

References - Solar Power Projects and Studies done or in execution

YEAR	CLIENT/LOCATION	PROJECT	SERVICES
2010	SolarMorph Singapore Pte	Market Pricing Analysis for Thin Film a-Si Modules	Consultancy services for analysis on the spot market pricing for thin film amorphous silicon solar panels to advice about the investment to set up a manufacturing facility of approx. 300 million €
2009 - ongoing	FOTOWATIO	7.6 MW Photovoltaic Project in Lazio (Italy)	Lender Engineers. The services include preliminary and final technical due diligence; project monitoring during construction and operation and final project certifications.
2009	Kinesis Ankara	8 MW Photovoltaic Project in Puglia (Italy)	Project Due Diligence and technical support to the Investor. The project includes: Analysis of site conditions, solar resources, plant lay-out and network connections, average expected electrical output and project risk evaluation
2009	Macquarie UK	33 MW Green-house Photovoltaic Project in Sardinia (Italy)	Lender Engineers in association with another Consultant
2009	TRP Srl/UNICREDIT (Italy)	10 MW Photovoltaic Project in Puglia (Italy)	Lender Engineers. The services include preliminary and final technical due diligence; project monitoring during construction and operation and final project certifications.
2009-Today	Confidential	10 MWe1 Parabolic Trough Solar Thermal Power Plant in Cyprus	Consultancy services for installing a STPP in Cyprus includes the following: Solar resources assessment and estimation of electrical power production capacity according to irradiation and land availability at the proposed site. Evaluate the overall efficiencies, the plant's flow sheet and the initial capex estimation.

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2009-Today	Enolia Energy S.A (Greece) IMPAX (England)	50 MWp Parabolic Trough Solar Thermal Power Plant in Cyprus	Technical advice and feasibility analysis. Evaluation of solar resource, layout optimization according to land availability. Estimation of annually electrical power production capacity.
2009-Today	Enolia Energy S.A (Greece) IMPAX (England)	50 MWel Parabolic Trough Solar Thermal Power Plant in Crete (Greece)	Technical advise and feasibility analysis for: Evaluation of solar resource, proposed land feasibility, layout optimization, storage technology selection, storage system capacity optimization, cooling system consumption, water requirements, wind influence, overall system consumption, operational issues and basic calculation of the water steam cycle (power block inclusive turbine, condenser, etc); Capex/Opex Financial Model of the project; Preliminary Environmental Impact Assessment; Civil and earthworks estimation and optimization; Grid Connection
2009	NEXTENERGY	Project due diligence for a 2.6 PV project in Northern Italy. PV modules to be integrated in a sheltered car park.	Detailed yield study, analysis of site conditions, plant lay-out and network connections, average expected electrical output and project risk evaluation.
2009	IMPAX (England)	Project due diligence for three PV projects in South Moravia and South Bohemia (Czech Republic)-	Analysis of site conditions, solar resources, plant lay-out and network connections, average expected electrical output and project risk evaluation
2008-2009	Solarlite AG, Thailand	10 MWel concentrating solar power for a remote location in the North of Bangkok	Basic Engineering of the power plant using innovative Solarlite collectors for the solar field. Estimation of costs and construction issues. Performance calculation according to Solar field and power block design
2008-2009	Solarlite AG, Maldives and Thailand	0.5 MWel and 1 MWel concentrating solar power for a leading hotel chain targeting self-sufficient energy production in remote locations	Basic Engineering of the power plant using innovative Solarlite collectors for the solar field. Estimation of costs and construction issues. Performance calculation according to Solar field and power block design (ORC Cycle)
2008-2009	Maple Indian Ocean Resources, US-Based	Pre-Feasibility study for a water provider company for a CSP – desalination plant in Djibouti, Africa (40.000 m ³).	Solar resource survey and a technical analysis of different system solutions. Sizing of the solar field to meet the power demand of the desalination process in Djibouti

