



GNEC

**Consultancy and
Engineering Company**





GNEC



We Promote Reliability, Quality, Cooperation and Competency

Core Business (General Introduction)

Founded in 1973 as a Canadian consultancy company, GNEC underwent a name change in 1983 and has since become the most continuously operating engineering firm in Iran and the Middle East. Over the past years, we have expanded our operations to various fields of the Energy Industry, including engineering and consultancy projects. Our success and recognition in Iran have solidified our position as a leading company in the region. With a team of over 1000 experts, GNEC provide clients with various engineering, management, procurement and construction services in the fields of Power Transmission Lines and Substations, Distribution, Networks, Water and Wastewater, Dam and Hydropower, Irrigation and Drainage, Renewable Energies & Energy Optimization, Gas, Steam and Combined Cycle Power Plants, and Oil, Gas and Petrochemicals.



Our Experiences

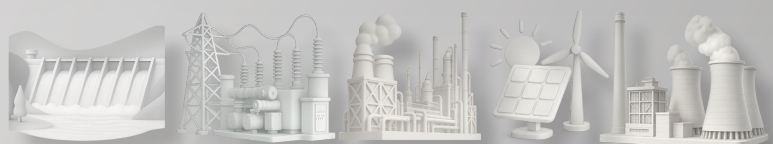
- More than 27,000 Km of power transmission lines and many distribution networks from 33kV to 400kV.
- More than 820 substations in all voltage levels from 33kV to 400kV.
- More than 60,000 MW of power plants.
- More than 310 projects in dams, water transmission lines, irrigation, drainage, hydropower plants and about 500 km of water & wastewater network.
- More than 3000 km of gas transmission lines and several fuel storage tanks.
- More than 100 renewable energy plants and energy management projects with a wide variety of services.



Our Services

- Design and Engineering Services
- Project Review, Project Management, Construction Control and Supervision
- Conceptual, preliminary and detailed design
- Consultancy services and economic studies
- Contract management (MC)
- Feasibility studies, EIA, ESIA, HSE, and RAP
- Surveying and geotechnical investigations and engineering
- Engineering, procurement and construction (EPC) services
- Electricity grid and access studies and reliability improvement

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GNEC Management



Saeid Mohazzabtorabi
Managing Director
+40 Years of Experience



Fattaneh Doustdar
Deputy Renewable Energy and Energy
Optimization
+30 Years of Experience



Hossein Bakhtiary Zadeh
Deputy Power Substations and Dispatching
+35 Years of Experience



Ahmad Freydoon Dorafshan
Deputy Power Transmission and
Distribution Lines
+35 Years of Experience



Mehrdad Mohammadpour
Deputy Water, Structure and
Environment
+30 Years of Experience



