



**ELC professional know-how since 1905:** ELC is a private, independent, engineering consultant based in Milan and established in 1955 by the merge of three leading Italian firms which pioneered the Italian HPP scenario since the Malnisio HPP in May 1905.

**Mission:** ELC mission is to provide Clients with over one century of cumulated experience in the study, design construction management, capacity building of Hydro, Thermal, Geothermal Power Plants up to the most complex T & D projects.

ELC expertise includes infrastructure and agriculture developments, irrigation, flood control, water resources planning, river and basin management, environmental analysis and pollution prevention of multipurpose water supply schemes.

**Experience:** As of today ELC's reliability is based on 1,788 effective Customer assignments carried out in 96 Countries with compliance to UNI EN ISO 9001: 2015 certification.

**Financing** is mostly provided by major International Agencies as the WB, EBRD, ADB, IDB, JICA, and the African Development Bank.

**Challenges:** The majority of our Projects have been carried out in the most challenging environmental, climatic and geological challenges, as:

- The Italian Alps and the steep and rugged Himalayan Region with young geology
- The African Rift Valley, both in Kenya, Ethiopia, Somalia down to the Mauritius Islands
- The seismically active South East Asia volcanic belt
- The Central & South America range of Quaternary volcanoes

**Organization, Faculty & Staff:** ELC accounts for over 100 Experts between permanent and exclusive on-call, consultants. Full integration and knowledge transfer between Local Staff and International Experts is the key of each assignment success

**E.S.I.A & Social Impact Assessment:** Experience in this field has been cumulated during the design stage and construction supervision of the most complex hydropower developments and hydraulic projects.

In parallel with the acquired experience and learning curve ELC has refined further and deeper its specific E.S.I.A. work methodology which is always verified throughout the entire life of each project.

**ELC's environmental approach** follows, pace to pace, the dynamic evolution of the surrounding pristine environment and always focus the preservation, or, if necessary, seek the improvement of the wildlife, especially for the endemic species as well as the landscape.

The complete E.S.I.A. review of each project and its thorough environmental assessment is always double-checked after the conclusion of each the assignment .

**E.S.I.A. work methodology:** ELC's evaluation and measurement criteria adopted to carry out the environmental impact studies are continuously improved and adapted to each specific project through the following key steps:

- Analysis of present situation
- Assessment of induced modifications
- Study of alternatives
- Definition of design criteria to minimize any possible negative impact on local flora, fauna habitat, fisheries reservoirs, with particular care for the migratory species.

**ELC's pro-active problem solving approach:** Economic screening, environmental impact studies & social requirements evaluation actively prevent any disruption in local human heritage, traditions, usages and attitudes.

They also impede any potential ecological threats such as river fragmentation, stream de--watering and downstream hydrological alterations.

This integrated approach ensures that the entire project is designed by the Consultant as an integral part of the local community and the surrounding environment.

**Natural science management** and full compliance with local and international environmental obligations guarantees each individual set--up of water infrastructure.

Particular care is dedicated to preserve plant and aquatic bio--diversity, especially migratory species.

ELC environmental and social studies and design activities incorporate the concepts and the methodologies recommended by the UNO and the international financing agencies.

Customer Service: Complete range of services provide individual solutions to any specific Customer need. Technical knowledge ranges from resources exploration to financial due diligence, National & International energetic potential assessment, field development up to power plant design, construction management and supervision.

**Hydropower & Hydraulic works expertise:** ELC know-how provides services for:

- Planning studies and preliminary design
- Prefeasibility and feasibility studies
- Environmental impact studies
- Final design, pre-qualification and bidding documents
- Project preparation for international lending agencies and credit sources, assistance in project financing
- Assistance to Clients in bidding processes, bid evaluations and negotiations with contractors and suppliers
- Detailed design
- Construction management and supervision
- Factory inspections, quality control, procurement and expediting, project management services (planning, budgeting, scheduling and supervision)
- Supervision of power plants O&M
- Preparation of O&M manuals, training of operation personnel
- Project commissioning
- Consultancy services and assistance during the plant operation
- Technical assistance programs
- Institutional strengthening, Management build up and Training of Client's personnel has always been a key part of ELC strategic development of each project.

Training activities, are carried out in close cooperation with the Client's personnel and in association with local consulting firms and organizations.

**Capacity Building and Private Sector Development:**

## HYDROPOWER DEVELOPMENT & HYDRAULIC WORKS

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Technical & financial integrated packages are tailored by ELC on Client needs, either private or public institutions.

ELC synthesises the functions and the advisory services of a consulting firm with those of a Engineering Partner Company supporting customers in securing appropriate

financial resources for their undertakings.

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