# About the Authors

**Fawwaz Z. Elkarmi** is Associate Professor and Dean at Amman University/Faculty of Engineering, freelance consultant, energy/electricity expert, and trainer. Dr. Elkarmi worked in government, para-government, and private sectors for 25 years in Jordan and 9 years abroad (Kuwait and USA). He holds a Doctor of Engineering degree from Texas A&M University, 1981. Dr. Elkarmi is a registered "Expert" engineer with the Jordan Engineers Association, a Senior Member of IEEE, and a Chartered Engineer with IEE. Moreover, he is a member of the Institute of Management Consultants (IMC) and holds a Certified Management Consultant (CMC) title. Dr. Elkarmi, in addition to teaching full-time, conducts training in Jordan and abroad in strategic planning and business planning, project evaluation, performance improvement, start-up businesses, professional management consulting, electrical system development, tariff studies and investment planning, load research, energy and demand forecasting, demand side management, energy efficiency, energy conservation, environmental impact assessment, process optimization, and new product development. He also provides consultation in business development, feasibility studies, organizational re-engineering, business turnaround, project appraisal, and investment assessment. Dr.Elkarmi served as director for MMIS Management Consultants; General Manager of Arab Development for Food Industries – Free Zone – Zarka; Managing Director, Quality Consultancy Company (QCC); Director, Industry Sector and Mineral Resources at the Higher Council for Science and Technology (HCST); Director, Energy Sector Technologies at the Higher Council for Science and Technology; Acting General Manager (Part-time) for Palestine Industrial Investment Company (PIIC) in Nablus – Palestine; and Director of Planning at the Jordan Electricity Authority. Dr. Elkarmi worked as the Director of "IRADA," which is a project sponsored by the Ministry of Planning for assisting entrepreneurs in establishing their businesses, including the preparation of feasibility studies, business plans, request for financing, and registration procedures. Dr. Elkarmi's relevant expertise in energy projects consists of the following: Committee chairman for the formulation of energy strategies and policies for Jordan; Assisted a Saudi manufacturing company-Jeddah to formulate a strategic plan; Conducted several training courses on Demand Side Management (DSM) and project evaluation for electricity companies in Jordan, Saudi Arabia, and Syria; Member on the Board of Directors of the National Electric Power Company (NEPCO), from 2004-2008; Participated as a local consultant with a local and an international consulting firm in developing the energy strategy for Jordan; Participated as a local consultant with a local and an international consulting firm in developing an integrated resource plan for Jordan; Participated in conducting the feasibility study of the interconnection with Egypt; Conducted Summer Time evaluation study for Jordan; Conducted several tariff adjustment studies; Conducted cost of production studies for the power system in Jordan in order to optimize the economic dispatch of the generation and transmission systems in Jordan; Studied several demand management

options for application in Jordan; Worked as consultant and energy expert for local electricity and industrial firms in Jordan in issues related to quality of supply and tariff; Conducted a feasibility study to develop a wind farm for a Danish wind manufacturing company; Conducted a study for a technical assistance development agency in Germany to assess the potential of DSM in Jordan; Conducted a study for a technical assistance development agency in Germany to assess the potential of energy efficient electrical appliances in the household and commercial sectors in Jordan; Participated with a local energy service company in conducting an energy awareness study for energy efficient appliances in the household and commercial sectors in Saudi Arabia; Contracted by a UN organization to perform a project final review for an energy efficiency program in Saudi Arabia; Assisted a local manufacturing company in assessing energy and electricity supply options for a plant in Ghore Al-Safi; Conducted several feasibility studies for industrial and commercial projects including environmental aspects; Conducted a feasibility study for a biogas plant in Jordan for an investment group; Conducted a feasibility study for the conversion of the waste of olive oil production plants to useful and environmentally benign products; Member of the Board of the Fiber Optic Company; Published several journal articles and technical reports in the various fields of energy/electricity technologies and environmental issues; Worked as consultant for a local group of industrial companies to assist them in negotiating with government and electricity companies to reach an acceptable agreement to import natural gas for power generation. This work included studying all options and assessing their economics as well as reviewing contract agreements and terms and conditions of gas/power purchase and sale; and Advised a local electricity distribution company in a dispute with a local manufacturing company over electricity bills and low power factor penalty collection.

**Nazih M. Abu-Shikhah** is currently working as a commissioner in the electrical regulatory commission (ERC) in Jordan. He is an Assistant Professor and Headed the Department of Electronics and Communications Engineering at Amman University/Faculty of Engineering for two years. He also was the Deputy Dean of the Faculty of Engineering at Amman University for two years as well. Dr. Abu-Shikhah worked in government, para-government, and private sectors for about 20 years in Jordan and abroad (Kuwait and Australia). He holds a Doctor of Engineering degree from Queensland University of Technology, Australia, 2002. Dr. Abu-Shikhah is a registered "Expert" engineer with the Jordan Engineers Association. Dr. Abu-Shikhah, in addition to teaching full-time, conducts training in Jordan and abroad in strategic planning and business planning, project evaluation, performance improvement, start-up businesses, professional management consulting, electrical system development, tariff studies and investment planning, load research, energy and demand forecasting, demand side management, energy efficiency, energy conservation, environmental impact assessment, process optimization, and new product development. He also provides consultation in business development, feasibility studies, organizational re-engineering, business turnaround, project appraisal, and investment assessment. Dr. Abu-Shikhah's relevant expertise in energy projects consists of the following: Power system operation planning within National Electric Power Company (NEPCO); Short/medium/long -term Load forecasting applied to NEPCO grid; Optimization of operational costs studies; Generation expansion and availability studies; Developing reliability and performance indicators; Powers system security assessment through load flow, short circuit, and stability assessment; Load research statistical and time series analysis; Developing computer codes that were implemented in the course of system operation; Fault analysis within NEPCO grid; Syrian interconnection feasibility studies; Reactive power compensation studies;

Voltage stability and voltage profile analysis; Conducted several tariff adjustment studies; Studied several demand management options for application in Jordan; Worked as counterpart with German Technical Aid company (GTZ), Italian Electricity (ENEL); Consultaion service with Baily Jordan at an industrial plant in Yanbu' / KSA; and Published several journal articles and technical reports in the various fields of energy/electricity technologies and environmental issues.