MohammadAli Salehi
Deputy Financial and Human Resources
+25 Years of Experience



Armin Alidousti
Deputy Business Planning and Development
+25 Years of Experience



Golchin Irvani
Deputy Power Plants Industries
+30 Years of Experience



Davood Zaver
Deputy Oil, Gas Petrochemical
+30 Years of Experience



Sajjad Keivaanmarz
International Market Development Manager



Ali Kayhani
HSEQ Manager



Mohammad Shams
Contracts and Legal Affairs Manager



Behzad Moradi
Information Technology Manager



Mostafa Loni
Financial Manager



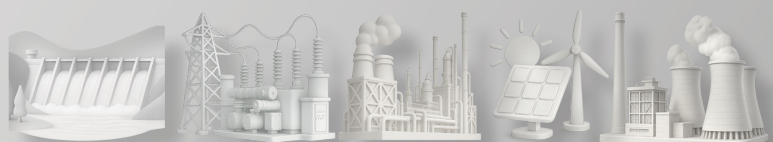
Ramezan Fooladi
Human Resources Manager



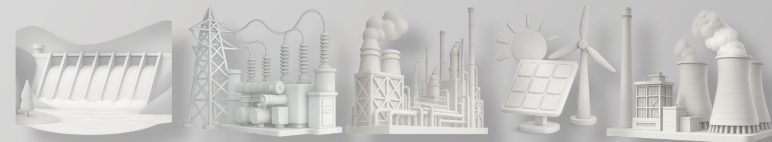
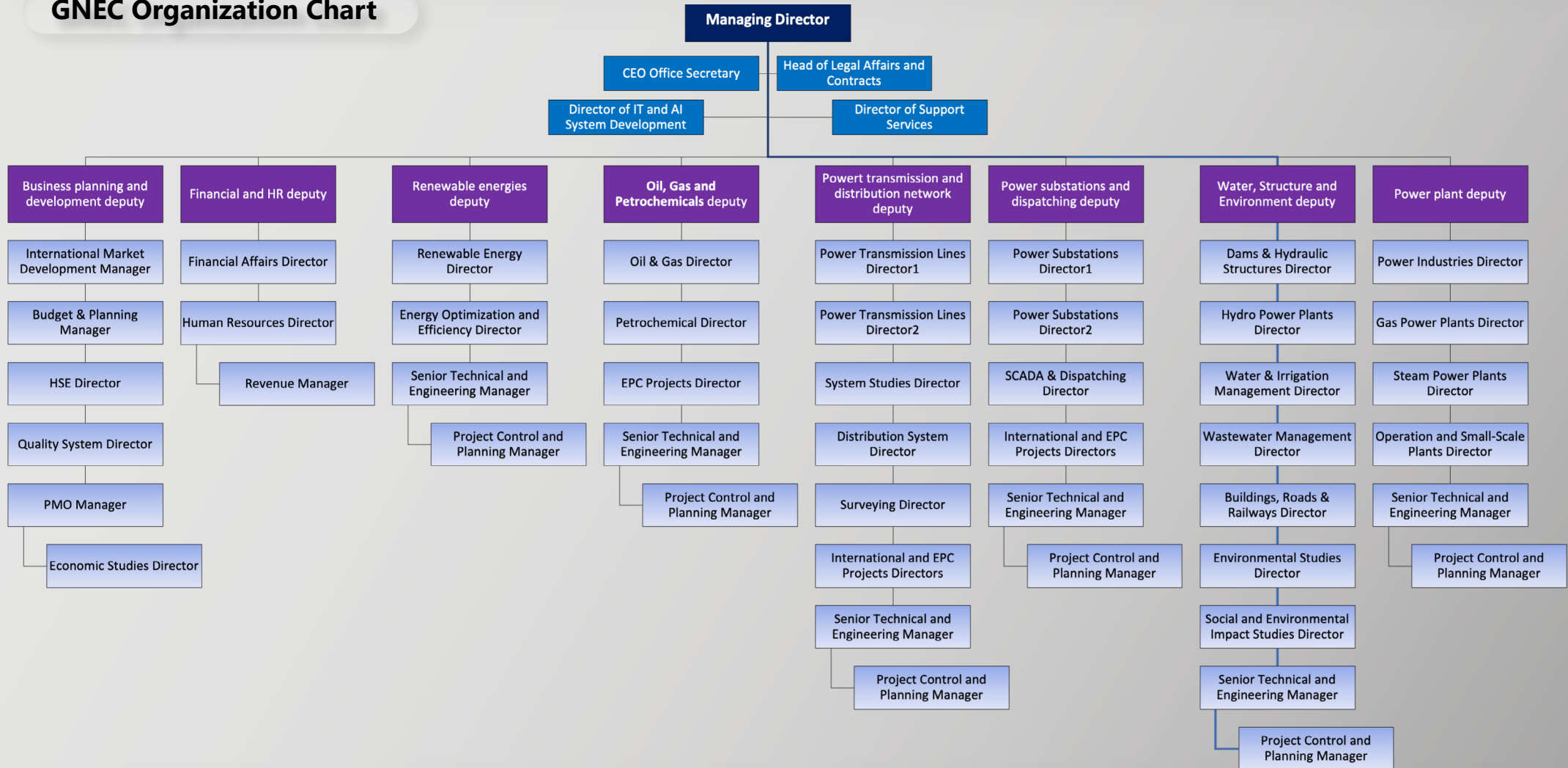
Kamran Naghibi
Support and Logistic Manager



