

Nader Hajj Shehadeh



Hazmieh - Lebanon

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RENEWABLE ENERGY & SUSTAINABILITY PROFESSIONAL

PROFILE

Nationality Lebanese

Degrees Master of Business Administration
Master of International Business
Postgraduate Diploma in Management of Development Projects
B.E. in Mechanical Engineering

Alma Mater École Polytechnique Fédérale de Lausanne (EPFL)
KEDGE Business School
Notre Dame University

Credentials Certified Energy Manager (CEM) Certified Sustainable Development Professional (CSDP)
LEED Green Associate Certified Carbon Reduction Manager (CRM)
EDGE Auditor Certified Solar Training Provider
True Zero Waste Advisor Certified Renewables Grid Manager
ISSP Certified Sustainability Professional Organizational Capacity Development Professional
EDGE Expert Certified Sustainable Business Change Agent
Greenhouse Gas Inventory Professional ISSP Sustainability Associate

Experience 13+ years in renewable energy, energy efficiency, sustainable development, & organizational strategy

Occupation Managing Director & Principal Consultant at OTB Consult

Areas of Expertise Sustainable Development, Renewable Energy, Energy Efficiency, Green Building Design, Project Development, Green Financing, Environmental Strategy, Environmental Assessment, Strategy Planning, Organizational Development, Business Consultancy, Capacity Building



SKILLS & EXPERTISE

- Design, operation, and full project development of Renewable Energy technologies
- Implementation of energy efficiency studies and economic feasibility analysis
- Needs assessment, strategic planning, capacity building, and policy development
- Greenhouse gas inventory analysis and reporting
- Strategic marketing, market analysis, and business development

KEY PROFESSIONAL ACHIEVEMENTS

Policy Development National Energy Efficiency Action Plan for Lebanon (2011-2015), National SWH Qualification Scheme, MENA Solar Atlas
National Energy Efficiency and Renewable Energy Action (NEEREA), Arab SHAMCI Solar Certification Scheme

Start-ups Engineers Without Borders - Lebanon (Lebanon), OutletHive.com (Online), NSE Arabia (KSA), RAUL Urban Resto

Publications 10+ Books & Reports, and more than 10 articles and conference proceedings

Coaching & Training Training more than 350 engineers and technicians
Presenting in more than 50 seminars and conferences

Technical Qualifying for 50MW BOO PV project in Jordan
Ranking second in the Design Supply Engineering of a 5MW PV System at the Hashemite University of Jordan
Project Development and feasibility studies for more than 60 MW Solar PV projects
Development of more than 80 green energy projects
Development and management of more than 80 energy audits

COUNTRY EXPERIENCE



Note: List of acronyms, abbreviations, and web-links are available in annex

EDUCATION		
École Polytechnique Fédérale de Lausanne (EPFL)		
† Degree: Certificate of Advanced Studies in Management of Development Projects (GPA: 5.21/6)		Sep 2011 – May 2012
KEDGE Business School (Formerly Bordeaux Ecole de Management)		
Degree: M.S. in International Business (Dean's List)		Sep 2010 – Jun 2012
Notre Dame University		
Degree: Master of Business Administration (Dean's List)		Sep 2010 – Jun 2012
Degree: B.E. in Mechanical Engineering (Emphasis: Energy)		Sep 2003 – Feb 2008
Greenhouse Gas Management Institute		
Diploma in Greenhouse Measurement, Reporting & Verification		Jan 2018 – Present
Diploma in Carbon Management		Dec 2017 – Present
Diploma in Greenhouse Gas Accounting		Nov 2017 – Present
Style Design College		
Diploma in Landscaping Design		Nov 2017 – Present
ACCREDITATIONS & CERTIFICATIONS		
Association of Energy Engineers (AEE)		
Certified Carbon Reduction Manager (CRM)		May 2020
Certified Sustainable Development Professional (CSDP)		May 2020
Certified Energy Manager (CEM)		Aug 2017
United States Green Building Council (USGBC)		
ISSP Certified Sustainability Professional (ISSP-CSP)		May 2020
ISSP Sustainability Associate (ISSP-SA)		April 2020
EDGE Auditor		Jan 2019
† City Climate Planner (Greenhouse Gas Inventory Specialist)		Jan 2018
† True Zero Waste Expert		Feb 2018
† EDGE Expert		Jan 2018
LEED Green Associate		Nov 2013
Canadian Institute for Energy Training (CIET)		
Certified Retscreen Expert (CRE)		May 2020
Greenhouse Gas Management Institute		
† 501 IPCC: GHG Inventory Cross-cutting Issues		Dec 2017
† 511 IPCC: Energy - 2006 IPCC Guidelines		Jan 2018
Renewable Energy Academy (RenAc)		
Licensed Trainer on Solar Resource Assessment and PV System Engineering		Sep 2015
† Certified Sustainable Gas Expert		Mar 2015
† Certified Renewables Grid Manager		Jun 2014
Certification in Integration of Large Amounts of Renewable Energy in Electricity Grid		Jun 2013
† Certificate in Basics of Grid Connected Solar Power and Wind Power		Feb 2012
University of Colorado		
Certified Sustainable Business Change Agent		Dec 2019
MDF Training & Consultancy		
Certificate in Organizational Capacity Development		Nov 2015
International Energy Agency (IEA)		
Certificate in Low Carbon Technology Policy and Planning		Apr 2011
CONTINUING EDUCATION		
Energy & Sustainability		
† Organic Solar Cells - Theory and Practice	Technical University of Denmark (DTU)	Aug 2014

