

List of projects undertaken

Solar resource assessment

- ✓ Analysis of solar irradiation– DNI, GHI and GDI – for CSP, CPV and PV projects with and without tracking

Solar PV

Feasibility studies, masterplans and advisory

- ✓ PV feasibility study for > 1 MW plant, India, 2010
- ✓ Solar rooftop concept for the Maldives, Maldives, 2011
- ✓ Feasibility study in Cambodia for PV development, 2013
- ✓ Feasibility study of Afghanistan for PV development, 2013
- ✓ Study of PV power generation technology options for the Far East Federal District (FEFD), Russia, 2013
- ✓ Solar options and assessment for the Great Male region, Maldives, 2014
- ✓ RE options, Samoa, 2014
- ✓ Solar and wind options, Comoros, 2014
- ✓ Advisory on the 750 MW REWA solar park project, India, 2015-2016
- ✓ Solar parks development and integration in the grid, India, 2016 - 2019
- ✓ Solar parks development, India 2016-2018

Owner's engineering and EPC support

- ✓ EPC projects for more than 20 MW and even 100 MW, India, 2010
- ✓ PV power plants development, 30 + 18 MW, 2011, Portugal
- ✓ Design of microgeneration PV schemes ($\leq 3,68$ KW), 2009, 2010, 2011, Portugal
- ✓ Design of minigeneration PV schemes (≤ 250 KW), 2011, 2012, Portugal
- ✓ Review of Tenders for PV projects in 7 islands, the Maldives, 2011
- ✓ Review of RFP PV 5 MW in Bangladesh, 2012
- ✓ Owners engineering and advisory to the 150 MW PV Ilanga portfolio of Eskom, South Africa, 2014
- ✓ Market research for Renewable Energy opportunities, Mauritius and Maldives, 2014
- ✓ PV power plant development, 10 MW, Namibia, 2016

Due diligence

- ✓ PV projects due diligence (ground mounted, rooftops and greenhouses), total of 42 MW, Italy, 2010/2011
- ✓ PV projects due diligence (ground mounted), total of 35 MW, Bulgaria, 2010/2011

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- ✓ PV projects due diligence (ground mounted and rooftop), total of 25 MW, Germany, 2010/2011
- ✓ PV projects due diligence (ground mounted), total of 15 MW, Romania, 2011
- ✓ Evaluation of PV project based on Renewable Energy credits, 50 MW, Rajasthan, 2010, India
- ✓ PV projects due diligence (ground mounted, total 200 MW, India, 2012
- ✓ Evaluation of PV projects, Mexico, 2013
- ✓ Technical due diligence of 24,5 MW PV plant, Kazakhstan, 2015
- ✓ Technical due diligence of site for PV plant development, Zambia, 2015-2016
- ✓ Technical due diligence on 500 kW rooftop project, Bangladesh, 2016

Off-grid and mini-grids projects, including hybrid systems

- ✓ PV projects for hospitals and industries (500 KW to 4 MW), Pakistan, 2010, 2011
- ✓ PV Off-grid projects for measurement equipments and monitoring stations (40 W size, several stations), Portugal, 2011
- ✓ PV off-grid and hybrid projects (wind and diesel) for telecom towers (20 to 100 KW), Nigeria, 2010
- ✓ PV off-grid and hybrid projects (wind and diesel) for military projects (40 to 70 KW), Jordan, 2010
- ✓ PV off-grid and hybrid project (solar and diesel) for military (100 KW), Angola, 2012
- ✓ PV on-grid for the PT telecom towers (solar and wind) (~1,5 MW total), Portugal, 2014
- ✓ PV systems for a hotel (100 kW), Guine Bissau, 2015
- ✓ PV micro-grid (transmission and distribution) and hybrid project for 3 villages (1,3 MW total), Mozambique, 2012
- ✓ PV micro-grid (transmission and distribution) for 60 villages and more than 1300 households (~1 MW total), Vietnam, 2013

Procurement

- ✓ Sourcing of PV modules for projects, from kW to MW.