Ravieh Khosravi
Public Relation Manager



GNEC Organization Chart

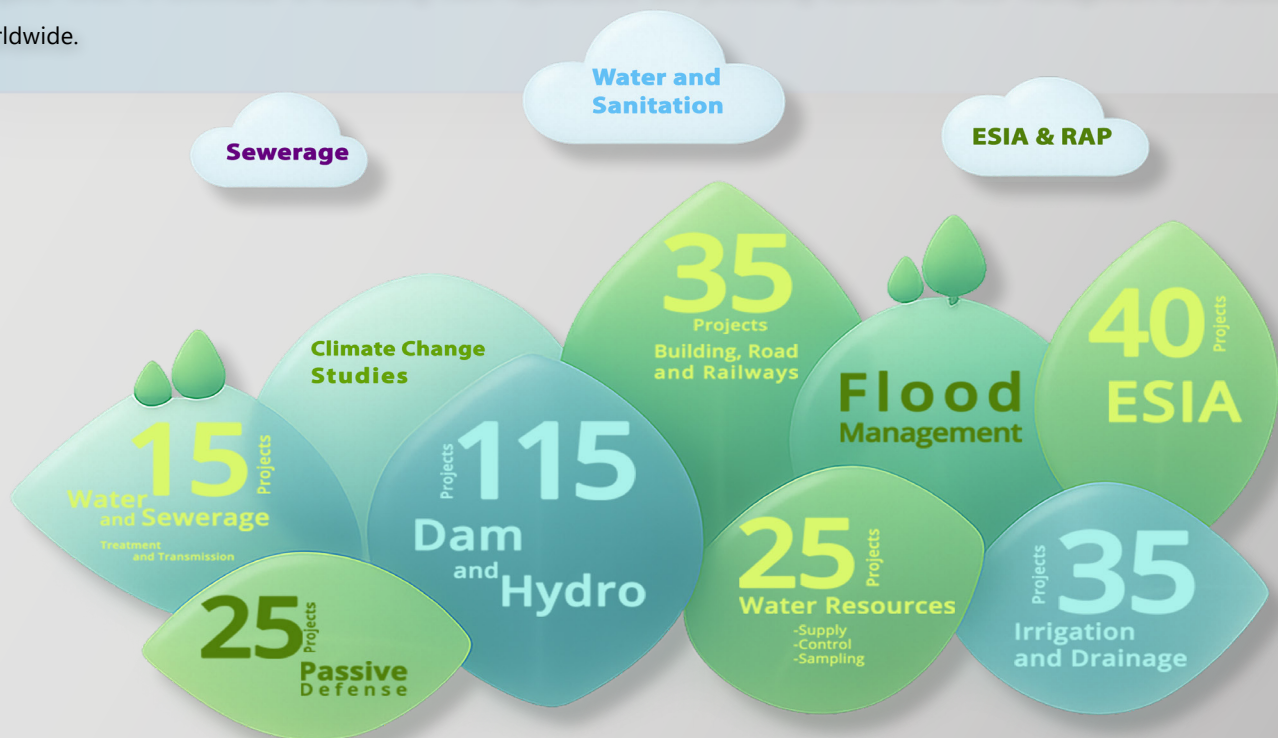


Water, Structure and Environment SBU

Overview

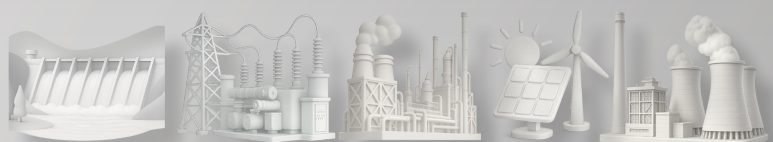
GNEC's Water, Structures & Environment SBU, established in 1993, delivers comprehensive engineering services including feasibility studies, detailed design, project supervision, and EPC contracts. With over 310 successful projects completed, the WSE SBU has positioned GNEC as one of the leading companies in the water industry in the Middle East.

Our expert team utilizes advanced technologies to provide quality, sustainable solutions across a broad range of water infrastructure projects. GNEC is committed to exceeding client expectations and promoting sustainable water management and development worldwide.



Field of Activities

- Dam and Hydropower plant
- Water supply and urban water transfer
- Pumping and transmission for rural water supply
- Water resources
- Integrated Water Resources and Watershed Management
- Irrigation and Drainage Networks
- Water and Wastewater (Sewage) Reuse
- Desalination
- River Engineering
- Building and Access Road & Tunnel construction
- Environmental, Social and Health Impact Assessment (ESHIA) & Resettlement Action Plan (RAP)
- Environmental Management Plan (EMP)
- Passive defense
- Dam Monitoring
- GIS (Geographic Information Systems)
- Training Workshop
- Geotechnical Supervision
- Financial and Economic Analysis



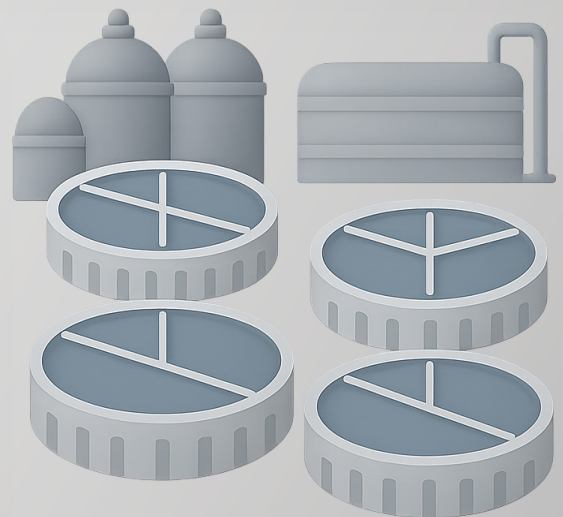
Services

- Consultancy and Engineering Services
- Pre-Feasibility (Reconnaissance) & Feasibility study and Detailed Engineering Design
- Review of Feasibility study and Detailed Design
- Construction Supervision
- Project Management
- Geotechnical Supervision
- Energy Management Strategic Studies
- Tender Document Preparation and Proposals Evaluation
- ESHIA and RAP Study
- Training Workshop on Dam monitoring
- Training Workshop on Environmental, Social and Health Impact Assessment (ESHIA)



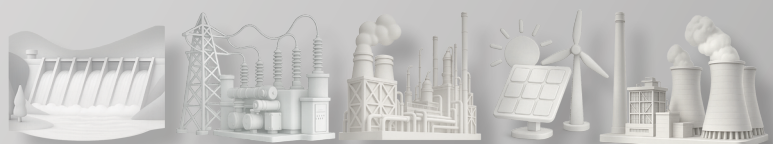
Some Projects in Water and Wastewater Field

1. Design review and Supervision on construction of Zob Ahan steel factory Wastewater Treatment plant in order to reuse of treated Wastewater in steel industry
2. Project Management and Engineering Services (Design and Supervision on construction) for Ghaen city Sewage Collection Network and Wastewater Treatment Plant in order to reuse of treated wastewater in steel industry
3. Project Management and Engineering Services (Design and Supervision on construction) for Sarbisheh city Sewage Collection Network and Wastewater Treatment Plant in order to reuse of treated wastewater in Agriculture
4. Design of Wastewater Treatment Plant for Ardabil Industrial Park 2
5. Design of Wastewater Treatment Plant for Nojehdeh Industrial Complex
6. Design of 4 wastewater treatment packages for buildings of Khorramshahr Port & Maritime Administration
7. Consultancy services for revamping of water supply network in Khorramshahr Port & Maritime Administration
8. Construction Supervision of Meshkin Shahr city Sewage Collection Network
9. Feasibility study and consultancy services for reuse of Tabriz city wastewater Treatment Plant effluent in agriculture
10. Design of Water treatment plant for Khosus Menndez City, Cuba



Some Projects in Environment and Social

1. Studies of phase 2 of Tajyar dam & social studies of Tajyar downstream lands
2. Studies of phase 1 & Social studies and supervision on water right of Koshksaray reservoir dam
3. Social studies and the exploitation system of popular participation for the phase 1 of Aghbolagh drainage & irrigation network
4. Energetic studies of the environment of the Islamic Republic of Iran (EER)
5. Studies of environmental impact assessment of Aji Chay salinity control structures
6. Studies of evaluation of environmental effects of Vanyar dam