AWARDS & RECOGNITIONS

Samir & Claude Abillama Eco-Entrepreneurship Award

Finalist (Project: COWOB 2040)

Feb 2015

† With Distinction

ADDITIONAL SKILLS & ABILITIES

Personal Skills

- Written and verbal presentation skills; Leadership and interpersonal skills; Analytical and problem solving skills
- Strategic planning and innovation: Training and facilitation skills; Talent management and development skills

Computer Skills

- Microsoft Office ®: Advanced
- HTML: Intermediate



Professional Software & Tools

- Microsoft Project: Advanced
- AutoCAD (2D&3D): Advanced
- PVSYSY: Advanced
- EDGE APP: Advanced
- RETScreen: Advanced
- HAP (Carrier): Advanced
- Polysun: Advanced
- LEAP: Advanced Beginner
- Homer Energy: Advanced Beginner
- TSOL: Advanced Beginner
- SAM: Advanced Beginner
- Ansys (Thermal): Advanced Beginner
- Solid Edge (2D&3D): Advanced Beginner
- Edge CAM (3D): Advanced Beginner



Languages

- Arabic: Native Excellent spoken, understood, and written
- English: Advanced Excellent spoken, understood, and written



PROFESSIONAL ORGANIZATIONS

Founding Member

- EWB-Leb: Founder of Engineers Without Borders Lebanon

Jan 2010

Board Member

- LSES: Vice President of the Lebanese Solar Energy Society
- FF2030: Board Member of Fast Forward 2030
- LSES: Vice President of the Lebanese Solar Energy Society
- EWB-Leb: President of Engineers Without Borders Lebanon
- LSES: Secretary General of the Lebanese Solar Energy Society

Since 2020
 Since 2019
 2012–2013 & 2016–2017
 Since 2010
 2010 – 2011

Member

- ISSP: A member of the International Society of Sustainability Professionals
- AEE: A member of the Association of Energy Engineers
- WEC: A member of the World Energy Council
- LSES: A member of the Lebanese Solar Energy Society
- EWB-I: A member of Engineers Without Borders International
- OEA: A member of the Lebanese Order of Engineers & Architect in Beirut
- PMI: A member of the Project Management Institute
- ISES: A member of the International Solar Energy Society
- ASME: A member of the American Society for Mechanical Engineers - Lebanon Chapter

Since 2019
 Since 2017
 Since 2016
 Since 2008
 Since 2010
 Since 2009
 Since 2014
 2009 – 2014
 2005 – 2007

REFERENCES & ADDITIONAL INFORMATION

Dr. Ahmad Houri	Associate Professor (LAU), LSES Former President	ahouri@lau.edu.lb	+961 3 317047
Ms. Jihan Seoud	UNDP E&E Programme Associate	jihan.seoud@undp.org	+961 1 962500
Ms. Zeina Al Hajj	Greenpeace Arab World	zalhajj@greenpeace.org	+961 1 411465
Ms. Alexandra Ataya	INTAJ Program Manager	aataya@mercycorps.org	+961 81 660023
Mrs. Nancy Hilal	UNDP Project Manager	nancy.hilal@undp.org	+961 3 582807
Mr. Hassan Harajli	UNDP/CEDRO Project Manager	hassan.harajli@undp.org	+961 1 981944

PROFESSIONAL EXPERIENCE

OTB Consult – Hazmieh, Lebanon

Managing Director & Principal Consultant

Sep 2014 – Present

Domain of Work: Energy efficiency studies and policy framework
Green building design and sustainability support
PV design and financial modelling
Energy audits and energy performance enhancement
Technical assessment of renewable energy solutions
Development of business ideas and project concepts
Strategic analysis and competitive strategy development



