



Louis Berger



Alternative Energy Solar & Wind

Solutions for a better world



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LOUIS BERGER CAPABILITIES IN POWER & ENERGY

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LOUIS BERGER CAPABILITIES IN POWER & ENERGY

Energy touches nearly every facet of our lives. It is a vital force powering our homes, businesses, industrial facilities and vehicles, as well as a fundamental factor in achieving and sustaining a high quality of life.

From renewable energy development to temporary power solutions, Louis Berger provides a wide range of services to plan, engineer and deliver power infrastructure to meet the world's growing need for cleaner, more cost-effective and more reliable electricity and energy.

Our experts support energy development and power generation, transmission and distribution projects globally for utilities, national and regional governments, and private industry clients. Working with our clients on both technological innovations and practical applications, we provide electricity where there is little, reduce environmental and social impacts, and improve energy efficiency and grid reliability.

Our comprehensive services span the full project lifecycle – all while adhering to international and local standards for quality, health, safety and the environment.

Specialized expertise:

- power generation
- transmission and distribution
- turnkey power solutions
- renewables (solar, wind, geothermal)
- hydropower
- waste-to-energy/biomass
- conventional power
- low carbon/energy efficiency
- fuels/fuel service
- oil and gas



SOLAR ENERGY PV/ THERMOSOLAR

Louis Berger has supported more than 30 major projects worldwide reaching more than 100MW and multiple utility-scale projects in the United States reaching more than 1.5GW. Our solar projects serve for power generation and to produce domestic hot water (DHW).

Our solar projects for electricity production include both fixed installations on land, as well as on the cover of buildings. We have also designed projects with solar trackers, including a patented two-axis design that results in significant increases in power production compared to fixed structures. Louis Berger has provided consulting services to integrate solar and photovoltaic technologies into administrative and industrial facilities.

As part of our solar energy research efforts, we have designed and implemented solar solutions for several agro-energy facilities. These projects have been carried out in Andalusia, Spain and consist of a photovoltaic plant located on the roof of an agricultural facility, combining electricity generation with sustainable cultivation.



SOLAR ENERGY PV/ THERMOSOLAR



GREENHOUSE FACILITY
PROTOTYPE IN
DOHA, QATAR



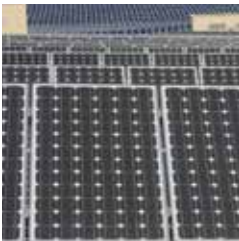
PHOTOVOLTAIC POWER
STATIONS EL CORONIL
(I AND II) SOLAR FARM.
ANDALUSIA, SPAIN



PHOTOVOLTAIC POWER
STATIONS EL CORONIL
(IV AND V) SOLAR
GREENHOUSE.
ANDALUSIA, SPAIN



PHOTOVOLTAIC POWER
STATIONS FUENTE ALAMO
(I, II AND III) SOLAR FARM IN
MURCIA, SPAIN



PHOTOVOLTAIC POWER
STATIONS ABANILLA (I AND
II) SOLAR FARM IN
MURCIA, SPAIN



BUILDING-INTEGRATED PV IN
THE ENGINEERING SCHOOL
OF THE UNIVERSITY OF
CANTABRIA, SPAIN



PHOTOVOLTAIC POWER
STATIONS CALASPARRA
(I, II AND III) SOLAR FARM.
MURCIA, SPAIN



PHOTOVOLTAIC POWER
STATIONS ATARFE,
COLOMERA AND MOCLIN
SOLAR GREENHOUSE.
GRANADA, SPAIN



BUILDING-INTEGRATED PV
IN SEVERAL DESALINATION
FACILITIES IN THE
MEDITERRANEAN COAST,
SPAIN



PHOTOVOLTAIC POWER
STATIONS CASTILBLANCO DE
LOS ARROYOS (I AND II) SOLAR
GREENHOUSE.
ANDALUSIA, SPAIN



DESIGN OF A DUAL-AXIS
PHOTOVOLTAIC TRACKER.
CANTABRIA, SPAIN



PHOTOVOLTAIC POWER
STATIONS IN 6 SOLAR
GREENHOUSE. TOTANA.
MURCIA, SPAIN



OPTIMIZATION OF SUPPORT
STRUCTURES FOR SOLAR
TRACKERS.
CANTABRIA, SPAIN

WIND ENERGY

In wind energy, Louis Berger has supported more than 20 major projects worldwide reaching 1,300 MW. Our solid technical team consists of PhD and MSc Engineers and experts in engineering highly innovative solutions for wind energy production.