Some Projects in Dam Construction Field

1. Consultancy services for Construction of Kidunda Dam project in Tanzania (including Dam, 20MW Hydropower, Transmission Line, Substation and Road)
2. The Studies of Aji Chai Basin Project
3. Vanyar Project: Dam Height from Foundation: 93 m / Irrigation network: 60,000 ha / Depth of significant influence (DoSI): 56 m / Length of Dam Crest: 278 m / Reservoir Capacity at N.W.L: 361 MCM
4. Khersan1 Project: Dam Height from Foundation: 194m / Length of Dam Crest: 401.5 m / Hydropower plant Installation capacity: 400MW / Pump Storage Power Plant capacity: 1000 MW / Objective: Hydropower Energy Generation/ Flood control
5. The studies of the first and second phases of dam and power plant in Rudbar, Lorestan (460 MW)
6. The studies of the first phase of the dam and power plant in Bazoft (360 MW)
7. The studies of the second and third phases of shirinab and sardasht dams in Khuzestan
8. The studies of the first phase of the dam and power plant and water transmission system in Shiveh
9. The studies of the first phase of the dam, Pumping and transmission in Aghbolagh



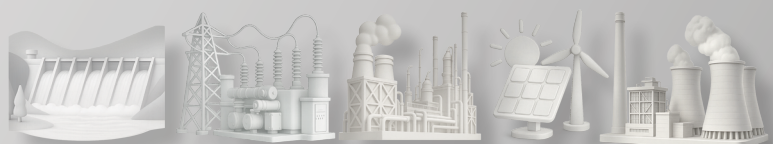
Some Projects in Buildings Field

1. The consultation services for several public and state building with an area of over 300,000 square meters demanded by the Ministry of Housing and Urbanism.
2. Supervising the executive operations of building industrial towns projects in Tehran, Mazandaran and Markazi provinces
3. MC services to 4 regions of Tehran municipality
4. Site supervision on construction of office building of Kohgiluyeh and Buyer Ahmad regional water corporation



Some Projects in Drainage and Irrigation Field

1. The studies of the first phase of irrigation and drainage networks of Tabriz plain
2. Engineering services of EPC project of irrigation and drainage sub-network (low pressure) and equipping and rehabilitation of first and second development regions of Minoo & Jofeir lands
3. Engineering services of EPC project of irrigation and drainage sub-network and equipping and rehabilitation of first and second development regions of Jofeir lands with Total canal Length: 216/259 km / Study Area: 40,000 ha
4. The studies of the first, second and third phases of irrigation networks of Tajyar
5. The studies of the first phase of irrigation and drainage of the downstream lands of the dams in Talog, Aghbolagh, cheshmehzaneh and Ajisu



Transmission Line and Distribution Networks SBU

Overview

In the revolutionary era of energy resources where renewable energies have found them back to the history of mankind, interconnection of generation plants and consumers through a reliable and environmentally friendly transmission system has become more vital.

Our main concern in GNEC is to provide our clients with the optimum design solutions coupled with a wide range of managerial, consulting and engineering services from feasibility step to implementation. To provide these services, we utilize our most skilled engineers, who have experience of presenting such services, in more than 27000 kilometers of high voltage power transmission lines, numerous distribution grid development and design projects and a complete range of feasibility and system studies.

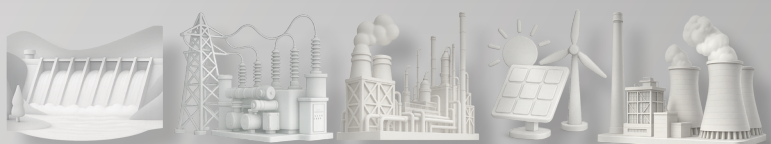
Field of Activities

- Overhead transmission lines from low voltage to extra high voltage
- Underground cable projects
- Optical ground wire projects
- Power System Studies and Analysis
- Industrial Distribution Systems
- Distribution Network Design and Optimization
- Smart Grid Systems
- Electrical traction systems
- Financial and Economic Feasibility Studies
- Surveying
- Geo Technical Studies



Services

- | | |
|---|--|
| <ul style="list-style-type: none">• Network Analysis and Studies and Defining the Best Techno Economical Scenario• Factory and Site Acceptance Tests of Equipment and works• Master Plan Studies for Power Networks• Distribution Networks Load Balance, Load Flow, Fault and Service Restoration Analysis• Electric Loss Reduction Studies of Distribution Networks• Electric Tariff Studies• Basic, Conceptual and Detailed Engineering Design of Transmission and Distribution Networks• Optimum Route Selection of Transmission and Distribution Lines• Topographic Route Survey of Transmission and Distribution Lines and Preparation of Plan and Profile | <p>Drawings</p> <ul style="list-style-type: none">• Detailed Structure and Foundation Design• Mechanical and Electrical Design and Tower Spotting• Preparation of Technical Specifications of Equipment• Preparation of Technical Provisions for Construction• Preparation of Commercial Tender Documents• Assisting Clients in Procurement Management and Tender Stage• Supervision of Factory Acceptance Tests of Equipment• Project Management and Construction & Commissioning Supervision• Environmental and Social Impact Assessment (ESIA) and Resettlement Action Plan (RAP)• Assisting Clients in Contract Administration and Closure• Management Contracting (MC) of EPC Projects |
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Power Substations SBU

Overview

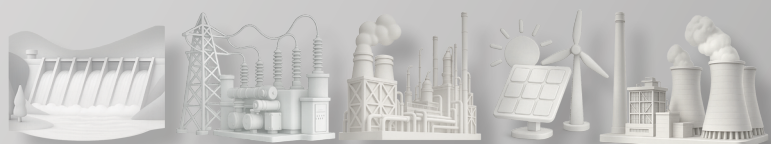
As a reliable partner for substation-related projects, we bring expertise in planning, rehabilitation, extension, operation, and control of electrical grids. With a track record of over 820 successful projects, our professional team excels in all aspects of electrical systems, from initial studies to full implementation. Our goal is to provide reliable energy solutions for Utilities and Industrial clients through innovative designs and environmentally friendly practices. Specializing in GIS, Hybrid, and AIS substations, we offer high-quality services in the latest substation technologies, utilizing both conventional and automatic control systems.

