



ENGINEERING SERVICES
FOR ENERGY
COMPANY PROFILE

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**ESE ENGINEERING SERVICES FOR ENERGY
IS AN ITALIAN ENGINEERING CONSULTING
COMPANY OF THE HIGHEST LEVEL
OPERATING WORLDWIDE
IN THE POWER GENERATION INDUSTRY.**

ESE IS COMPOSED BY SENIOR SPECIALISTS WITH DECADES OF EXPERIENCE
IN THE POWER GENERATION SECTOR, WORKING JOINTLY WITH A GROUP
OF TOP GRADED YOUNG ENGINEERS, BOASTS TOP LEVEL CONSULTANTS
FOR ALL KEY SPECIALTIES OF POWER GENERATION

OUR SERVICES SPAN THE FULL RANGE OF POWER GENERATION TECHNOLOGIES,
MEETING THE GLOBAL ENERGY CHALLENGES OF AN EVER-CHANGING WORLD.
WE WORK JOINTLY WITH OUR CUSTOMERS TO DEVELOP SMART SOLUTIONS
ACROSS ALL PROJECT PHASES, FROM PLANT CONCEPTION TO COMMISSIONING.



About ESE

COMPANY ORGANIZATION AND HISTORICAL BACKGROUND

ESE is led by an executive board of Directors composed by four of the five Partners, while its day-to-day business is managed by the Chief Executive Officer, which is one of the Partners. The company has a permanent staff of 15 engineers and relies on the expertise and availability of a comparable number of very skilled consultants whenever necessary. This allows ESE to always cover internally the Process, Mechanical, Electrical, Instrumentation, Project Control fields. With this structure the Company is in a position to perform with flexibility important jobs simultaneously.

1986 HISTORICAL BACKGROUND

In 1986 the partners leave the Company they manage and create Protecma, an Engineering and Consulting Company operating in the area of the Electric Power Stations and Electrified Rail Transportation.

1994 ESE FOUNDATION

Protecma lives an impressive success and in 1994 is sold to its major customer, SONDEL. At this point the Partners found ESE to continue their own professional activity, assisted by some of the key engineers having contributed to the success of Protecma.

2014 ESE ANNIVERSARY

ESE celebrates its first 20 years anniversary with behind a long career based on the quality of its work and the satisfaction of its customers.

2006 ESE FIRST SUCCESS IN THE CSP MARKET

ESE enters the CSP market by designing the receiver for the Brightsource pilot plant in the Negev desert.

1997-2000 ESE CONSOLIDATION IN THE MARKET

ESE consolidates its role in the Italian Cogen market participating to the design of seven 50-100 MW projects.

ESE is certified ISO9001:2008

2015 ESE EMPOWERMENT IN CSP WORLD

After a long list of CSP projects ESE enters a HORIZON 2020 project as responsible for the design of a new flexible once-through steam generator with molten salt as heat transfer fluid.

2016 FIRST ABROAD OFFICE

ESE founds its first abroad company in Israel as the result of its remarkable success and the recent awarding of two very important contracts as Owner's Engineer.



ESE Offer

QUALITY SERVICES AND PROJECTS DELIVERED BY ESE

ENERGY SERVICES

- Fossil Fired Power Plants
- Combined Cycle Power Plants
- Cogeneration Plants
- Hydraulic Power Plants
- Incinerators & WTE plants
- Biomass Power Plants
- Solar Power Plants
- District Heating / Cooling
- Flue Gas Treatment
- Steam Generators

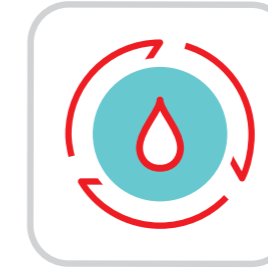
CONSULTANCY AND OTHER SERVICES

- Owner's Engineering Services (through pre-qualification, tender, negotiation and execution phase), both for New Plants and for Rehabilitations
- Plant Conceptual and Basic Design
- Feasibility Studies
- Tender Documents Preparation and Cost Estimation
- Economic Analysis and Investment Plans
- Engineering Support to R&D activities
- Due Diligences
- Energy Audit and Energy Management
- Rehabilitation Studies
- Preparation of Document Required for Plant Licensing
- Follow up of the Licensing Procedure
- Project Management
- Site Management and Technical Supervision to Construction, Commissioning and Testing