Concentrated Solar photovoltaics

- ✓ Evaluation of patents in CPV, USA, 2010
- ✓ Evaluation of patents in CPV, India, 2010
- ✓ Evaluation of a Thermal hybrid system - CPV and CSP – USA, 2009/2010.
- ✓ CPV product development – 3 projects: USA, India, Portugal, 2009/2010

Solar thermal

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- ✓ Analysis of Chinese manufacturers, 2010, 2011, 2012
- ✓ Solar Thermal projects for offices, public buildings, Masdar, UAE, 2010
- ✓ Policy development on Solar cooling, Thailand, 2013

Solar chemistry

- ✓ Solar UV collector development, Portugal, 2013 -10 2014

Concentrated solar thermal

Feasibility studies, masterplans and advisory

- ✓ CSP feasibility study – India, 2009
- ✓ Master plan and detailed project report of 3000 MW of solar power (PV and CSP) - India, 2011 - 2016
- ✓ Advisory to the largest Thermal Power Company in India, 2011
- ✓ Feasibility study and basic engineering of parabolic trough 20 MW CSP power plant with 8 hour storage, Pakistan, 2011
- ✓ Advisor to the Ministry of New and Renewable Energy in India, 2011, 2012, 2013
- ✓ Advisory, analysis and structure of CSP technologies and opportunities for a leading oil company, Saudi Arabia, 2011-2012
- ✓ Pre-feasibility study for CSP development in Namibia, Renewable Energy and Energy Efficiency Institute, Ministry of Mines and Energy
- ✓ Advisory role to Ministry of Mines and Energy of Namibia on CSP development and presentation of a CSP business opportunity to the national utility, 2013
- ✓ Support to the DOE and CEF in South Africa to structure 5000 MW solar corridor initiative (PV, CPV, CSP), South Africa, 2013, 2014
- ✓ Advisory to the CSP augmentation projects in coal power plants of Eskom, South Africa, 2014
- ✓ CSP Capacity building assessment and implementation, Namibia, 2015-2016

Due diligence

- ✓ Due diligence of 2 x 50 MW parabolic troughs CSP power plant analysis – Spain - 2010

Owner's engineering and EPC support

- ✓ Compact Linear Fresnel, troughs, power towers technology development, 2009 - 2011
- ✓ Support to the Bhadla Phase I and phase II implementation, 2012 - 2016

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- ✓ Design, sizing and power yield estimate for several CSP projects, India, 2011, 2012, 2013
- ✓ Design, sizing and power yield estimate for the several CSP projects, Namibia, 2012

Wind Energy

- ✓ Due diligence of a 250 MW Wind park at Gharo or Khutikun Sind, Pakistan, 2011
- ✓ Due diligence of wind parks in Romania – 10 to 50 MW, several sites, 2010
- ✓ Site feasibility of wind parks in India – 18 sites, 2011
- ✓ Due diligence of wind parks several of 500 MW (total of 2,5 GW), Iran, 2012

Energy Efficiency

- ✓ Municipal energy audit for two municipalities and one city market requalification in Portugal and renewal as well as other assignments by supplying EE and RE solutions for industrial processes and commercial usages, 2010, Portugal.
- ✓ Energy efficiency - analysis of energy consuming processes in factories, the type of energy, other options, energy intensity, grid availability, peak electrical consumptions, reactive power, power correction factors, off-grid Renewable energy solutions for direct consumption and on-grid with mixed consumption and excess injection, 2010-2011, Portugal.
- ✓ ESCO concepts, 2010
- ✓ Energy efficient and low carbon improvements, Portugal, 2010

Solar cooling experience in R&D EU projects

- ✓ EU project – PolySMART - POLYgeneration with advanced Small and Medium scale thermally driven Airconditioning and Refrigeration Technology (www.polysmart.org)
- ✓ EU project – ALONE - Small Scale Solar Cooling Device (www.aloneproject.eu)
- ✓ EU/Portugal Project - SIME I&D, VIVCOOL project- "Development of an absorption chiller for residence climatization"

Solar desalination experience in EU R&D projects

- ✓ MEDESOL - Seawater desalination by innovative solar-powered membrane-distillation system
- ✓ Powersol - Mechanical Power Generation Based on Solar Thermodynamic Engines
- ✓ PRODES - Promotion of Renewable Energy for Water production through Desalination