Field of Activities

- Substations from distribution voltage level to extra High Voltage level.
- Electrical installations, Grounding system, site lightning & lighting system.
- Telecommunications, Dispatching Centers and SCADA systems.
- Power System Studies and Analysis
- Renovation of control, Protection & communication system.
- Rehabilitation and extension of substations.
- Standard Preparation, codifying and rule defining for operation of substations.

Services

- Technical and Financial Feasibility Studies
- Value Engineering and Holding Workshop
- Management of the Contract Service
- Basic and Detailed Engineering Design
- Preparation of Equipment Technical specifications
- Design review and Endorsement
- Preparation of Bidding Document
- Bid evaluation services
- Field Engineering and Site Supervision
- Inspection and supervision on Factory Tests and QC
- Project Quality and HSE Risk assessment
- Providing Training courses and on-job training programs
- Project Control and Reporting
- HSE Implementation Services



Renewable Energies and Energy Optimization SBU

Overview

Established in 2005, the Renewable Energy and Energy Optimization Department was formed to position GNEC as a leading company in Iran's energy transition. Leveraging a highly qualified and multidisciplinary team, the department provides a full spectrum of technical, environmental, economic, and planning services to clients, communities, industries, and contractors across both public and private sectors.

With extensive experience and a commitment to excellence, we support our clients throughout the entire project lifecycle, from feasibility studies and conceptual design to implementation and operation, ensuring optimal solutions in renewable energy and energy efficiency.

Services

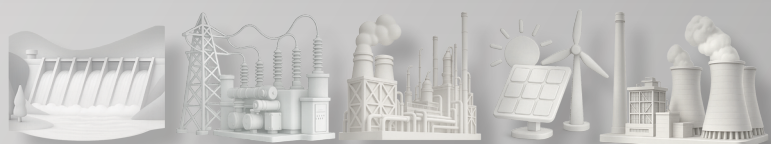
- Engineering Consultancy Services
- Supervision Services on Manufacturing, Installation And Commissioning
- Engineering, Procurement and Construction (EPC)
- Management of Contract (MC)
- Clean Development Mechanism (CDM)
- Geographic Information System (GIS)



Field of Activities

■ Solar

- *Solar Resource Assessment Services, Including On-Site Monitoring to Increase Accuracy*
- *Comprehensive Technical and Financial Feasibility Studies*
- *Modeling and Optimizing of Array Tilt Angles & PV System Performance*
- *System Engineering for Key PV Components (eg. Modules, Inverters, Wiring)*
- *Uncertainty Analysis to Support Bankable Energy Yield Predictions*
- *Consulting on PV Plant Performance Monitoring Systems, Project Management and Project Facilitation Services*
- *Array & Battery Bank Sizing Optimization for Off-Grid and Hybrid Systems*
- *Analysis of Hybrid Systems' Configurations, Including PV, Wind & Diesel*



Field of Activities

■ Wind

- *Wind Resource Assessment*
- *Feasibility Study*
- *Engineering design*
- *Environmental Assessment & Permitting*
- *Project Management*
- *Grid Connection Design*
- *Construction and Commissioning Supervision*

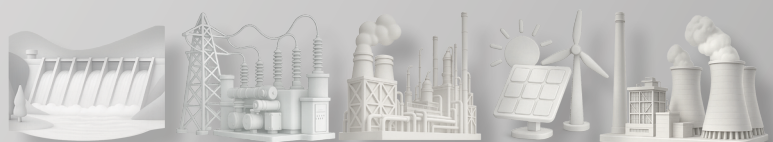


■ Geothermal

- *Geophysical surveying*
- *Geologic and geophysical investigations*
- *Design and execution of geothermal exploration and drilling programs*
- *Well testing*
- *Site geology, thermal and environmental characterization & plant sizing*
- *Preplanning and feasibility analysis*
- *Power plant installation*
- *District heating applications*
- *Hybrid ground heat exchanger design and engineering*
- *Construction testing and observation*

■ Hydrogen & Fuel Cell

- *Technology transferring supervision in the field of hydrogen energy and cryogenic*
- *Conceptual, basic & detail design, supervision on erection and commissioning of various hydrogen generator technologies*
- *Study of hydrogen liquefaction and storage plant*
- *Conceptual, basic and detail design, supervision on erection and commissioning of hydrogen filling system*
- *Study of fuel cells (specially PEMFC) and equipment for fuel cell laboratory*



Field of Activities

■ Energy Management

- Primary evaluation, monitoring and audit of energy production and consumption
- Planning and organizing of energy management projects
- Energy purchase planning with optimum prices
- Planning for energy efficiency in design, process, buildings, equipment and ensuring optimum performance
- Energy management trailing
- Establishing ISO 50001 standard



■ Biomass

- Feasibility study on biomass to energy
- Supervision on landfill, incineration and anaerobic digestion
- Conceptual and detail design of biomass to energy
- Preparation of EPC tender documents for waste to energy, biogas, landfill gas and gasification
- Waste management master plan study
- Construction and commissioning supervision
- Guaranty period supervision

