

References of sbp sonne – Selected Projects

Project Location Completion	Scope of our Work	Client
1,5 MW Rotem 1 parabolic trough power plant Dimona, Israel, 2018	EuroTrough License, solar field Engineering Package, Manufacturing and Assembly, Training and QA	Brenmiller Energy, Israel
100 MW Parabolic Trough Power Plant Urat, Middle Banner, China, 2017-2018	EuroTrough License, Solar Field Engineering Technology Package, Support for Manufacturing and Assembly, Training and QA	Royaltech
HELIOKONTURplus Jülich, Germany, 2017	Design improvement, finalization and construction of 5 Stellio heliostats, checking of commissioning procedure, elaborate structural and optical test program, long term testing of components, preparation for autonomous heliostat solution	BMWi
100MW molten salt tower power plant Jinta, China, 2017	Basic engineering of solar field layout and power calculation, Stellio heliostat engineering and license agreement	PowerChina Northwest Engineering Corporation Limited
50MW molten salt tower power plant Gonghe, China, 2017	Heliostat technology evaluation and solar field optimisation, Stellio heliostat license agreement	PowerChina Northwest Engineering Corporation Limited
50MW molten salt tower power plant Hami, China, 2017	Basic engineering of solar field layout and power calculation, Stellio heliostat engineering and license agreement	Dongfang boiler group
50MW Ultimate trough power plant Gongga, China, 2017	Ultimate Trough License, solar field engineering package	Tibet development investment group
Gridsol - Smart renewable hubs for flexible generation solar grid stability 2016-2019	Heliostat field layout and optimization for single and multi tower systems; modelling of molten salt trough fields Improve molten salt parabolic trough collector design	European Commission
MS Loop Project – Molten salt Parabolic Trough Power Plant Manchasol, Spain, 2016-2019	Adaptation of existing Ultimate Trough design to high concentration application needs	European Commission
Next-CSP – High temperature concentrated solar thermal power plant with particle receiver and direct thermal storage Cerdanya, France, 2016-2019	Collector Engineering HelioTrough, Manufacturing and Assembly Engineering, QA during manufacturing and on site	European Commission
Redstone 100MW MS Tower Northern Cape, Postmasburg, South Africa, 2019	Complete Turnkey Solarfield 23.397 Stellio Heliostats in Stellio Consortium Solarfield layouts, all solar field Engineering, Beam/Tracking Quality Assurance, Optical-Warranties, full supply of all parts, incl. hard and software as well as assembly and erection	Acciona, ACWA/Solarreserve
HPS2 Parabolic Trough Molten Salt Testloop Evora, Portugal, 2017	Ultimate Trough License Package and site assembly service	TSK / Flagsol, Cologne, Germany
Duba Green ISCC Duba, Saudi Arabia, 2017	Ultimate Trough License Package	INITEC, Spain

