



energy

ENGECORPS



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ENGEORPS is a consulting engineering company ready to respond to all the challenges of the country's growth and the globalization of the economy. Interested in maintaining itself well placed in a globalized scenario, ENGEORPS joins operational and technical excellences, world class and competitive costs.

Founded in March 1990, its multidisciplinary staff, with over 160 professionals, have been working together for over four decades, both in the domestic and in the international markets. During this period, knowledge and experience have been gathered in projects of different complexities, in the various sectors of consulting engineering in which it operates, always standing out for quality and innovative solutions, which confirms its position as one of the leaders in quality and excellence within the Brazilian market. Similar policy is practiced by the TYPASA Group and that justifies its inclusion in that group in August 2009.

ENGEORPS holds back five offices in Brazil: Central Office: Alphaville/ Barueri - SP; Belo Horizonte (MG), Brasilia (DF), Rio de Janeiro (RJ) and Sao Paulo (SP) and an overseas office in the Dominican Republic.

main activities

- Water Resources & Environment
- Water Infrastructure
- Environmental Sanitation
- Energy: Inventory and feasibility studies; preliminary, final & *as built* designs; project management and construction supervision of hydroelectric power plants (HPP), small hydroelectric plants (SHP), thermoelectric power plants and wind farms; production systems, transmission lines and converter stations, substations; protective equipment and service lines; auxiliary generator systems; mechanical and hydro-mechanical equipment; control system and programmable logic controller (PLC).
- Transportation
- Mining
- Management & Supervision

energy

The Energy sector represents an important development component of the country, of which energy matrix is strongly based on renewable sources, mainly on biomass and hydroelectricity. During the last years, the sector has been investing on the remaining water potentials and also on new sources of renewable energy, principally wind power. In this context, ENGEORPS has been actively acting in the HPP and SHP sectors and increasing its participation in the wind power and thermoelectric sectors, this being the only one that does not employ a renewable source.

Within all the engineering segments in which ENGEORPS operates, this is certainly the most important one. It has been developing studies and projects related to this sector for over 20 years, highlighting the following MAIN PROJECTS.

energy | main PROJECTS

- Final project, technical support and Energetic and Flood Control Studies of Mogi-Guaçu Multiple Use Reservoir (7.2 MW), Sao Paulo, Brazil. *Client: Companhia Energética de São Paulo - CESP*
- Feasibility studies and basic project of Batatal HPP (75 MW), Sao Paulo, Brazil. *Client: Companhia Energética de São Paulo - CESP*
- Additional motorization studies for Engenheiro Souza Dias (Jupiá) HPP – 120 MW - Mato Grosso do Sul and Sao Paulo, Brazil. *Client: Companhia Energética de São Paulo - CESP*
- Technical and operational services for assessing CHESF and ELETRONORTE (16,500 MW) assets targeting privatization. *Client: Brazilian Development Bank - BNDES*
- Hydroelectric inventories of the Paranaíba (total of 422 MW) and Pardo (total of 263 MW) rivers HPPs in Sao Paulo, Minas Gerais and Goias, Brazil. *Client: Agência Nacional de Energia Elétrica - ANEEL*
- Pre-final project of the São Jerônimo SHP (15 MW), Parana, Brazil. *Client: BRASCAN Energética S.A.*
- Hydroelectric inventory of the Medium Tietê river (385 MW), Sao Paulo, Brazil. *Client: Empresa Metropolitana de Água e Energia SA - EMAE*
- Elaboration of hydrologic and energetic studies, analysis, auditing and support for obtaining the Operation License of the Barra Grande HPP (708MW), Rio Grande do Sul, Brazil. *Client: Energética Barra Grande S.A. - BAESA*
- Local Independent Engineer of the Campos Novos HPP (880 MW), Santa Catarina, Brazil. *Client: R.W. Beck International e Inter-American Development Bank - IDB*
- Final project for rebuilding the Pedrinho SHP (16.2 MW), Parana, Brazil. *Client: BRASCAN Energética S.A.*
- Feasibility studies for upgrading and re-powering Guaporé (1.5 MW to 6 MW) and Andorinhas (0.6 to 3.3 MW) SHPs and adaptation and complementation of the feasibility studies, Rio Grande do Sul, Brazil. *Client: CPFL Sul*
- Basic project for the Passos Maia SHP (23.5 MW) on Chapecó river, Santa Catarina, Brazil. *Client: BRASCAN Energética S.A.*



