

Proven Results

Numerous clients have been successfully supported by **Pasteris Energy, Inc.** A partial listing of clients includes the following companies:

ABB Energy Ventures, Inc.
Air Products and Chemical, Inc.
Atlantic Thermal Systems, Inc.
Aquila Corporation
ArcLight Capital Partners, LLC.
Bioenergy Development Corporation
Brooklyn Navy Yard Cogeneration Partners
Cadillac Renewable Energy, Inc.
Catalyst Energy Corporation
Comision De Regulacion De Energia Y Gas ("CREG")
Republica De Colombia
Commonwealth Electric Company
Delta Power Company, LLC.
El Paso Electric Company
Exelon Capital Partners, LLC.
General Electric Capital Corporation
Liberty Power Latin America LP
Mobil Power, Inc.
Ontario Hydro International, Inc.
Olympus Power, LLC.
Panda Energy, Inc.
PEPCO Energy Services, Inc.
PJM Interconnection, LLC
Public Service Electric and Gas
South Jersey Port Corporation
Sun Oil Company
Toronto District Heating Corporation
Trigen Energy Corporation
Turbine Air Systems, Inc.
University of Pennsylvania
Valero Refining Corporation

Professional Services

Pasteris Energy, Inc. is located midway between Philadelphia and New York City operates as a unique energy firm providing services in the following areas:

- Utilities Asset Management & Optimization
- Project Economic and Financial Evaluation
- Energy System Planning and Management
- Energy Technology Investment Due Diligence
- Combined Heat and Power ("CHP") Development
- GE GateCycle Heat & Material Balances
- Gas Turbine Inlet Air Cooling Evaluation
- Low Temperature Thermal Energy Storage
- Energy Conservation Audits
- Distributed Generation Project Development
- District Heating and Cooling Project Development
- On-line Reverse Auctions for Purchase of Electric & Natural Gas

Pasteris Energy provides domestic and international services to independent power, financial institutions, regulators, governments, district heat & cooling companies, CHP, thermal energy producers, consumers. Services are provided at any phase of a project.

- Services to Independent System Operators (ISO)
- Operations and Asset Management
- Energy Project Appraisal and Feasibility Analysis
- Energy Project Condition Assessment
- Operative Contract Development and Negotiation
- Environmental Permitting Overview
- Energy Project Identification

Client service is **Pasteris Energy's** key objective. **Pasteris Energy** acts as an extension of an organization enhancing the effectiveness of their staff for the short or long term. **Pasteris Energy's** broad experience provides valuable creative input immediately upon request mitigating risk and maximizing the bottom line.

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Pasteris Energy, Inc. is located between Philadelphia and New York City operates as a unique professional services firm to independent power electric energy markets, district energy and energy consumers.

Raymond M. Pasteris

Raymond M. Pasteris is President of Pasteris Energy, Inc., a professional services firm, which he founded in 1993 to provide project development services to energy producers and consumers worldwide. Mr. Pasteris has over thirty years of domestic and international experience with all phases of engineering, operations and development of energy projects. He has lead energy project development in Argentina, Canada, China, Colombia, the Czech Republic, Peru, Viet Nam, the United Kingdom, as well as the United States.

Previously, from 1990 to 1993, he served as Vice President of Development for United Thermal Corporation, the largest publicly held, independent district heating company in North America. Mr. Pasteris was responsible for project development, contract negotiations, equipment selection and economic evaluations of energy projects. Concurrently he also served as Vice President of Engineering and was responsible for managing corporate engineering, capital budgets and risk management.

From 1986 to 1990 Mr. Pasteris served as General Manager of Cogeneration for Catalyst Energy Corporation a publicly held independent power company, headquartered in New York City. Mr. Pasteris was responsible for all operational, commercial and financial activities of three natural gas and biomass cogeneration projects and one hydroelectric project totaling 51 MW electric capacity, 150 Million BTU per hour of thermal energy and \$17 million in annual revenue. Mr. Pasteris also was responsible for facility modifications to improve performance and the management of 42 on site employees.