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Shagaya 50 MW Parabolic Trough plant Kuwait, 2016 - 2017	EuroTrough License Package, Solar Field Engineering, manufacturing and assembly Training and QA	TSK
50 MW parabolic trough power plant Delingha, China, 2016 - 2017	EuroTrough License, Solar Field Engineering Technology Package, Support for Manufacturing and Assembly, Training and QA	Suncan, Beijing Shouhang IHW Resources Saving Technology Co.,Ltd
3rd party expert study Parabolic trough collector piping analysis 2016	Analysis of collector piping problems and development of solution	Confidential
Development of a CPV Dish 2015	Analysis of collector piping problems and development of solution	Solar Systems Pty. Ltd.
3rd party expert study Parabolic Trough Collector Failure 2015	Development of a CPV dish (Optical design, structural design, drive system)	Confidential
Development of a rotationally symmetric heliostat Stello South Africa, 2015	Root cause analysis of structural parabolic trough collector failure	Stello Consortium
Development of a parabolic trough power plant with salt storage San Quiricio, Italy, 2015	Conceptual design, detailed design, building and testing of prototype, planning of mass production	CLP, Italy
Detailed report about the use of Parabolic Troughs in Brazil 2014	Adaption of parabolic trough collector to the specific needs of a salt HTF system, solar field layout and optimisation	GiZ, Gemeinschaft für internationale Zusammenarbeit, Brazil
HelioFocus 500 m² Big Dish - four demonstration plants Mongolia, 2014	Feasibility study	HelioFocus, Israel
50 MW parabolic trough power plant Delingha, China, 2014	Conceptual design, detailed design	SEDC, China
125 MW power tower and 200 MW Parabolic trough power plant 2014	Solar field design and optimization	Confidential
Linear Fresnel power plant Australia, Middle East, 2014	Parabolic trough and heliostat field layout and optimization	Novatec
ET Parabolic Trough, Godawari GGEL Solar Plant: 50 MW, no storage Godawari, India, 2013	Structural calculations	Lauren Engineers & Constructors India Pvt.
ET Parabolic Trough, Gujarat Solar One: 25 MW + storage Gujarat, India, 2013	Euro Trough License Package, Detailed Design of Solar Field, manufacturing and site assembly service	Cargo Power & Infrastructure, India
Feasibility study for Fresnel concentrator 2011	Feasibility study for the technical and economic evaluation of a linear solar-fresnel collector made of organic building materials	Evonik Industries AG
CPV development project with Indian partner India, Prototype 2012	Structural and optical detailed design of collector	Confidential

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Photovoltaic System on the Brasília National Stadium Brasil, 2012	Development of design possibilities for photovoltaic modules and a collection system for rainwater	KfW - Kreditanstalt für Wiederaufbau
Photovoltaic System on the Roof of the Corinthians Stadium in Sao Paulo Brasil, 2012	Basic design of the glazing roof part of the Corinthians stadium with integrated PV cells	Odebrecht
Photovoltaic System on the Maracana Stadium Brasil, 2012	Development of design possibilities for photovoltaic modules on the stadium roof	KfW - Kreditanstalt für Wiederaufbau
ET-Parabolic Trough Morón: 50 MW Parabolic Trough power plant Morón, Spain, 2012	Euro Trough License Package, Detailed Design of Solar Field	CSP-Consult, Cologne/ Acciona, Spain
Blythe Solar Power Plant, Parabolic Trough 4x250 MWel Power generation Blythe, Riverside County, CA, Design Phase 2012	Design, Detailed Engineering, Tender Documents	Solar Trust of America (STA), Flagsol LLC
Ultimate Trough, Parabolic Trough Test Loop California, USA, 2012	Concept, Preliminary Design, Design, Detailed Engineering, Tender Documents, fabrication and site supervision	Consortium Flabeg sbp
Ultimate Trough, Parabolic Trough (Test Loop) Köln, Germany Prototype	Concept, Preliminary Design, Design, Detailed Engineering, Tender Documents, fabrication and site supervision	Consortium Flabeg sbp
Helio Focus, 500m² Dish (Prototype Power Co-generation) Ramat Hovav, Israel	Concept, Preliminary Design, Design, Detailed Engineering, Tender documents, fabrication and site supervision	HelioFocus
NT Helio Trough Loop KJC Kramer Junction, USA, 2010	Design, Detailed Design, Tender Documents, manufacturing and site supervision of Test-Loop	Flagsol
Helio Trough, Parabolic Trough Test Loop-SEGS V Plant, Kramer Junction, CA, USA, 2009	Design, Detailed Engineering, Tender Documents, fabrication and site supervision	Solar Trust of America (STA), Flagsol LLC
DLR-Testing carrier PSA, Parabolic Trough project Almería, Spain, Dec 09	Conceptual and detailed design, Tender documents	DLR Cologne
ET-Parabolic Trough, Extremasol: 50 MW Parabolic Trough power plant Badajoz, Spain, Part 1: Aug 09 Part 2: 2012	Euro Trough License Package, Detailed Design of Solar Field	Flagsol/Cologne
ET-Parabolic Trough, Solar Combined Power Plant Kuraymat Kuraymat, Egypt, 2010	Euro Trough License Package, Detailed Design of Solar Field	Flagsol, Cologne
ET-Parabolic Trough, Astexol 2: 50 MW Parabolic Trough power plant Badajoz, Spain, 2011	Euro Trough License Package, Detailed Design of Solar Field	CSP-Consult, Cologne / Elecnor, Spain

