
Professional Profile (Biography)

Hasan Suboh is the General Manager of EcoSol and Energy Efficiency and Renewable Energy Expert. Hasan Suboh has graduated from the Arab Academy for Science and Technology with a B.Sc. in Mechanical Engineering. During his experience, Mr. Suboh has been a member of the Association of Energy Engineers; AEE (Atlanta, USA) by holding the accreditation of Certified Energy Manager (CEM) Renewable Energy Professional (REP). Hasan is also a member of Jordan Engineers Association; JEA, and Jordan Energy Engineers Society.

Mr. Hasan has a rich experience in Energy Management; including Energy Auditing, Energy Management studies and consultancy services, power quality projects, design, implementation and management of renewable energy projects (Solar PV), implementation of energy efficiency measures, conducting Measurement and Verification (M&V) and conducting advanced Energy Analyses, market assessment and national studies on the policies level and Demand Side Management (DSM).

Hasan has been and member of many projects related to energy such as Household Loads Surveys and Analyses, Demand Side Management, Measurement and Verification, Strategic Planning, Energy Saving Action Plans, Surveys (Quantitative and Qualitative) and Data Analysis. Hasan has excellent skills in data collection, surveys, analysis, reporting and problem solving.

Areas of Expertise (Core Competencies)

- **Energy Efficiency:** Energy Auditing, Performance Contracting, Energy Efficiency Consultancy Services, Implementation of Energy Efficiency Projects, Measurement and Verification, Energy Management Strategic Planning, Energy Value Studies
- **Sustainability and Green Buildings:** LEED Certification, Implementing Green Buildings Requirements
- **Engineering Services:** thermal system Studies, Chillers Performance Studies.
- **Water Management:** Water Auditing, Storm Water Prevention Program.
- **Training and Capacity Buildings:** Design, Management and Delivering Training Sessions and Developing Training Materials in Energy Management and Green Buildings, Design and Development of Energy Management Guides and best practices materials.

Certifications, Accreditations and Awards

- Chief Marine Engineer part A [CME], Arab Academy for Science and Technology; Alexandria Egypt, 1996.
- Certified Energy Manager [CEM], the Association of Energy Engineers [AEE], Atlanta, USA, 2013.
- Renewable Energy Professional [REP], the Association of Energy Engineers [AEE], Atlanta, USA, 2012.

Technical experience

Following sub-sections provide in details of the technical capabilities and projects examples.

Experience in Energy Efficiency (Auditing, Implementation, M&V and Power Quality)

- Auditing several systems such as steam systems, mechanical Power Systems, HVAC systems, Pumps, Compressed Air System, steam and hot water systems, Industrial Processes, etc., to optimize energy and enrich efficiency aspects saving energy.
- Collecting all required data from the facility/Building under study.
- Conducting all engineering measurements and analyzing measurements outputs.
- Recommend Energy Management Opportunities that can be implemented.
- Conducting Energy Conservation Measures (ECM's) Calculations
- Carrying out an environmental and techno-economic analysis of proposed energy conservation measures.
- Conducting Energy Engineering analysis, benchmarking and finding Energy Efficiency KPI's
- Preparing audit reports and all supportive engineering analysis.
- Design of Energy Conservation Measures (ECMs)
- Developing Measurement & Verification Plans (M&V).
- Conducting Investment Grade Energy Audit (ASHRAE Level III)
- Implementation of energy conservation measures in some of the audited facilities on a Shared Energy Saving (SES) basis & Energy Performance Contracting programs (EPC).
- Carrying out the measurement and verification procedure to show and realize the actual achieved energy saving.
- Managing Energy Management Programs Projects (ECMs installation, supervision and M&V, EPC projects). Developing all required Plans for Energy Efficiency projects (Action, Safety, Quality...)
- Conducting full strategic energy planning and Energy programs Action plans.

Samples Energy Efficiency Projects (Energy Auditing, Implementation, M&V and Power Quality)

- Auditing 6 factories in Jordan under a project launched by Jordan Renewable Energy and Energy Efficiency Fund (JREEEF) and Jordan Chamber of Industry. Energy Auditing was conducted according to ASHRAE level II.
- Gate Development and Gate mall at Doha – Qatar, 2016: Energy Audit project of the development including the mall, three towers and parking. The building is designed as core and shell building and supplied by its need of cooling from district cooling company.
- Six ministries in Amman under the project of ESCB (Energy Sector Capacity Building); these ministries are: MoICT, MoFA, MoITS, MEMR, MoSD, EMRC. Energy Auditing for main buildings According to ASHRAE Level II; 2015-2016.