Louis Berger can support potential wind energy projects from initial feasibility through ongoing operations and maintenance. Our capabilities include:

- **Feasibility Study:** Site selection and analysis of the available wind potential, first through models and mesoscale meteorological models and finally by running measurement campaigns and calculations of the wind resource.
- **Environmental and Social Impact Assessment (ESIA):** Developing ESIA's under different local regulations. From baseline environmental conditions to impacts analysis and design of preventive and mitigation measures to environmental management and monitoring programs. Our capabilities include the assessment of cultural and social impacts and facilitating community participation.
- **Bankability Reports:** Completing reports for lenders and financiers to demonstrate that the project has sufficient collateral, future cashflow, and a high probability of success.
- **Engineering:** Defining the positions of each turbine (micrositing) and designing all access roads, civil works for all facilities, foundations, pipelines that house electrical conductors, electrical network, and auxiliary buildings.
- **Construction Management:** Comprehensive support to the owner, including technical review of the Engineering, Procurement and Construction (EPC) detailed design, negotiation with EPC contractor, oversight of civil and electrical work, quality control of materials and equipment, technical assistance in negotiations with lenders or financial institutions and any another support required by the owner.
- **Permitting:** Management and administrative processing of all permits and authorizations connected to each of the phases of the project, including the environmental permits under any scheme or regulation.
- **Operations and Maintenance (O&M):** Including oversight of commissioning by the EPC contractor, review of O&M procedures, and even ongoing O&M services.





EL VENTARRÓN WIND FARM.
SAN JUAN DEL SUR,
NICARAGUA



VESTAS EXPERIMENTAL
WIND FARM.
CANTABRIA, SPAIN



JOSE CONTRERAS WIND
FARM.
MOCA, DOMINICAN
REPUBLIC



SKOCZYŁODY-SCIEKI
WIND FARM IN RAWA
MAZOWIECKA, POLAND



WIND POWER STATION IN
PUEBLA, MEXICO



DEVELOPMENT OF SEVERAL
WIND FARMS IN
CANTABRIA, SPAIN



WIND POWER STATION
VALLE DE LOS VIENTOS
FOUNDATION DESIGN.
ANTOFAGASTA, CHILE



KIRSEHIR WIND FARM IN
KIRSEHIR, TURKEY



WIND POWER
STATION IN
CHIAPAS, MEXICO



MONTE REDONDO
WIND FARM.
LIMARÍ, CHILE



HNATKOWICE-
ORZECHOWCE WIND FARM
IN
PRZEMYSL, POLAND



ISTMEÑO WIND FARM IN
OAXACA, MEXICO



KISIELICE AND POSTOLIN
WIND FARMS IN
SZTUM, POLAND



WIND TURBINE
FOUNDATIONS DU
GÂTINAIS WIND FARM.
MONDREVILLE, FRANCE

SUBSTATIONS & GRID INFRASTRUCTURE

In support of alternative energy projects, Louis Berger is specialized in the design of network infrastructure and facilities, substations, high voltage towers and power lines for distribution infrastructure.

- Substations of up to 132 kV. Turnkey Projects of different types and voltage levels. Development engineering, earthworks, civil and electro-mechanic works, control and protection, communications, commissioning.
- High Voltage interconnection lines (up to 132 kV).
- Medium Voltage overhead lines (15-33 kV).
- Medium Voltage underground lines (15-33 kV).
- Transformers.
- Low Voltage networks of every kind.
- Preventive and corrective maintenance.
- Network Operation Tasks.
- Ongoing operations and maintenance



SUBSTATIONS & GRID INFRASTRUCTURE



DOUBLE CIRCUIT LINE UNDERGROUND GRID CONNECTION COR I-II (15 KV)
ANDALUSIA, SPAIN



HIGH VOLTAGE DOUBLE CIRCUIT LINE CALASPARRA-ALMADENES (132 KV).
MURCIA, SPAIN



ELECTRICAL SUBSTATION CR-1.
MURCIA, SPAIN



NEW SUBSTATION (66/15 KV)
ANDALUSIA, SPAIN



DOUBLE CIRCUIT LINE UNDERGROUND CONNECTION CR-2 TO CS-1 (20 KV)
MURCIA, SPAIN



NEW SUBSTATION LAS AGUILAS-GUADELESTÍN (132/20/6,3 KV)
MURCIA, SPAIN



ELECTRICAL SUBSTATION CS-1
MURCIA, SPAIN



HIGH VOLTAGE LINES OF THE ROADWAY AND RAILWAY ACCESS TO THE PORT OF BARCELONA DESIGN.
CATALONIA, SPAIN



ELECTRICAL SUBSTATION TOT-2.
MURCIA, SPAIN



HIGH VOLTAGE LINES OF THE C-144 ROAD DESIGN. SECTION. LA CERRADA- BOO
CANTABRIA, SPAIN



HIGH VOLTAGE LINES OF THE A-8 HIGHWAY.
CANTABRIA, SPAIN



HIGH VOLTAGE LINES OF THE ANTEQUERA-GRANADA HSR.
ANDALUSIA, SPAIN



NEW SUBSTATION MAYORDOMOS (132/20 KV).
MURCIA, SPAIN



SIMPLE CIRCUIT LINE UNDERGROUND GRID CONNECTION CAST-I (15 KV).
ANDALUSIA, SPAIN