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2008	CONFIDENTIAL INTERNATIONAL INVESTOR Italy	Due-diligence for 8 PV sites in Sicily Total peak power 37 MWp	Analysis of site conditions, solar resources, plant lay-out and network connections, average expected electrical output and project risk evaluation
2008	CONFIDENTIAL EUROPEAN POWER PRODUCER Italy	Solar thermal plant siting study Net peak power installed 50 MW	The study is aimed to find a feasible location for a solar parabolic trough 50 MW energy facility in Southern Italy
2008	MARQUESADO SOLAR, Granada (Spain)	50 MW SOLAR THERMAL PLANT – ANDASOL III Solar thermal plant to produce electric energy and including thermal storage in molten salts with 7.5h capacity. Use of parabolic trough with output power of 50 MW.	Owner's Engineers. Technical assistance to the owner for power plant. Assistance to EPC contract negotiation. Monitoring of the EPC contractor. Site supervision of the facility.
2008	NEXTENERGY, Italy	Market and technology study	Italy photovoltaic market study analysis of production profiles and areas
2008	FOTOWATIO, Italy	Market and technology study	Italy photovoltaic market study analysis of production profiles and areas
2008	Capital Millennium Alcazar de San Juan, S.L., Ciudad Real (Spain)	SOLAR THERMAL POWER PLANT 50 MW	Cooling needs and cooling system alternatives survey
2008	Ottana Energia, Italian IPP (Italy)	SOLAR THERMAL POWER PLANT (20 MWe) 20 MW using parabolic through system from leading European supplier	Concept study; suppliers identification and selection; sizing of plant and storage system (molten salts); site characterisation
2008	TS ALAMEDA, Spain	50 MW Concentrating Tower Solar Thermal Power Plant,	Basic project for permitting purposes
2008	CAPITAL ENERGY, Caniles and Alcazar de San Juan (Spain)	2x50 MW Solar CSP plants development project	Feasibility study for 2x50 MW CSP plants based on parabolic through technology
2008	Novatec Biosol AG/ Murcia, (Germany/Spain)	SOLAR THERMAL POWER PLANT – PUERTO ERRADO 2 30 MW STPP using Fresnel reflectors, producing wet steam at 55 bar and 270°C.	Preparation of bidding documents for EPC tendering, tender evaluation and assistance in contract negotiations.
2008	Confidential Russian Investment Fund	7 multi MW projects (total 50 MW) due diligence in Sicily	Site visit, project technical analysis, productivity review, permitting technical review, identification of risks and issues

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2008	Confidential, Utility company, Switzerland	MARKET ANALYSIS Assessment of market attractiveness for CSP technology in 29 countries	Definition of evaluation criteria for market attractiveness for CSP (climatic, regulatory, incentive-based, market and political criteria), construction of an information database regarding 29 countries in 5 continents, identification of most promising countries and development of a strategic recommendation for market entry.
2008	A number of international companies and banks	MARKET ANALYSIS PV industry in Italy	Italian PV industry analysis. Price projections for electricity in Italy. Regulatory framework analysis.
2008	Department of Energy, Zambia	Preparation of PV bidding documents	The objective of the assignment was to prepare standardized bidding documents of procurement, supply, installation and maintenance of solar PV systems for public facilities in Zambia. The documentation is anticipated to be used by the Rural Electrification Authority for forthcoming solar PV projects. Based on the sizing and standards recommendation, bidding documents based on the World Bank Standard Bidding Document for Plant and Equipment were prepared.
2008	Renewable Energy Corporation (REC), South Korea	Gold Standard CDM project	The Renewable Energy Corporation (REC) in Norway contracted Econ Pöyry to register their Solar Grid Project in South Korea as a 'Gold Standard' CDM project. The documentation included a calculation of the baseline in South Korea, a presentation of the solar project, including technical and economic aspects, and a demonstration of additionally, which is based on the levelized cost of solar electricity and alternatives. In addition to responsibility for the complete documentation, Econ Pöyry is to help build in-house competence regarding CDM registration.
2008	Confidential client, (Europe)	MARKET AND TECHNOLOGY ANALYSES Renewable Energy.	Market analysis and study of the photovoltaic cell technology.
2008	GADIR SOLAR, Cádiz (Spain)	INDUSTRIAL INSTALLATION For manufacturing photovoltaic modules with a capacity of annually 60 MW.	Detail engineering design.

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2008	Ottana Energía (Italy)	SOLAR THERMAL PLANT	Feasibility analysis of solar technologies and tariffs. Identification of technical alternatives. Business plan for selected alternative.
2008	Utility client, Solar Thermal Project (USA/Spain)	INVESTMENT AND MARKET ANALYSIS Solar Thermal Plant in Spain. Installed capacity >200 MW.	Spanish Market analysis. Price projections for electricity and gas in Spain. Regulatory framework analysis. Risk analysis
2008	Banco Santander, Solnova 1, Solar Thermal project (Spain)	SOLAR THERMAL 50 MW Project finance	Support for Solar Thermal regulatory framework analysis. Provision of price projections over the life of the project and electricity risk analysis. Projection of the captured price in the Pool.
2008	Banco Santander, Solnova 3, Solar Thermal project (Spain)	SOLAR THERMAL 50 MW Project finance	Support for Solar Thermal regulatory framework analysis. Provision of price projections over the life of the project and electricity risk analysis. Projection of the captured price in the Pool.
2008	Abengoa, Solnova 4, Solar Thermal project (Spain)	SOLAR THERMAL 50 MW Project finance	Support for Solar Thermal regulatory framework analysis. Provision of price projections over the life of the project and electricity risk analysis. Projection of the captured price in the Pool.
2008	Financial client, Solar PV project (Australia)	M&A Solar PV portfolio of 40 MW	Detailed Due diligence including: <ul style="list-style-type: none"> • Design of a financial model • Analysis and advise when negotiating with EPC, O&M and SPA • Financial strength analysis of contractual guarantees (EPC, Modules, O&M).
2008	Financial client, Solar PV project (UK)	M&A Solar PV portfolio of 10 MW	Detailed Due diligence including: <ul style="list-style-type: none"> • Valuation of the project through our financial model • Analysis and advice when negotiating the EPC, O&M and SPA. • Financial strength analysis of contractual guarantees (EPC, Modules, O&M, ...) • Risk analysis, designing protective mechanisms to cover regulatory risk.

