GENERAL REFERENCES

Ecointegral Ingeniería

Renewables and Efficiency Division References

PHOTOVOLTAICS

- 324 photovoltaic installation projects, in different phases of their promotion and/or execution, with a total of 7 GW distributed throughout Spain.
- 79 projects for self-consumption and grid-tied installations, nationwide.
- 312 feasibility reports on photovoltaic installations, studying the corresponding sectoral impacts (environmental, urban planning, electrical, etc.) and sourcing private land for their installation.
- 255 environmental permits, including the preparation of the necessary documentation: Environmental Impact Studies, Acoustic Reports, Archaeological Reports, Hydrological Reports, etc., for the competent public bodies in matters related to the Environment.
- 63 technical assistance and/or management of works operations in executing photovoltaic installations.
- 210 integral management and administration projects for grid-tied installations (applications for access/connection points for distributors and/or transporters, administrative permits for the competent public body in matters related to Energy, application for Public Utility and expropriations of private permits, municipal construction licenses, etc.)

WIND

- 351 wind farm projects, with a total of 10 GW distributed internationally.
- 16 projects for the upgrade of wind farms, with their corresponding administration and supervision of works.
- 569 feasibility reports for the installation of wind farms, studying the corresponding sectoral impactimpacts (environmental, urban, electrical, etc.) and sourcing land for their installation.
- 4 feasibility reports for OFFSHORE wind projects.
- 70 measurement campaigns, including the entire process: site selection, permit management and installation. Use of specialised software for their study and analysis.
- 42 wind resource studies, based on measurements of our own resources and those of customers, using software certified by financial institutions. Resource studies with meso and microscale models are included.

- 294 environmental permits, including the preparation of the necessary documentation: Environmental Impact Studies, Acoustic Reports, Archaeological Reports, Hydrological Reports, etc., for the competent public bodies in matters related to the Environment.
- 16 technical assistance and/or management of works operations in executing Wind Farms.
- 277 integral management and administration projects for grid-tied installations (applications for access/connection points for distributors and/or transporters, administrative permits for the competent public body competent in matters related to Energy, application for Public Utility and expropriations of private permits, municipal construction licenses, etc.)

BESS

- 5 Battery installation projects, in different phases of their promotion and/or execution, throughout Spain.
- 10 feasibility reports, studying the corresponding sectoral impacts (environmental, urban planning, electrical, etc.) and sourcing private land for installation.
- 5 environmental permits, including the preparation of the necessary documentation: Environmental Impact Studies, Acoustic Reports, Archaeological Reports, Hydrological Reports, etc., before the competent public bodies in the environment.
- 2 technical assistance and/or management of works operations in executing installations.
- 19 integral management and administration projects for grid-tied installations (applications for access/connection points for distributors and/or carriers, administrative permits for the competent public body in matters related to Energy, municipal construction licenses, etc.)

RECHARGE POINTS

- 38 projects for the installation of electric vehicle charging points, in different phases of their promotion and/or implementation, distributed throughout Spain.
- 42 feasibility reports, studying the corresponding sectoral impacts (environmental, urban, electrical, etc.
- 33 technical assistance and/or construction management operations for the execution.

- 40 integral management and administration projects for grid-tied installations (applications for access/connection points for distributors and/or carriers, administrative permits for the competent public body in matters related to Energy, municipal construction licenses, etc.)

OTHER RENEWABLE ENERGY PROJECTS

- 3 basic and execution projects of hydraulic power plants, with full processing of public and/or private permits (applications for access/connection points for distributors and/or transporters, administrative permits for the competent public body in matters related to Energy, application for Public Utility and expropriations of private permits, municipal construction licenses, etc.).
- 15 feasibility reports for biomass plants, including the economic study with return on investment.