- Islamic Educational College – Amman, Jordan; 2015: Energy Audit Project for the management and American program building according to ASHRAE Level II Energy Audit
- Five Factories at El-Hasan Industrial Estate (EHIE) in Irbid under JCP Project (Al-Durra for General Trading and Investment, Arraeda for Hygienic Products, Haramain Cables, Pella Pharmaceutical Industries, Households and Toiletries Manufacturing Co.) , Energy Management Strategy, 2015.
- World Duty Free Group – Amman, Jordan; 2014: Energy Audit Project of the Company offices and warehouse at Queen Alia International Group. Followed by implementation of Energy Saving Measures.
- Amman Pharma Industries Company – Amman, Jordan; 2013: Energy Audit Project for the Factory Facilities at king Abdullah II Industrial Zone at Sahab.
- Capital Bank – Amman, Jordan; 2013: Energy Audit Project of the four main buildings
- Transjordan Trading Company – Amman, Jordan; Mitsubishi, 2013: Energy Audit Project of Management, Showroom, Maintenance and Spare parts center. Followed by implementation of all measures.
- University of Business and Technology; UBT – Jeddah, KSA, 2012: Energy and Water Audit of All University Facilities.
- King Fahad Medical City; KFMC – Riyadh, KSA, 2012: Energy and Water Audit Project of all facilities and buildings at the city.
- Kempinski Hotel – Aqaba, Jordan, 2012: Energy and Water Audit Project of the Hotel.
- Pharmacy One Company, Amman, Jordan, 2012: Energy and Water Audit Project of five pharmacies and warehouse, followed by implementing energy saving measures.
- Applied Sciences University, Amman, Jordan, 2012: Energy and Water Audit Project of All University Facilities.
- Arabtech Jardaneh Company, Amman, Jordan, 2012: Energy and Water Audit Project of Offices Building.
- Central Trade and Auto Company; Toyota and Lexus, Amman, Jordan, 2012: Energy and Water Audit project of Management, Showrooms, and Maintenance Centers and Spare parts Building.
- Mabarrat Um Al-Hussein, Amman, Jordan, 2012: Energy and Water Audit project, followed by implementing energy saving measures.
- United Cables Industries Company; UCIC, Mafraq, Jordan, 2011: Energy and Water Audit project of the Factory.
- More than Five Audits for large residential Villas at Amman (2011-2015).

Experience in Renewable Energy / Solar PV

- Site investigation and physical measurements, by conducting on-site needed measurements to monitor and record the actual behavior and consumption during a specific monitoring period and conducting billing analysis of last 12 months.

- Determining the allowable capacity of PV system in accordance with laws and regulations, available space and annual consumption, considering all parameters affecting the system capacity and performance.
- Client training, maintenance reporting, systems recommissioning.
- Preparing maintenance and operation plans for Solar PV systems.
- Analyzing systems operation and performance after installation on yearly bases to measure and verify production, performance ratio, detecting faults and issues to be resolved.
- Leading design, installation and after sales teams, and conducting quality assurance during all processes and phases.
- Conducting awareness sessions about Solar PV systems: theory, applications, benefits, maintenance...
- Conducting market study of available Renewable Energy products and solutions locally and internationally.