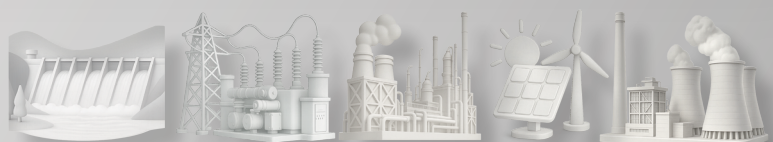
■ Expansion Turbine

- Study of technical, environmental and costs
- Simulation of produced power with related process and analyzing software
- Engineering (conceptual & detail design)
- Construction & commissioning supervision



■ CHP & CCHP

- Technical potential estimation
- Economic suitability study
- Identifying barriers
- Conceptual engineering
- Preliminary economic analysis
- Completing and investment-grade feasibility analysis
- Contractor selection
- Construction



Power Plants SBU

Overview

GNEC is recognized as a premier engineering consultancy in the power generation sector, commanding over 60% of Iran's market share. The company's expertise spans the design and implementation of steam turbine, gas turbine, and combined cycle power plants, with unit capacities ranging from 25 MW to 325 MW.

To date, more than 60,000 MW of GNEC-engineered power plants have been successfully connected to the national grid. In addition, over 6,000 MW of power generation capacity is currently under GNEC's construction supervision, while a further 5,000 MW is undergoing engineering and design.

Field of Activities

GNEC provides economical and technical studies, as well as design and construction supervision services for thermal power plants, including:

- Steam Power Plants of any type
- Gas Turbine Power Plants
- Combined Cycle Power Plants



Services

■ Project Planning & Feasibility Studies

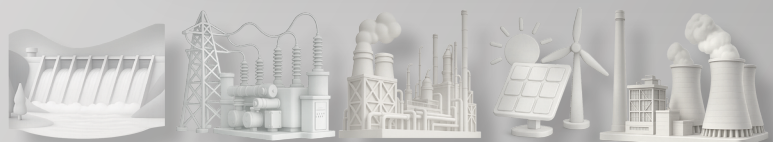
- Site survey and site selection
- Geophysical, geotechnical surveys, and site topography
- Environmental studies
- Feasibility studies (technical, financial, and economic)
- Proposing the appropriate type of power plant based on Client needs

■ Design & Engineering Services

- Conceptual and basic design development
- Preparation of general technical documents and specifications
- Preparation of tender documents and assistance during tendering process
- Detailed engineering and design review
- Design management and support under EPC contracts

■ Construction & Project Execution Support

- Construction supervision and project control
- Preparation of master time schedule
- Supervision of factory tests and site acceptance tests of equipment and systems



Oil, Gas and Petrochemicals SBU

Overview

Given the strategic importance of the oil and gas industry in Iran's energy sector, this field plays a critical role in shaping the country's industrial and economic structure.

GNEC's Oil, Gas and Petrochemicals Division, since its establishment in 2003, has significantly contributed to major national projects by leveraging the expertise of its dedicated team of managers, engineers, and technicians. The division has been actively involved in the engineering, management, and execution of large-scale projects—including national oil and gas transmission pipelines, petrochemical complexes, gas refineries, and oil storage facilities—under various contractual frameworks.

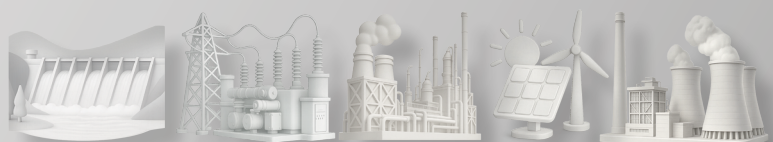
Field of Activity

- Gas & Oil transmission lines
- Oil Reservoirs
- Petrochemical Plants
- Gas & Oil pump stations



Services

- Engineering consultancy and site supervision
- Managing of contract (MC)
- Procurement of oil and gas materials and equipment
- Executing projects in EPC and PC contractual frame works
- Professional contractual and claim administration services
- Feasibility studies
- Operation and maintenance surveying & management
- Conceptual design & detailed engineering
- Health, safety and environment (HSE) management
- Surveying



IMS and HSEQ at GNEC

Background

GNEC has systematically developed its Integrated Management System (IMS) for over two decades, becoming the first engineering company in Iran who has received the Total Quality Management certificate from prestigious European organization for excellence i.e., European Foundation for Quality Management (EFQM) and building a culture of quality, environmental stewardship, and occupational health and safety across corporate and project operations. The system has matured through structured governance, documented procedures, and continuous improvement.

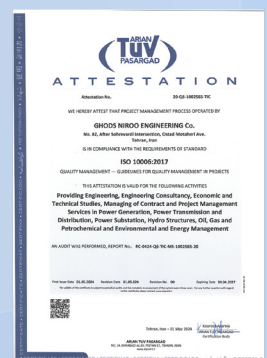
Governance and Organization

- Top management oversight and clear accountability for QHSE performance.
- A dedicated Quality/HSE leadership forum responsible for strategic decisions and policy setting.
- QCT Committee responsible for process monitoring, site/internal audits, and follow-up on corrective actions.
- Quality Unit: process maintenance, documentation control, internal audits, client satisfaction monitoring, non-conformity management, and training coordination.
- HSE Unit: hazard identification and risk assessment, procedure development, compliance monitoring at headquarters and sites, incident analysis, and improvement programs.