ELECTRICAL ENGINEERING – RENEWABLE ENERGY

- 392 projects for substations and evacuation lines for the evacuation of renewable energy plants, handling voltages up to 400 KV.
- Elaboration of 4,351 km of overhead and/or underground lines for the evacuation of a renewable energy plant.
- 235 environmental permits for evacuation facilities, including the preparation of the necessary documentation: Environmental Impact Studies, Acoustic Reports, Archaeological Reports, etc., before the competent public bodies in matters related to the Environment.
- 228 integral procedures of evacuation facilities for public bodies (Administrative Permits, Approval of Execution Projects, Commissioning, municipal construction licenses, etc.) and/or private bodies (mutual agreements, public utility, expropriations, etc.).

ENERGY EFFICIENCY

- 67 energy audits of residential and/or industrial facilities, in compliance with current legislation RD 235/2013.

Transmission and Electrical Distribution Division

ELECTRIC TRANSMISSION

Lines

- 30 preliminary drafts for 220 KV or 400 VK overhead and/or underground transmission lines.
- 21 overhead line execution projects, using specialised software for the optimisation of this type of installation.
- 30 procedures for the administration and legalisation of high voltage overhead and/or underground lines.

Substations

- 1,100 MVA of power in preliminary projects of transformer substations.
- 1,025 MVA power for projects in the execution of transformer substations, including the control and automation part.
- 94 projects for renovation, expansion, reform and improvement of substations, together with execution supervisions.
- Preparation of 38 As-Built drawings related to electromechanics, protections, control and civil works.
- Preparation of 20 construction plans for the renovation and/or expansion of substation protection systems.

ELECTRICAL DISTRIBUTION

- 60,000 technical studies of new supplies and service variants.
- 3,500 low/high voltage power line projects.
- 2,300 transformation centre projects
- 6,500 procedures and legalisations of low/high voltage overhead and underground lines and transformation centres, pursuant to current electricity laws.
- 700 procedures for obtaining permits by mutual agreement.
- 2,500 supervisions of third-party facilities and drafting of assignment agreements for submission to the relevant energy bodies.

Regulatory inspections of 7,520 km of High Voltage Overhead Lines and 8,400 Transformer Centres, pursuant to current legislation.

- 2,500 health and safety coordination operations.
- 1,100 works commissioned and coordinated as site managers.
- 10 studies, projects, legalisations and commissioning of storage batteries.

Telecommunications Division References

REMOTE SITES AND INFRASTRUCTURE

- 20,300 technical visits to Remote Mobile Phone Sites nationwide.
- 15,200 projects and project managements of Remote Mobile Phone Sites for the main operators (Vodafone, Telefónica, Orange, Cellnex, etc.).
- 10,050 reports on Radio Emissions, in compliance with current legislation.
- 3,500 permit management and legalisations for the installation of Remote Sites (Municipal Works Licenses, sectoral permits, etc.).

OPTICAL FIBRE

- 6,900 Optical Fibre Technical Reports (FTTH, FTTN, etc.).
- 5,500 technical visits to Optical Fibre Networks (FTTH, FTTN, etc.).
- 2,600 optical fibre networks with their projects and project managements.
- 2,300 procedures and legalisations of permits for the execution of optical fibres (Municipal Works Licences, sectoral authorisations, etc.).
- 500,000 real estate units redesigned and designed for major FTTH deployments nationwide.

RADIO AND TRANSMISSION DESIGN

- 2,300 radio and transmission designs for new and existing remote sites, distributed throughout Spain.