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2008	AIG, Solar PV industry (UK)	MARKET ANALYSIS Solar industry in Spain	Spanish Solar industry analysis (Solar PV and Thermal). Price projections for electricity in Spain. Regulatory framework analysis. Risk analysis.
2007-2008	Ministry of Energy and Minerals, Tanzania	Sustainable Solar Market Packages	Project aims to prepare contracts to provide off grid standalone PV systems to critical social services and to achieve a sustainable solar home system market in rural areas. The work involves; i) field work which both contributes to the market analysis and allows for sensitization to the program; ii) bundling of standard systems for social services; iii) SHS market analysis and economic (cost-benefit analysis), iv) assessment of viable supply- and demand side financing schemes, v) implementation and transaction advice.
2007-2008	Confidential, Project development company, Switzerland	M&A Due diligence process for a wind and PV project development company	Setup of a due diligence data room with all relevant company and project material (legal, technical, financial documentation), validation of the business models for the single projects, preparation of Confidential Memorandum to be sent to potential investors, assistance during the due diligence process.
2007-2008	INMOCOLONIAL, Madrid (Spain)	60 KW PHOTOVOLTAIC INSTALLATION And its connection to the electric network during the update of the Coslada's logistic area.	Basic engineering design, detail engineering design and construction supervision.
2007-2008	INMOCOLONIAL, Madrid (Spain)	SOLAR THERMAL INSTALLATION During the update of the Coslada's logistic area. It is composed by 30 stations with an installed capacity of 300 litres each.	Basic engineering design, detail engineering design and construction supervision.

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2007	World Bank, Zambia	Sustainable Solar Market Packages	Project aims to prepare contracts to provide offgrid standalone PV systems to critical social services and to achieve a sustainable solar home system market in rural areas. The work involves; i) field work which both contributes to the market analysis and allows for sensitization to the program; ii) bundling of standard systems for social services; iii) SHS market analysis and economic (cost-benefit analysis), iv) assessment of viable supply- and demand side financing schemes, v) implementation and transaction advice.
2007	ABN AMRO, Italy	Market and technology study	Italy photovoltaic market study analysis of production profiles and areas
2007	World Bank, Zambia	Economic Analysis of a Solar Photovoltaic (PV) Component in donor support in Zambia	The overall objective of the assignment was to conduct an economic analysis of a donor supported solar PV component for households and for public facilities. For the households, the economic costs and benefits of solar PV using a consumer surplus methodology were compared. For the institutional market a least cost analysis was conducted and comparisons between solar PV, diesel and grid supply were undertaken.
2007	Financial client, Solar PV project (UK)	M&A Solar PV portfolio of 3 MW	Detailed Due diligence including: <ul style="list-style-type: none"> • Design of a financial model • Analysis and advise when negotiating the EPC, O&M and SPA • Financial strength analysis of contractual guarantees (EPC, Modules, O&M).
2007	Financial client, Solar PV project (UK)	M&A Solar PV portfolio of 8 MW	Detailed Due diligence including: <ul style="list-style-type: none"> • Valuation of the project through our financial model • Analysis and advise when negotiating the EPC, O&M and SPA • Financial strength analysis of contractual guarantees (EPC, Modules, O&M, ...) • Risk analysis, designing protective mechanisms to cover regulatory risk.

