



# ADICA CONSULTING, LLC

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## Introduction

ADICA Consulting combines a core staff of internationally recognized experts with a network of associated professionals from over twenty countries to provide consulting services for:

- Electricity market design and simulation
- Generation & transmission planning
- Pricing assessment, asset valuation and energy project finance
- National energy/environmental policy analysis and strategy development

## Consulting Services

ADICA is committed to empowering individuals, companies, and nations in pursuit of sustainable development. Consistent with this goal, our staff has organized projects to address energy planning needs throughout Asia and the South Pacific, Africa, Europe, Latin America, and the Caribbean. Our staff has also acquired diverse, first-hand cultural expertise through the conduct of energy sector projects in the following countries:

Armenia	Croatia	Jamaica	Mexico	Poland	Turkey
Brazil	Cyprus	Japan	Mongolia	Portugal	Russian Federation
Bahamas	Egypt	Kazakhstan	Morocco	Romania	Serbia and Montenegro
Bulgaria	Greece	Korea	Pakistan	Slovakia	Ukraine
China	Hungary	Lithuania	Peru	Thailand	United States of America
Colombia	Indonesia	Malaysia	Philippines	Tunisia	Viet Nam

## Strategic Analysis Software

One of ADICA's unique offerings is the position of serving as international distributor of cutting-edge energy market analysis software developed by Argonne National Laboratory's Center for Energy, Economic, and Environmental Systems Analysis (CEEESA), including the following:

**GTMax: The Generation and Transmission Maximization Model** was developed by Argonne to simulate complex electricity market and operational issues, both for competitive and regulated environments. With the aide of GTMax, utility operators and managers can maximize the value of the electric system taking into account not only its own limited energy and transmission resources but also firm contracts, independent power producer (IPP) agreements, and bulk power transaction opportunities. GTMax worldwide clients include Multilateral Development Banks, International Development Agencies, electric utilities, government institutions and regulatory bodies, power merchants, transmission companies and energy traders.

Under a project funded by the U.S. Agency for International Development (USAID), GTMax was used to assess the economic benefits of implementing a regional energy market (REM) in Southeast Europe (SEE). Upon completion of this study, USAID contracted ADICA to provide GTMax licensing and training for fifteen energy companies in Albania, Bulgaria, Bosnia and Herzegovina, Croatia, Macedonia, Romania, Serbia and Montenegro.



**EMCAS: The Electricity Market Complex Adaptive System Software** is designed to meet the growing need for advanced modeling approaches that simulate how electricity markets evolve over time and how participants in these markets react to the changing physical, economic, financial, and regulatory environments in which they operate. EMCAS uses an innovative agent-based modeling approach to simulate the operation of today's complex power systems. In EMCAS, market participants are represented as "agents" with their own set of objectives, decision-making rules, and behavioral patterns. Agents are modeled as independent entities that make decisions and take actions using limited and/or uncertain information available to them, similar to how organizations and individuals operate in the real world. EMCAS includes a wide range of entities participating in power markets, including consumers, generation companies, transmission companies, distribution companies, demand companies, independent system operators or regional transmission organizations, and regulators.

EMCAS is currently being used in the United States, Europe, and Asia to more fully understand and accurately model today's dynamic power markets – providing a competitive advantage through unique and valuable insights.

**ENPEP: The Energy and Power Evaluation Program** is distributed for use in over 70 countries. The model provides state-of-the-art capabilities for use in energy policy evaluation, energy pricing studies, assessing energy efficiency and renewable resource potential, assessing overall energy sector development strategies, and analyzing environmental burdens and greenhouse gas (GHG) mitigation options. Under World Bank sponsored projects, ENPEP was used to conduct an energy and environmental review in Bulgaria and to develop a long-term energy strategy for Romania. Noting the need to analyze policy issues dominated by market reform, sustainable development, and global climate change, the European Union contracted an independent review of energy planning and analysis software utilized in Mediterranean countries. This independent review recommended ENPEP as tool of choice for energy planning in the region.

## Performance References

- **Energias de Portugal (EDP) and Rede Eléctrica Nacional (REN)** project on “EMCAS Model Customization, Training and Transfer” for analysis of the Iberian Electricity Market.
- GTMax software licensing and training for **Chubu Electric Power Company**, Japan.
- Conduct “Electricity Pricing Study in Indonesia” for **West Japan Engineering Consultants**.
- Training on WASP-IV and GTMax in support of **Japan International Cooperation Agency** project on “Capacity Building for Generation Expansion Planning in the Philippines”.
- **Korean Power Exchange** training on “Power System Planning in a Competitive Market Environment using EMCAS”.
- **European Community and World Bank** software licensing, training and technical assistance for applying the GTMax software in support of a project to develop a “Generation Investment Strategy to Support a Regional Electricity Market in Southeast Europe”.
- GTMax licensing and training for **USAID** project on “Development of Interconnections of Electric Power Systems of SECI Countries for Better Integration to European System”.
- **UNDP/GEF** contract to conduct feasibility studies of renewable energy technologies in support of the “Caribbean Renewable Energy Development Project”.
- **International Atomic Energy Agency** Coordinated Research Project on “Case Studies to Assess and Compare Different Energy Sources in Sustainable Energy Supply Strategies”.