Power and/or heat generation from conventional, renewable and alternative sources;
2. Power and/or heat transmission and distribution;
3. Green technologies for a clean energy;
4. Energy storage systems;
5. Energy efficiency in buildings and industry.

PUBLIC UTILITIES

6. Thermal energy and cooling supply systems (DHC, RHC), thermal storage, SCADA and smart metering;
7. Electricity supply systems (distribution, storage, dispatch – SCADA, smart metering);
8. Street lighting systems;
9. Civil and industrial works (structures, architecture, indoor installations and firefighting).

Water and domestic waste management are fields detailed in *CCEM Environment-Green Infrastructure Brochure*.



Core Services

CCEM designs, develops and implements integrated solutions, across the entire project lifecycle - planning, financing identification, procurement and contracting, execution, and commissioning. Our specialists start from ground-zero design for new investments or develop technical documentation for existing projects, including as-built and retrofitting / repowering / upgrading / expansion or closure programs.



- ✓ **TECHNICAL, ECONOMIC, COMERCIAL - INSTITUTIONAL CONSULTING and PROJECT FINANCING**
- ✓ **PERMITTING**
- ✓ **ENGINEERING**
- ✓ **PROJECT MANAGEMENT and ONSITE SUPERVISION**
- ✓ **RESEARCH & INNOVATION**

Core Services

TECHNICAL, ECONOMIC, COMERCIAL - INSTITUTIONAL CONSULTING and PROJECT FINANCING

- Technical, economic, environmental and social viability of investments through different studies:
 - options analysis for technological solutions to improve air, water or soil quality;
 - opportunity, pre-feasibility, feasibility studies;
 - CBA, risk & sensitivity analyses;
 - other support analyses (i.e. ESIA, environmental balances level I and II; carbon footprint calculation; security reports; risk assessment; site reports; topographic surveys; geotechnical, geological, and hydrogeological investigations; etc.);
- Policies and measures, strategies and action plans; regional/national guidelines;
- Expert appraisal and technical surveys;
- Constructions behaviour monitoring;
- Project funding applications;
- Tenders' documentation and public procurement; .

PERMITTING

- Documentation required for permits issuance for greenfield or brownfield projects (i.e. plant operation; construction or demolition; site organisation and management; firefighting; environmental; IPPC (Integrated Pollution Prevention and Control); urbanism; water management; electricity and gas grids connection; sanitary; State Inspectorate in Construction; Aeronautical Authority; etc.);
- Regulatory compliance: Proof of compliance with local, national, and European regulations concerning environmental standards, land use, urbanism, and safety;
- Public outreach records: Records demonstrating community engagement or public consultations.

ENGINEERING

- Basic Design Solutions: Crafting initial conceptual designs aligned with client requirements and industry standards;
- Detail Design Expertise: Developing comprehensive engineering blueprints;
- As-built – final post-construction documentation;
- Cross-Border Compliance: Ensuring designs comply with both domestic and foreign regulations and standards.

PROJECT MANAGEMENT and ONSITE SUPERVISION

- Our certified PMs maintain close relations with the client, offering technical assistance throughout project implementation, in connection also with the general contractor.

RESEARCH & INNOVATION

- Our specialists are open to collaborations on national and European research funding programs.

Clients



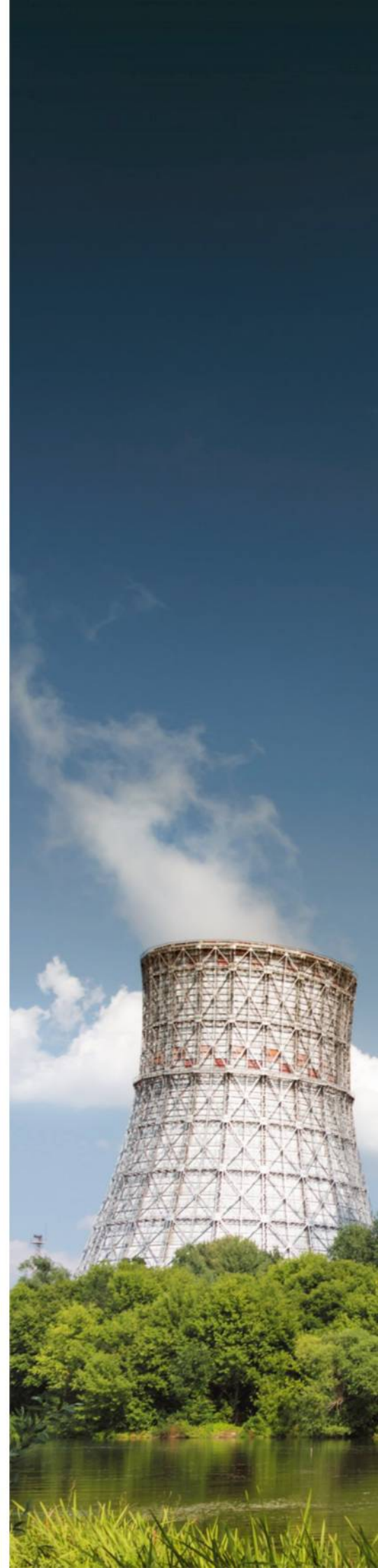
The clients to whom we have provided our services come from various sectors:

- Energy industry (large producers – fossil CHPPs/PPs and nuclear; renewable energy producers and prosumers; electricity and/or heat transmission and/or distribution systems operators)
- oil and gas industry
- manufacturing - petrochemistry
- metallurgical industry
- cement industry
- mining
- construction
- local public administration (mayoralities; DHS operators)
- regional authorities (county councils, Regional Development Association - ADR)
- governmental entities
- international financial institutions
- general contractors (EPC)
- consulting and research.

Relevant Projects Portfolio

ENERGY and PUBLIC UTILITIES

- 6,8 GW in renewable energy (72% solar, 24% wind, 4% large hydro) in 15 Romanian counties → technical consulting; engineering and permitting ;
- 4,4 GW storage capacity in batteries, in 10 Romanian counties → techno-economic consulting; engineering and permitting;
- 2,9 GW of conventional energy (upgrading existing facilities, developing new ones CCGTs and micro-CHPs, decommissioning of existing ones) → technical, economic and environmental consulting; permitting;
- 37 ha of unproductive land reused for RES development → techno-economic consulting, ESG;
- 88 km of thermal energy network systems, retrofitted and upgraded → strategies; project management; techno-economic consulting (FS, CBA);
- 51 streets with water and sewage networks (resized) → techno-economic consulting (FS); technical consulting; permitting; basic and detail engineering;
- over 400 end-users' connections and service lines to the water-sewerage infrastructure → permitting; engineering (basic design);
- 4.3 ha ecological sludge landfill → techno-economic consulting (FS, closure and field studies, phytoremediation); permitting; engineering (basic - detail design); onsite technical assistance and operation monitoring;
- 15 ha urban wastes dumps (closure, management centres) → technical consulting; permitting; engineering; onsite technical assistance during construction;
- over 40 financial applications assessed for projects submitted in POIM (cutting energy consumption in industry), PDD (energy efficiency, GHG reduction) and PNRR (green transition – production facilities);
- analyses and reports (CBA, FS, etc.) for financing applications submitted for EU funds (Modernisation Fund, PNRR, PDD).





For additional information
regarding our project
portfolio, please contact us
at office@ccem.ro,
providing your contact
details and area of interest,
and we will be pleased to
share the requested
information.



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