Certifications and Standards

The Following certificates has been awarded to GNEC for: Providing Design, Engineering and consultancy Services, Economic and technical studies, managing of contract and project management services in power generation, transmission and distribution Networks, High Voltage substations, hydro structures, Water and Sewage Systems, Oil, Gas and petrochemical and HSE (Health, Safety, and Environmental), Renewable Energies and energy management.

- ISO 9001:2015 Certification
- ISO 10006:2017 Certification
- ISO 10015:2019 Certification
- ISO 14001:2015 Certification
- ISO 45001:2018 Certification
- HSE-MS Certification



Documented System and Key Procedures

Our documented system comprises controlled procedures and manuals for routine company operations. It covers risk assessments, emergency response, internal audits, work permits, work at height, personal protective equipment (PPE), fire safety, and safety requirements for transmission lines and substations.



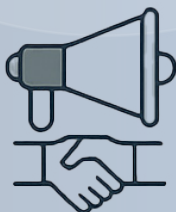
Risk Management and Operational Controls

- Risk-based approach across planning and execution; periodic review of hazards, risks, and opportunities.
- Permit-to-work system and task-specific method statements where required.
- Operational controls for working at height, electrical safety, lifting operations, confined spaces, hot work, fire safety, and PPE.
- Environmental controls for waste management, emissions, spill prevention, and resource efficiency



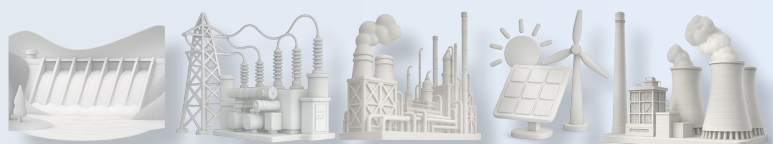
Training, Competence and Awareness

- Competency-based training matrix for technical and HSE roles.
- Induction training for all personnel and mandatory HSE refreshers.
- Targeted toolbox talks, drills, and scenario-based emergency exercises



ESHS Reporting and Performance

- Monthly ESHS reporting across projects (incidents, trainings, drills, fire-fighting equipment, PPE, non-conformities, permits).
- 24-hour notification for serious incidents (fatalities, severe injuries, major pollution, fires, or social unrest).
- Grievance Redress Mechanism (GRM) to log, respond to, and close complaints within defined timeframes.
- Confidential, centralized ESHS data management with controlled access.



Alignment with International Requirements

GNEC's QHSE/IMS is aligned with international lenders' requirements, including the World Banks Safeguard Policy described as:

- Environmental & Social Framework (ESF).
- Environmental & Social Standards (ESS1–ESS10), namely ESS1 (Risk/Impact Assessment), ESS2 (Labor), ESS3 (Resource Efficiency & Pollution), ESS4 (Community Health & Safety), ESS6 (Biodiversity), ESS8 (Cultural Heritage), ESS10 (Stakeholder Engagement).

And WBG/IFC EHS Guidelines described as:

- General EHS Guidelines — common environmental, OHS, and community H&S requirements passed on April 30, 2007.
- Electric Power Transmission & Distribution — siting, EMF, ROW, bird interactions, SF6, etc. passed on April 30, 2007.
- Thermal Power Plants — air emissions, water/ash management, noise, cooling systems, passed on December 19, 2008.
- Geothermal Power Generation — drilling, wellfield, H₂S, induced seismicity, passed on April 30, 2007.
- Wind Energy — noise, shadow flicker, birds/bats, blade throw, passed on 2015.
- Water & Sanitation — water treatment, distribution, sewerage, sludge, passed on December 10, 2007.
- Wastewater & Ambient Water Quality (General EHS annex) — effluent limits, monitoring, receiving-water protection, passed on April 30, 2007.
- Good Practice Note: EHS Approaches for Hydropower Projects — IFC technical note used alongside EHS Guidelines and ESF/ESS in practice, passed on March 11, 2018.

Key Performance Indicators (KPIs) and Continuous Improvement

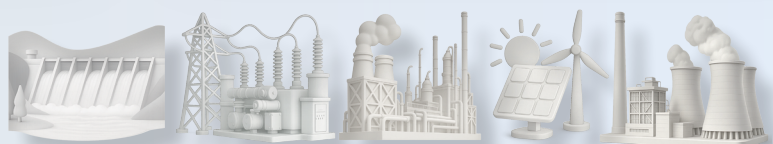
- Non-conformity rate (NCR) and corrective action closure lead time.
- Rework rate and client satisfaction index.
- Safety performance (incident frequency/severity; Lost Time Injuries).
- Environmental performance (waste management, environmental complaints, resource/energy consumption).
- Training hours per employee for technical and HSE topics.
- Internal audits, management reviews, and Corrective and Preventive Action (CAPA) for sustained improvement.