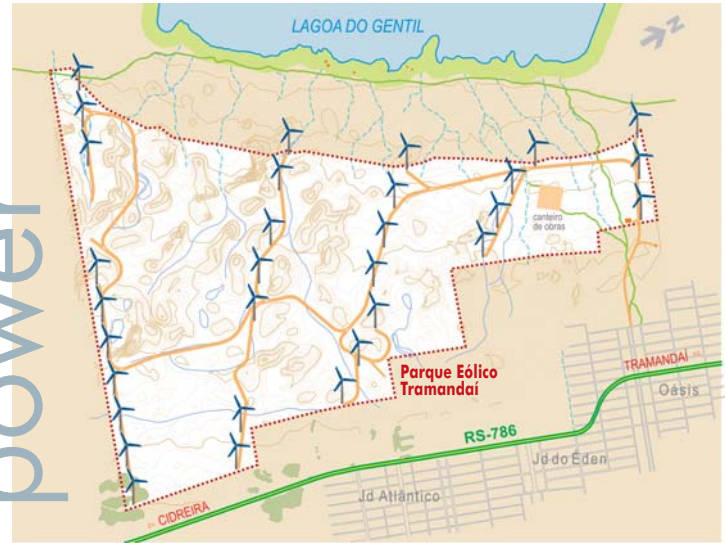
SHP & HPP



wind

power

- Engineering projects and construction supervision for the Tramandaí Wind Farm (31 wind generators - 70 MW), in Rio Grande do Sul, Brazil. Client: EDP Renováveis Brasil



thermoelectric
plants



transmission
lines &
substations

- Installation monitoring and the start of operations of the Amazon thermoelectric plants (143.5 MW). The North Energy project, Brazil. Client: Inter-American Development Bank - BID

- Engineering project for replacing the transformers and installing armored cubicles. Client: Companhia Energética de São Paulo - CESP
- Basic and final projects for the substation of the Tramandaí wind farm, Rio Grande do Sul, Brazil. Step-up transmission substation from 34.5 KV to 69 KV. Client: EDP Renováveis Brasil
- Basic and final projects for the transmission lines (23 km) of the Tramandaí-Osório wind farms, Rio Grande do Sul, Brazil. Client: EDP Renováveis Brasil



a global consulting Group



transportation

TYPSA Engineers, Consultants and Architects is a consulting engineering firm based in Spain with more than 40 years of experience successfully executing major infrastructure projects in Europe, the Americas, Africa and the Middle East to improve and sustain enhanced living conditions around the world.

Founded in 1966, TYPSA is now one of the largest Spanish consultancy companies in its field, and a national leader in the exporting of consultancy services in civil engineering, according to the *Engineering News Record* (ENR).

transport planning
infrastructure management
roads & motorways
railways & tramays | metro systems
airports & ports

industrial parks
shopping centres
office buildings & business parks
land development
residential complex & sports complex
universities & educational centres
hospitals & health care centres

architecture, building engineering & urban planning

environment & water quality

environmental engineering
forestry engineering
solid & industrial waste treatment
water quality monitoring (labs)

river basin management
inventory & analysis of irrigated land
irrigation networks
water supply & sewage networks
water treatment & purification
desalination plants
dams & reservoirs | hydroelectric power plants

water management & hydraulic engineering

renewable energy

wind farms | thermo-solar & photovoltaic farms
hydroelectricity | biomass



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