Outside The Box SARL

Chief Executive Officer

Oct 2014 – Present

Domain of Work: Startup consultancy and business development support
Business planning, financial modeling, and market analysis
Ideas development and strategic planning
Competitive positioning and restructuring
Operations management and performance enhancement



Greenpeace

Energy Advisor

Jan 2016 – Present

Services Provided: Preparation of and delivering a skill-building training to train electricians and engineering on the basics of solar PV systems
A combination of hands-on and theoretical learning



RISE2030

Technical Consultant

Nov 2019 – Present

Services Provided: Preparation of and delivering a skill-building training to train electricians and engineering on the basics of solar PV systems
A combination of hands-on and theoretical learning



NSE (Subsidiary of Int'ltec Group) – Riyadh, Kingdom of Saudi Arabia

General Manager / Technical Manager

May 2013 – Sep 2014

Domain of Work: Renewable energy, Energy Efficiency, Utility Scale plants
Scope of Work: Operating as a general manager and senior technical manager
Responsible for starting up the company (Staffing, strategy, cooperation...)
Submitting proposals utility scale PV plants in Jordan and Kuwait
Developing Large-scale PV projects in Jordan, Kuwait, and KSA
Technical assessment and engineering design for small-scale PV systems
Strategic planning of company's scope of work and activities



United Nations Development Programme (UNDP) / LCEC – Beirut, Lebanon

Energy Engineer (Leader of Technical Department)

Mar 2008 – Jun 2013

Domain of Work: Energy audit, Energy efficiency, Renewable energy, Strategic planning,
Scope of Work: Leading sustainable development activities and renewable energy projects
Preparation of technical specs for the first wind and PV farms in Lebanon
Setting up a national prequalification scheme for solar companies in Lebanon
Development and monitoring of the NEEAP for Lebanon
Control and review of green loans offered by BDL
Preparation of technical specifications for SWHs offered by MEW and UNDP
Execution of solar energy projects and evaluating bids and tenders
Organizing, supervising, and leading capacity building trainings & workshops
Supervision and follow-up on energy audit works



Aquatherma Engineering – Baabda, Lebanon

Design, Proposal and Site Engineer

Jul 2007 – Feb 2008

Domain of Work: Solar Energy and Water Treatment
Scope of Work: Proposal preparation for bids and tenders
Design & installation of solar thermal, water treatment and wastewater treatment systems



Solar Power – Hazmieh, Lebanon

Solar Engineer

Jan 2005 – Jun 2007

Domain of Work: Design & installation of residential solar water heating units
Building energy performance studies

Jordan Pipes Manufacturing Company (JPMC) – Zarqa, Jordan

Trainee Engineer

Jul 2006 – Sep 2006

Domain of Work: Pipe manufacturing, maintenance, quality control, metal treatment
Scope of Work: Overlooking the safety procedure in the plant
Quality inspection and performance analysis
Efficiency analysis to resource management
Standards & quality control inspections

**Raul Urban Resto**

Founder & Manager

Feb 2016 – Present

Domain of Work: Food & Beverage
Business: Mexican fusion express restaurant in Carrefour - Beirut City Centre

**OutletHive.com**

Founder & Manager

Sep 2013 – Sep 2015

Domain of Work: E-commerce
Business: Handmade, organic products, artistic items...



CONSULTANCY ASSIGNMENTS

United Nations Development Programme (UNDP)

Maachouk-Tyre WASH Activities

(2020)

Services Provided: Rehabilitation and Maintenance for solar pump
Water buffer tank rehabilitation works
Water storage assessment and survey

**United Nations Development Programme (UNDP)**

Ain Helwe Camp Adjacent Area WASH Activities

(2020)

Services Provided: Water and wastewater network sizing and design
Solar pumping design and supervision
Well inspection, assessment, and rehabilitation
Electrical and mechanical rehabilitation works

**United Nations Development Programme (UNDP)**

Assessment of MISCA Platform

(2020)

Services Provided: Evaluation and assessment of MISCA platform
Testing and verification as per IPCC reporting requirements
Training of users on data entry and validation
Identification of inconsistencies and methodological errors and bugs

**GIZ - ConTra (Contracting & Training)**

Solar Design Consultant

(2020)

Services Provided: Technical survey & solar design of wastewater pumping station
Technical survey & solar design of waste sorting facility
Technical survey & solar design of park solar house

**René Moawad Foundation**

Solar Auditor

(2019)

Services Provided: Inspection of solar PV installation at Menjez Municipality
Commissioning and handover of solar installations