Electrical Engineering Division References

ELECTRICAL SUBSTATIONS

- Framework contract for engineering services in electrical infrastructure projects consisting of Substations in the territorial scope of Castilla la Mancha, Madrid and Castilla León.
- Engineering framework contract for electrical substation projects corresponding to the investment and maintenance plan of the electrical infrastructure in Spain.
- Detailed engineering project for the Cerrato 400 kV Substation. Construction engineering project for civil, electromechanical and protection and control works for a 400 kV extension of the new EvRE position.
- Detailed engineering project for the Perafort 220 kV Substation.
- Construction engineering project of civil, electromechanical and protection and control works for a 220 kV extension of the new EvRE position.
- Detailed engineering project for the 400 kV Montesa Substation.
- Constructive protection and control engineering project for a new EvRE position extension. Preparation of As-Built drawings for civil and electromechanical works.
- Basic and executive project administration, and detailed engineering project of the Almudévar Reservoir Dam Substation 132/6.6 kV (Huesca), for the connection of the reversible hydraulic power plant at the Almudévar Reservoir Dam in the production and storage of energy in the municipality of Almudévar (Huesca), through two 25 MVA 132/6.6 kV transformers.
- Constructed surface area 11,574 m2.
- Transmission capacity of 50 MVA and rated voltage: 132 kV.
- Basic project, Technical Administrative Project, Construction Project and Protection and Control Project for the San Martin II 45/15 kV Substation.
- MV park shielding. The project consists of shielding the existing 15 kV outdoor wind farm by constructing a new 15 kV cell building with SF6 gas.

- Earthworks, pipelines, manholes, foundations.
- Construction of a new road to connect the old road to the new building.
- Connections between cells and the two existing transformers; connections between cells and the existing 45 kV building.
- Basic project, Technical Administrative Project, Construction Project and Protection and Control Project for the El Olivar 132/45 kV Substation.
- Execution of a 45 kV indoor wind farm.
- 45 kV cells with SF6 gas.
- 132 kV outdoor wind farm composed of two line positions and one transformer position.
- Execution of the 132/45 kV 30 MVA transformer and all the respective 132 kV switchgear.
- Basic project, Technical Administrative Project, Construction Project and Project for Protection and Control of the Pantoja 45/15 kV Substation
- MV park shielding. The project consists of shielding the existing 15 kV outdoor wind farm by constructing a new 15 kV cell building with SF6 gas.
- Earthworks, pipelines, manholes, foundations.
- Construction of new road to connect the old road to new building.
- Replacement of T-I transformer with a new 45/15 kV 25 MVA transformer.
- Basic and executive project administration, and detailed engineering project of the Torreluenga 30/220 kV Substation (Seville), for the opening input - output of a 220 kV double circuit line and connection of 4 photovoltaic plants of a combined rated power of 170 MW, through four independent 30/220 kV transformers of 55 MVA each.
- Constructed surface area 10,300 m2.
- Transmission capacity 220 MVA.
- Rated voltage: 220 kV.
- Feasibility study and executive administration project for the modification of the Los Llanos Substation by installing a new 40 MVA transformer and transformer position using HIS technology. Includes modification of medium voltage cell and restoration of access roads.
- Constructed surface area 5,800 m2.
- 40 MVA Transmission Capacity Expansion.
- Rated voltage: 66 kV.

- Basic and executive administration project, detailed engineering project and construction management of the new 220 kV substation with double GIS bar and two new 120 MVA positions at the SEAT megafactory in Martorell, including:
- 2 underground HV lines.
- 1 new transformer park with 2 new 245 kV IA positions and 2 new 120 MVA power transformers with double secondary 220 kV/20- 20 kV.
- 20 kV connections to the 4 power plants that SEAT has inside the megafactory.

POWER LINES

- Briesa - Astillero 220 kV Overhead High Voltage Power Line, Technical Administrative Project for the development of 50 kilometres of 220 KV overhead line in the community of Cantabria.
- Josmanil – Torreluenga 220 kV Overhead High Voltage Power Line, with a length of 42,302 km, and single circuit Lattice type supports. Triplet arrangement, to interconnect the Josmanil 220/66/30 kV PE collector Electrical Substation with the Torreluenga 220/30 kV Electrical Substation.
    - Technical-Administrative Project.
    - Detailed Engineering.
- Torreluenga – Dos Hermanas 220 kV Overhead High Voltage Power Line, consisting of two overhead sections and two underground sections for connection to the Dos Hermanas 220 kV Electrical Substation.
    - Technical-Administrative Project.
    - Detailed Engineering.
- Haro-Casafuerte 220 kV Underground High Voltage Line, Detailed Engineering and Project Management for Underground Transmission Line.
    - Detailed Engineering.
    - Project management .