Samples of Renewable Energy / Solar PV Projects

- 413 kWp for Al-Theqa Fams, Zarqa – Jordan, 2019.
- 100 kWp for Jordan Construction Materials, Amman – Jordan, 2019
- 1,078 kWp for 34 schools under the project (Sustainable Education through Renewable Energy) with Prince Alia Foundation (PAF), Irbid and Mafraq – Jordan, 2018/2019
- 618 kWp for Jordan Dairy Factory, Zarqa – Jordan, 2018/2019
- 93 kWp for Institute of Banking Studies, Amman – Jordan, 2018/2019
- 94 kWp for Jordan Speed Center, Amman – Jordan, 2018/2019
- 794 kWp for Danish Jordanian Dairy Factory, Amman – Jordan, 2018
- 52 kWp for Water Treatment Plant at the Hashemite University, Zarqa – Jordan, 2018
- 407 kWp for Maha Plastic Factory, Zarqa – Jordan, 2018
- 160 kWp for Arab Bridge Maritime, Aqaba – Jordan, 2018
- 83 kWp for Jordan Polymerization Factory, Zarqa – Jordan, 2018
- 75 kWp for Islamic Society College, Zarqa – Jordan, 2018
- 92 kWp for Sha'rawi Gum Factory, Amman – Jordan, 2017
- 41 kWp for Jordan Islamic Bank, Amman – Jordan, 2017
- 86 kWp for Al-Kaloti Mosque in Aqaba, 2017
- 75 kWp for UNRWA – Baqa'a Health Center, 2017
- 340 kWp for 20 mosques in Irbid (Irbid phase II), 2016/2017
- 198 kWp at Dar Al-Arqam Schools, 2016/2017
- 135 kWp at Mitsubishi (Aqaba branch), 2016/2017
- 60 kWp at Vocational Training Center, Ma'an – Jordan, 2015
- 120 kWp at Central Electricity Generating Company, Amman – Jordan, 2015/2016
- 110 kWp at University Schools, Amman – Jordan, 2015.
- 30 kWp at Jordan United Investment Company, Amman – Jordan, 2015
- 30 kWp at Embassy of Sweden, Amman – Jordan, 2015.

General Manager

- 274 kWp at Al-Omariah Schools, Amman-Jordan, 2014/2015.
- 100 kWp at Shmaisani Hospital, Amman-Jordan, 2014.
- 276 kWp at Al-Ahliyya Amman University (AAU), Amman – Jordan, 2013.
- 50 kWp at Zarqa Chamber of Industry, Zarqa – Jordan, 2013.
- More than 1,100 kWp for more than 50 mosques at Amman, Zarqa and Irbid during 2014-2018.
- More than 370 kWp at residential buildings and villas at Amman and Zarqa, 2013-2018.

Employment History

- **December 2009 – Present:** General Manager at Eco Engineering and Energy Solutions, ECOSOL.
- **April 2006 – December 2009:** Smart property solution department manager, Energy Management Company (EMS).
- **1996-2006:** Chief Marin engineer, Abu-Dhabi Petroleum Port Operation Co.
- **1987-2006:** Marin engineer, United Arab Shipping Company.

Education

- Chief marine engineer part A, Arab Academy for Science and Technology; Alexandria Egypt, 1996.
- B. Sc., in Mechanical Engineering; Arab Academy for Science and Technology; Alexandria Egypt, 1987.

Memberships

- Association of Energy Engineers [AEE].
- Jordan Engineers Association [JEA].
- Jordan Marine Association [JMA].

Important Training Courses

- **Energy Management Systems – ISO 50001, Jordan Standard & Metrology Organization, Amman – Jordan – November 2012.**
- **Clean Technology Applications in Energy, Water & Environment, The Royal Scientific Society, Amman, Jordan – November, 2011.**
- **Performance Contracting for Water Use Efficiency, USAID, Amman, Jordan – May, 2010.**
- **LEED Gap Analysis - Respecting the Diversity through the Localization of the LEED Rating System in the Region – Jordan as a Case Study, Jordan Green Building Council, Amman – Jordan.**
- **LEED for New Construction & Major Renovations Technical Review Workshop, The Emirates Green Building Council, UAE - June 2007.**

Publications and Researches

- Eco Engineering and Energy Solution & King Abdullah II Award for Excellence TOT training material for energy and water management.
- Eco Engineering and Energy Solution & Amman Chamber of Industry “Guide of Energy and Water Management in Industrial Sector”, Amman – Jordan, 2014.
- Eco Engineering and Energy Solutions & USAID-PAP “Energy Recommended Management Practices for Hotel Buildings: Training Material”, Amman – Jordan, 2013.
- Eco Engineering and Energy Solutions & USAID-PAP “Directory of Energy Efficiency in Hotels”, Amman – Jordan, 2013.

Languages

- **Arabic:** mother tongue.
- **English:** Excellent reading, writing and conservation Skills

Engineering Softwares and Simulation Tools

- AutoCAD – 2D
- PVsyst (Simulation, Shading and Production Analyses for Solar PV systems)
- Sketchup (3D Drawing and Shading Analyses for Solar PV systems)

International certificates