**United Nations Development Programme (UNDP)**

Solar Design for Lebanese Army Forces

(2019)

Services Provided: Design of 26 solar thermal system for remote barracks
Training and capacity building for engineering team at LAF



United Nations Development Programme (UNDP)

Developing the Kigali Cooling Plan Strategy for Lebanon (2019-2020)
Services Provided: Development of the national cooling plan for Lebanon
Development and enforcement of MEPS and labels for RAC units
Training and capacity building of RAC manufacturers



World Vision

Solar Street Lighting Designer (2019-2020)
Services Provided: Assessment of streetlighting in the area of Furn Chebak
Design of solar streetlighting solution
Tender document preparation and specs identification
Commissioning and supervision of implementation



Chemonics International

Expansion Strategy Development for Bechmezzine Material Recovery Facility (2019-2020)
Services Provided: Situation analysis and performance assessment
Revision of expansion plan to reach Koura District
Technical and operational feasibility study
Financial planning and financial feasibility
Expansion plan and performance enhancement



United Nations Development Programme (UNDP)

Beddawi Camp Adjacent Area WASH Activities (2019)
Services Provided: Water and wastewater network sizing and design
Solar pumping design and supervision
Residential solar water heating systems
Electric grid rehabilitation
Capacity building and solar training of local communities



René Moawad Foundation

Solar Auditor (2019 - 2020)
Services Provided: Inspection of solar installations and verification of compliance
Commissioning and handover of solar installations



René Moawad Foundation

ESCOLEB Project Concept Development (2019)
Services Provided: Development of a project concept to support ESCOs in Lebanon
Development of feasibility analysis and business plan



Finance in Motion & European Investment Bank

Energy Assessment for Green for Growth Fund (GGF) at Byblos Bank (2018-2019)
Services Provided: Assess and study energy measures to confirm energy saving
Perform ex-post verification for green measures
Offer help-support and training to Byblos bank



ACTED Lebanon & The Alliance 2015

Solar Maintenance and Repair Curriculum Contextualization & Training of Train (2018-2019)
Services Provided: Development of a 150-hour solar training curriculum
Design of a training center and solar lab
Training of trainers to be delivering the course
Preparation of pre and post exams



Mercy Corps International

Bechmezzine Waste Facility Solarization Upgrade (2018-2019)
Services Provided: Solar system design and tender preparation
Technical support and assessment of solar bids
Installation supervision and commissioning of the PV Plant



Medecins Sans Frontieres

Solar Heater Plant Design and Supervision (2018)
Services Provided: Design and sizing of a solar thermal plant in Bar Elias Hospital
Capacity investigation and system configuration
Site inspection and system layout
Verification of installation and commissioning
System testing and approval



Mercy Corps International			
Wastewater Treatment Solar System Design		(2018)	
Services Provided:	Design of a standalone solar system for a waste water treatment unit Technical support and assessment of solar bids Installation supervision and commissioning of the PV Plant		
United Nations Development Programme (UNDP)			
Maachouk Domestic Water Network Design		(2017)	
Services Provided:	Validation of the of the household connection study Solar PV pumping station supervision and validation Finalized water network schematic diagram		
Mercy Corps International			
Bechmezine Waste Facility Solarization		(2017)	
Services Provided:	Solar system design and tender preparation Technical support and assessment of solar bids Installation supervision and commissioning of the PV Plant		
United Nations Development Programme (UNDP)			
Update energy mitigation actions in private sector & non-state actors in Leban		(2017)	
Services Provided:	Review mitigation actions reported in the 1st BUR2 Update information related to implementation progress Identify projects, activities, policies and initiatives undertaken		
Mercy Corps International			
Solar Training Developer and Provider		(2017)	
Services Provided:	Development of a solar training program for water heating Conducting 10 training sessions & train 150 students Providing trainees with hard and soft skills		
United Nations Development Programme (UNDP)			
Improving Living Conditions in Palestinian Gatherings Host Communities		(2016)	
Services Provided:	Review design of Photovoltaic Pump in Ain El Helweh Camp Assess 2 Gatherings in South for Solar Kits installation Supervise Installation of Photovoltaic Pump		
Greenpeace MENA			
Solar Training Program		(2016)	
Services Provided:	Preparation of and delivering a skills building training to train electricians and engineering on the basics of solar PV systems		
United Nations Development Programme (UNDP)			
Energy Audit Consultant		(2016)	
Consultant to CEDRO to Complete the Energy Audit Report in the Industrial Sector			
Services Provided:	Review the guideline report on energy efficiency Present at CEDRO's Energy Security for Lebanese Industrial Sector workshop		
Mercy Corps International			
Energy Audit Technical Consultant		(2016)	
Services Provided:	Conduct energy audits and energy performance assessments Helping industries reduce product cost and improve competitiveness		
Greenpeace Arab World			
Strategic Planning and Technical Advisor		(2016)	
Services Provided:	Technical advisory on execution of "Shams Bi Balesh" action on solar PV Preparation of a market intervention action plan Participation in outreach and awareness raising activities		
Mercy Corps International			
Energy Audit Technical Consultant		(2015)	
Services Provided:	Preparation a pre-assessment report to be used in the energy audit Drafting an energy audit TOR for tender & assisting in bidders evaluation Providing technical oversight of energy audit activities Providing techno-financial assessment and evaluation		