Emergency Preparedness and Incident Response

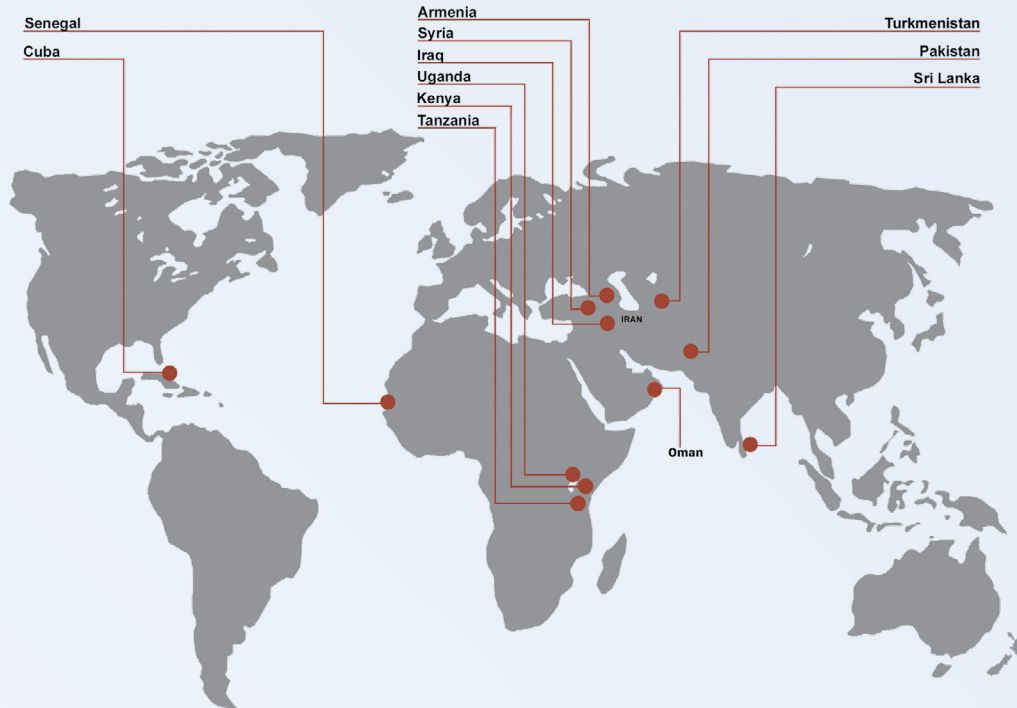
- Site-specific emergency response plans with defined roles and communication protocols.
- Regular emergency drills and post-drill lessons learned.
- Immediate incident control, investigation using root cause analysis, and implementation of corrective and preventive actions.

Commitment Statement

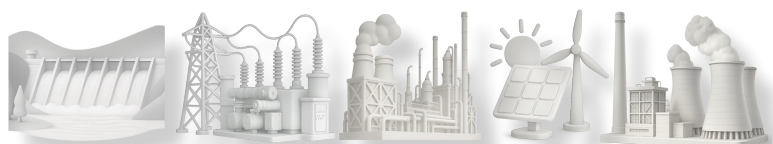
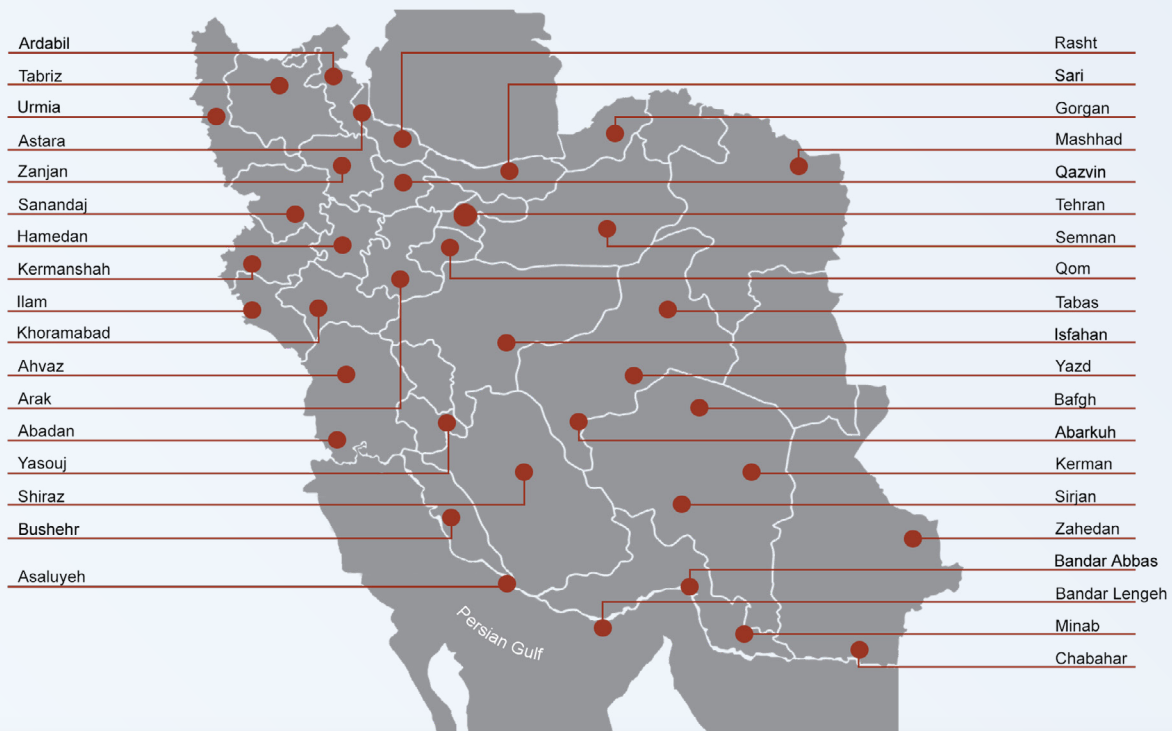
GNEC is committed to maintaining a robust, compliant, and continually improving QHSE/IMS across all operations and projects. We ensure competent personnel, effective operational controls, transparent reporting, and proactive engagement with stakeholders to deliver safe, environmentally responsible, and high-quality outcomes.



Distribution of GNEC Projects in the World



Distribution of GNEC Projects in the Country



GNEC



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