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ET-Parabolic Trough, Andasol III: 50 MW Parabolic Trough power plant Aldeire, Spain, 2011	Design, Detailed Engineering, Tender documents, fabrication and site supervision of Solar Field	Flagsol/Cologne
ET-Parabolic Trough, Andasol II: 50 MW Parabolic Trough power plant Aldeire, Spain, 2009	Design, Detailed Engineering, Tender documents, fabrication and site supervision of solar field	Flagsol/Cologne
PV Tracker England, 2009	Conceptual Design	AdvanceSis Ltd. UK
ET-Parabolic Trough, Andasol I: 50 MW Parabolic Trough power plant Aldeire, Spain, 2008	Design, Detailed Engineering, Tender documents, fabrication and site supervision of solar field	Flagsol/Cologne
Solucar Stirling engine Sevilla, Spain, 2006	Delivery of 8 Stirling engines	Solucar Energia S.A. Spain
3 kW Dish/Stirling 4.7m, Infinia Dish Spain, USA and other sites, 2007	Conceptual design, detail engineering, checking	Infinia Corp. USA
10 kW Dish/Stirling 8.5 m EuroDish Eibelsstadt, Germany 2004	Conceptual design, detailed design, mechanical and electrical engineering, site supervision	Krick-Verlag Würzburg (publisher)
10 kW Dish/Stirling 8.5 m EuroDish Odeillo, France, 2004	Conceptual design, detailed design, mechanical and electrical engineering, site supervision	Federal Ministry for the Environment, Nature Conservation and Nuclear Safety (BMU), Berlin
Enviro Dish, 8.5m Almería, Spain, 2003	Conceptual design, analysis, detailed design, mechanical and electrical engineering, site supervision, commissioning	EU
Skal ET parabolic trough collector loop Kramer Junction, USA, 2003	Design, detailed engineering, tender documents, fabrication and site supervision	Solar Millennium AG + BMU
4x Cherenkov Teleskop, 14 m Namibia, 2003	Conceptual design, analysis, detailed design including structural and mechanical engineering, site supervision	MPIK, Max Planck Institute for Nuclear Physics, Heidelberg
Eurotrough II - Prototype Almería, Spain, 2002	Conceptual design, detailed design, site supervision	EU
10 kW Dish/Stirling 8.5 m EuroDish Vellore, India, 2002	Design, analysis, detailed design, mechanical and electrical engineering, site supervision, commissioning	KEMS
10 kW Dish/Stirling 8.5 m EuroDish Milan, Italy, 2002	Design, analysis, detailed design, mechanical and electrical engineering, site supervision, commissioning	ENEA
DISTAL 2: Concentrator 8.5 m 3 x kW Dish / Stirling Almería, Spain, 1997	Conceptual design, analysis, detailed design, mechanical and electrical engineering, site supervision, testing since 1997	Baden Württemberg Energy Foundation
150m² Metal Membrane Heliostat ASM 150 Almería, Spain, 1995	Conceptual design, detailed design	Steinmüller

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DISTAL 1: 9 kW Dish/Stirling 7.5m Almería, Spain, 1992	Conceptual design, analysis, detailed design, site supervision including structural, mechanical and electrical engineering, testing since 1991 SOLO Kleinmototren GmbH	BMFT, Federal Ministry for Research and Technology
Dish Stirling System, 7.5 m diameter, 9 kW Pforzheim, 1992	Conceptual design, analysis, detailed design, mechanical and electrical engineering, site supervision, commissioning	City of Pforzheim
50 kW Solar Updraft Tower, pilot plant Manzanares, Spain, 1989	Basic research: design, construction, operation and evaluation	BMFT (German Federal Ministry of Research and Technology)
2 x 50 kW Dish Stirling System Riyadh, Saudi Arabia, 1986	Conceptual design, detailed Design, site supervision	BMFT (German Federal Ministry of Research and Technology)