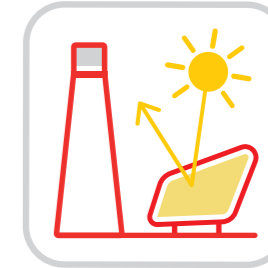
CCPP COGEN AND THERMAL PLANTS



HYDROELECTRIC AND PUMPING STORAGE



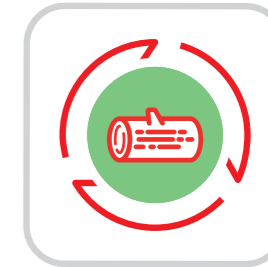
CSP PLANTS AND MOLTEN SALT STORAGE



DUE DILIGENCE AND ENERGY AUDIT



BIOMASS AND WASTE TO ENERGY



ENGINEERING SUPPORT TO R&D AND DYNAMIC SIMULATIONS



DISPUTE MANAGEMENT AND FORENSIC ASSISTANCE





ESE References

WORLDWIDE EXPERIENCE

Only few examples

ITALY

NOLA 120 MW PEAK COMBINED CYCLE

Italy, 2010-2011

ENNA 28 MW BIOMASS PLANT

Italy, 2010

SAN FILIPPO DEL MELA THERMAL PLANT

Italy, 2001-2002

TORINO - 25 MW WASTE TO ENERGY PLANT

Italy, 2007

SULCIS 345 MW COAL POWER STATION

Italy, 2000

S.S. GIOVANNI 50 MW COGENERATION

POWER STATION Italy, 1994

EUROPE

MOLTEN SALT OTSG DESIGN

Portugal, ongoing

KRUSEVAC BIOMASS PLANT

Serbia, 2015

2 MWTH PUERTO ERRADO FRESNEL PLANT

Spain, 2010

GROZAVESTI 60 MW COGENERATION POWER PLANT

Romania, 2008

50 MW AZNALCOLLAR PARABOLIC

TROUGH PLANT Spain, 2007

AFRICA

TEMA 110 MW ADD-ON POWER PLANT

Ghana, 2014-2015

NOOR III 150 MW CSP PLANT

Morocco, 2014

30 MW SUGAR CANE PLANT OPTIMIZATION

Mozambique, 2013-2014

140 MW UPINGTON MOLTEN SALT PLANT

South Africa, 2013

110 MW SOLIS MOLTEN SALT PLANT

South Africa, 2013

KAROSHOK 100 MW CSP PLANT

South Africa, 2012-2013

AMERICA

34 MWTH CHEVRON EOR PLANT

California, 2010

IBIRITÉ 226 MW CCPP

Brazil, 2003

MIDDLE EAST

MONTAZER GHAEM CCPP REPOWERING

Iran, 2015

ALON TAVOR AND RAMAT GABRIEL COGENERATION **POWER PLANT (70 MW EACH)** Israel, 2012-2015

ARAR IV 120 MW OPEN CYCLE POWER PLANT

Saudi Arabia, 2013-2014

ETGAL ASHDOD 120 MW COMBINED CYCLE

Israel, 2011-2013

ASHALIM 125 MW CSP PLANT

Israel, 2009-2010

NESHER 220 MW HYDROELECTRIC POWER STATION

Israel, 2008

EAST

DELINGHA DIRECT STEAM RECEIVER

FOR 135 MW TOWER PLANT China, 2014



ESE Clients

SOME OF THE CLIENTS WE HAVE WORKED FOR, BOTH IN ITALY AND IN THE WORLD



If the Customer would like to contact any of our previous Clients we will be happy to provide him with their contacts.

COMPETENCE AND KNOWLEDGE

ESE has a wide knowledge in most of the power plant technology, from Combined Cycles to Cogeneration Plants, from Biomass to WTE or to Coal Plant.

REPUTATION

ESE is well reputed by its Italian and foreigner Customers that have given to ESE a note of 4.47 on 5 as average of the last three years of Customer Satisfaction evaluations.

PUNCTUALITY

ESE has completed its tasks on time in the 94% of the cases. It has to be noted that the missing 6% includes mainly cases when the delay was caused by the Customer or agreed with him due to the request of additional documentation.

WHY CHOOSING ESE?

PREPARED TEAM

ESE is composed of a permanent team of 15 people and boasts top level consultants for all key specialties of power generation industry

EFFICIENCY

Thanks to its relative small size, ESE is able to follow the Customer requirements in a very specific and flexible way, which we deem is an important added value for any project.

FOREIGN EXPERIENCES

Another distinctive common feature of all ESE collaborators, in addition to the wide experience in the field of energy, is the working experience in foreign countries and the consequent familiarity with international standards and procedures and the multilingualism with emphasis on English and Spanish.



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