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2007	Financial client, Solar PV project (Australia)	M&A Solar PV portfolio of 2 MW	Detailed Due diligence including: <ul style="list-style-type: none"> Valuation of the project through our financial model Analysis and advise when negotiating the EPC, O&M and SPA Financial strength analysis of contractual guarantees (EPC, Modules, O&M) Risk analysis, designing protective mechanisms to cover regulatory risk.
2007	Financial client, Solar PV project (UK)	M&A Solar PV portfolio of 10 MW	Detailed Due diligence including: <ul style="list-style-type: none"> Checking client valuation assumptions (Production and Operating Expenses) Financial valuation Analysis and advise when negotiating the EPC, O&M and SPA Financial strength analysis of contractual guarantees (EPC, Modules, O&M) Risk analysis, designing protective mechanisms to cover regulatory risk.
2007	Gryphon, Solar PV project (UK)	M&A Solar PV portfolio of 10 MW	Project finance support: <ul style="list-style-type: none"> Design of the valuation model Base case modelling of the Project finance base case Regulatory and risk analysis.
2007	Sol Energy Management, Solar PV project (UK)	M&A Solar PV portfolio of 2MW	<ul style="list-style-type: none"> Project finance support: Design of the valuation model -Base case modelling of the Project finance base case Regulatory and risk analysis
2007	TEM – UTE CONSTRUCTOR (SUFI, VEOLIA, PROINOSA, SURIS, TAU ICESA, BKW), Mataró (Spain)	PLANT OF TREATMENT AND VALUATION OF RSU Photovoltaic cell installation of the extension of residue methanol recovery plant, with a capacity of 190'000 Tm/year.	Basic engineering design and detail engineering design.
2007	GADIR SOLAR, Cádiz (Spain)	INDUSTRIAL INSTALATION For the manufacture of photovoltaic modules.	Projects for request of licenses.

2006	GUASCOR FOTON/ Ortuella (Spain)	1.6 MW Photovoltaic Solar Plant that it is connected to the electric network of Cehegín (Murcia).	<ul style="list-style-type: none"> • Special regime and Authorization. • Writing up of projects for the licenses request. • Technical support during the phases of basic engineering and of transaction. • The execution project. • detail Engineering • Engineering specifications • Constructive project • Management of permissions and licenses.
2006	REPUBLIQUE DU KIRIBATI (Pacific)	PHOTOVOLTAIC INSTALLATION Project financed by the European Community. Installation of 2050 photovoltaic modules to feed public light system of 18 islands.	Social, technical and financial evaluation of the installation and the operation. Feasibility study of the future extension of the project.
2005-2008	EADS-CASA Seville (Spain)	SOLAR THER. INSTALLATION Production of ACS in the factory of assembly of military airplane A-400M with a media dairy consumes of 16'000 litres at 45°C.	Basic engineering design, detail engineering design and construction supervision.
2005-2007	SITOM Nord Isère (France)	PHOTOVOLTAIC INSTALLATION Installation of photovoltaic modules in an incineration plant and connection to the power network.	Technical support to the work.
2004-2005	La Rochelle (France)	SOLAR THER. INSTALLATION Production of ACS from solar receivers (1'200 m ²) with storage cells in 11 substations of the network of Villeneuve las Salinas. 940 communicated houses. Solar rate of cover: 52%.	Work management of design of tender documents and of work's control.
2003-2004	Asian Development Bank (ADB) Ministry of Transport, Communications and Public Works of East Timor (East Timor)	Power Sector Development Plan for East Timor.	Power sector review, assessment of the existing generation and distribution facilities, power load forecast, generation, transmission and distribution planning for the next twenty-years, future investment assessment, assessment of hydro, geothermal, biomass, wind, solar and on-shore oil and gas potential for power generation, willingness-to-pay survey, power sector strategy recommendations including private sector and community participation. Solar portion included assessment of the solar energy resources and potential for solar power generation in the country, solar home installations, cost estimates and preparation of economic criteria for selecting areas for solar home installations.

1996-1998	Ministry of Trade and Industry, Electric Utility of Kemi, Electric Utility of Pori, Kemijoki Oy, Neste Ltd. (Finland)	Competitiveness of wind power and solar electricity.	Competitiveness of wind power and solar electricity considering environmental aspects.
1993-1996	Federal office for Foreign Aid / Société Tunisienne de l'Electricité et du Gaz STEG (Switzerland/Tunisia)	80 MW solar thermal power plant.	Feasibility study, risk assessment, planning, preparation of project financing. Cooperation with the Swiss Federal Institute of Technology, Lausanne and other partners.
1992-1997	Consortium PHALK, Mont-Soleil (Switzerland)	500 kW photovoltaic power plant.	Site evaluation, concept studies, detail design, tender documents and works supervision. Evaluation of plant performance and co-ordination of research work.
1992-1996	Electricity Works of the city of Bern, EWB (Switzerland)	80 kW solar cell installation Park + Ride with direct feed into the 600 volt trolley bus network of the City Transportation Company.	Planning, detail design and realisation. Evaluation of the performance of the PV- power plant. Appreciation of direct coupling as opposed to coupling via current converters.