From 1974 to 1986 Mr. Pasteris served as a senior engineer for Mobil Corporation and developed cogeneration projects for Mobil's operating affiliates worldwide. Activities included field survey of processing facilities to identify cogeneration opportunities, developing power plant configurations to match facility energy requirements for steam and power, performing capital cost estimates, and presenting economic feasibility for executive approval. His efforts resulted in the construction of four cogeneration projects totaling 200 MW at four Mobil refineries.

Mr. Pasteris developed and taught courses in Industrial Water Treatment, for engineers and operators from industries and water utilities in the Chicago area, at Joliet Junior College, Joliet, Illinois.

He is a Licensed Professional Engineer in the State of Illinois and a member of IEEE, USCHPA, ASHRAE and a founding member and Director of the Turbine Inlet Cooling Association (TICA).

Mr. Pasteris received a Bachelor of Science in Chemical Engineering in 1975 from the University of Illinois.

Past Services Provided

Independent Power and Cogeneration Industry

IPP Optimization and Strategic Energy Plan

- Build a GateCycle model of a 400 MW two on one GE Frame 7FA Combined Cycle Plant.
- Evaluated economics of overnight part load operation of the GTG's and STG.
- Evaluated economics of the shutdown of the STG overnight.
- Provided CycleLink offline GateCycle interface for real-time plant optimization by operators.

Cogeneration Project Request for Proposal Response

- Selected technical power cycle configuration to meet industrial steam and power demands.
- Performed cogeneration project heat and material balances.
- Performed project capital cost estimate and soft cost estimates.
- Performed project proforma analysis and determined steam and power price and structure.
- Generated final technical and commercial proposal on behalf of the client.
- Client currently exclusively developing 11 MW power project with host industry start-up in 2002.

Cogeneration Project Feasibility Study

- Selected the technical power cycle configurations to meet district steam demands.
- Performed cogeneration project heat and material balances.
- Performed project EPC cost estimates and soft cost estimates.
- Performed project proforma analysis and determined steam and power price and structure.
- Generated a final technical and commercial report.

Acquisition of Existing Industrial Cogeneration Project

- Performed financial evaluation to establish project value for the acquiring company.
- Performed technical evaluation to determine future project up side potential for client.
- Generated final technical and commercial proposal on behalf of the client.
- Client was selected to the short list of bidders.

Cost of New Entry CT Plant Evaluation for PJM

- Performed technical evaluation to establish project performance, capital and O&M fixed costs.
- Performed financial evaluation to determine fixed revenue requirements of new entry CT plant.
- Conducted numerous presentations to PJM member generators.

Past Services Provided

District Heating and Cooling Industry

EPC Bid Evaluation

- Performed a life cycle economic evaluation of six (6) competitive EPC bids for a 22,000 Ton and 250MMBTU/Hr district heating and cooling plant.
- Evaluation included determining all electric, fuel, water, chemical and O&M expenses.
- Provided a final report ranking the bidders on a project life cycle cost NPV basis.

Washington Convention Center Heating and Cooling Plant RFP Response (50 MMBTU/Hr Heating-10,500 Tons Cooling 4 MW Electric Peak Shave)

- Selected the technical heating and cooling cycle configurations to meet convention center demands.
- Performed heating and cooling project heat and material balances.
- Performed project EPC cost estimates and soft cost estimates.
- Performed project proforma analysis and determined heating and cooling price and structure.
- Assisted in final RFP response preparation and follow up question by Convention Center Authority.
- Client was awarded contract of 20-year energy supply services. Scheduled for 2003 startup.

Services Provided to Governments

Country Regulatory Review Regarding Cogeneration

- Conducted a comprehensive review of current and proposed regulations regarding cogeneration and self-generation for the country of Colombia's Commission for the Regulation of Energy and Gas.
- Submitted a final report of recommendations for implementation into new or modified regulations.

US Trade and Development Agency Funding Proposal

- Developed and submitted proposal to obtain TDA funding for a feasibility study for a cogeneration project in Europe on behalf of our client.
- Approval was obtained for \$350,000 of TDA funding to perform the feasibility study.

Oil Refining Industry

Cogeneration Project Proposal Bid Evaluation

- Performed life cycle economic and financial evaluation of seven (7) competitive third party developer bids for a nominal 100 MW cogeneration project.
- Evaluation included a detailed analysis of the electric and steam price and structure expenses for each proposal over the project life.
- Provided a final report ranking the bidders on a project life cycle basis.