- Interconnection between the Perejil and Esparragal Substations, by means of a 132 kV double circuit, with a partially underground and aerial route through a double LA-380 conductor. This project is complemented by the Marqués – Morisca – Esparragal 132 kV High Voltage Overhead Line and the Esparragal - Jordana 400 kV High Voltage Overhead Line projects.
    - Layout design and impacts.
    - Executive project.
    - List of Assets and rights affected.
- Garraf and Eliana Wind Clusters 30 kV Medium Voltage Line, which has a length of 26 km in underground sections.
    - Preliminary projects.
    - Technical-Administrative Projects.
- Administrative Technical Project, detailed engineering, and support in process of Los Zancones – Villafranca de los Barros Electrical Substation Medium Voltage FV Line of 15 kV, consisting of two aerial sections and three underground sections.
    - 6.00 MW rated power.
    - 2,852.31 m in length.
- Layout design and impacts, Technical Administrative Project and reform of Medium Voltage Line between Sábada – Uncastillo – Luesia. The plan is to replace 194 supports, thus improving the service provided to customers and reducing the impact on local environment. This affects the Red Natura 2000 spaces and area protected by the Bearded Vulture Recovery Plan, classified as Endangered.
    - 30 km of line.
    - 68 crossovers and/or parallels.
- Layout design and impacts, Technical Administrative Project and administrative support for the project to change the voltage of the SALVATIERRA, ENAQUESA, GARDE and RONCAL lines.
    - Reform of 4 complete MV lines, from 10 kV to 15 kV.
    - More than 94 km of lines.
    - 39 TCs and 44 supports to be adapted.

- Project for the reconstruction of the infrastructure of the Medium Voltage ring closure between the South and North lines of the Island of La Palma, as well as the Medium Voltage network for the evacuation of the new thermal power plant located in the Hermosillas area and the mobile power plant in Las Manchas; both affected by the eruption of the 2021 volcano.

    - Preliminary Technical Study.

    - Executive project.

    - Processing of permits.

    - Site Management.

- Project carried out for a leading group in the Electrical Mobility sector. Supply of 3,300 kW in the Province of Teruel. To furnish the supply, the plan is to reform and modify a 20 kV Medium Voltage Overhead Line.

    - Uninstallation of 30 supports (5 metal towers and 25 HAV) and 3,148.68 meters of medium voltage overhead line.

    - New installation of 28 new lattice supports and 3,137.36 meters of medium voltage overhead line.

Hydrogen Division References

- Biostation for green fuels generated at the Riu Sec wastewater treatment plant in Sabadell (Barcelona).
- Basic and executive Building Information Modelling project.
- Hydrogen production capacity: 48 kg/d.
- Legal report on the administration of hydrogen projects in Andalusia for DNV.
- Environmental permits, municipal and urban planning permits, electricity and water supply requirements, industrial safety.
- Identification of competent authorities, deadlines, costs and barriers.
- Executive report on the administration of a green hydrogen plant for the company European Energy.
- Green hydrogen plant, capture of CO2 of biogenic origin and e-methanol.
- Green hydrogen production plant at the Arroyo Culebro Cuenca Media Alta wastewater treatment plant (Madrid).
- Technical assistance with tender preparation.
- Hydrogen production capacity: 100 kg/d.
- Hydrogen refuelling station for light and heavy vehicles (Córdoba).
- Study of renewable energy resources and technical-economic feasibility.
- Hydrogen production capacity: 75 kg/d.
- Green hydrogen production plant in heat-intensive industry (Ciudad Real).
- Technical-economic feasibility study.
- Hydrogen production capacity: 150 kg/d.
- Green hydrogen production plant for injection into the natural gas network (Córdoba).
- Technical-economic feasibility study and permit management.

- Hydrogen production capacity: 150 kg/d.
- Reduction of the carbon footprint at 500 kW data centres (Barcelona).
- Pre-feasibility study for replacement of the backup diesel group with fuel cell.
- Potentially avoidable emissions: 380 t CO2/y.