Greenpeace Arab World

Renewable Energy Consultant (2015)
Services Provided: Preparation of a Situation Analysis report of the Renewable Energy Market in Lebanon in order to have clear understanding of the current Renewable Energy situation in Lebanon to better shape Greenpeace's future intervention



United Nations Environment Programme & RCREEE

Review & Update of the Lebanese Case Study on the GSWH Project (2015)
Services Provided: Review and update of the techscope assessment of the Lebanese solar thermal market improvement as a result of the GSWH project
Preparation of the GHG inventory techscope assessment and evaluation of the emission reduction of the project



SHAAMS Project

Preparation of SEAP (Sustainable Energy Action Plan) (2015)
Services Provided: A vision and long term actions, specifying the overall CO2 emissions reduction target by 2020 and the priority areas of action
A comprehensive set of actions, with pilot action, indicative budget, time



SHAAMS Project

External expert for drafting technical specifications (2015)
Services Provided: Preparation of technical specification for hybrid 1kW Solar PV systems working on both batteries and the grid
Support in procurement and preparation of BOQ and evaluation process
Preparation of preliminary design for the PV systems



United Nations Development Programme (UNDP)

Consultant of the Financial Study Targeting NEEREA Loans and Private Banks (2015)
Services Provided: Determine the current status of NEEREA loans and their ease of access
Document the formal process for applying for and receiving a NEEREA loan
Identify difficulties related to applying and receiving a NEEREA loan



United Nations Development Programme (UNDP)

Municipality of Menjez Renewable Energy Assessment (2015)
Services Provided: Feasibility & applicability of transforming Menjez into a sustainable village
Prepare a technical proposal to the US-Aid funded programme Baladi
Design, planning, feasibility, and applicability of renewable energy



United Nations Development Programme (UNDP)

Energy Assessment & Mitigation Initiatives in Commercial & Institutional Sector (2015)
Services Provided: A nation-wide survey to assess the energy consumption of both the commercial and institutional sectors in Lebanon for the period of 2005-2012
Identify existing mitigation initiatives in both sectors to reduce consumption
Analysis of the survey results, trend assessment, and extrapolation of sample



United Nations Development Programme (UNDP)

Technical Assessment of Solar-powered Pumps (2015)
Services Provided: Assessment of water pumping system in North Lebanon
Assessment of existing installations of solar-powered pumps
Technical assessment and design of typical solar-powered water pump
Financial feasibility of solar-powered pumping



United Nations Development Programme (UNDP)

Assessment of the Street Lighting in Lebanon (2015)
Services Provided: Study & analysis of existing street lighting installations in Lebanon
Undergo technical and financial analysis of possible street lighting solutions
Undergo environmental analysis and LCA of possible street lighting solutions
Draft reforms to integrate optimum street lighting solutions for Lebanon
Prepare recommendations for sustainable street lighting actions in Lebanon



International Labor Organization (ILO)

Development of vocational training on installation & operation of Solar Heaters (2011)
Services Provided: Development of training curriculum and preparation of training material
Procurement of training equipment
Execution of Training



Italian Cooperation in Lebanon

Development of Training of Trainers program at Schneller Technical School (2011)
Services Provided: Development of training curriculum and preparation of training material
Procurement of training equipment
Setting up training facility
Execution of Training



United Nations Economic and Social Commission for Western Asia (UN-ESCWA)

Development of Training program on manufacturing of Solar water heaters at I (2009 - 2011)
Services Provided: Development of training curriculum and preparation of training material
Publishing a manufacturer's guide
Execution of Training



Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ)

Promotion of Vocational Education and SME Development (2009)
Services Provided: Development of training curriculum and preparation of training material
Preparation of training material & delivery of training



ORGANIZATIONAL DEVELOPMENT CONSULTANCIES

The Nawaya Network

Management Development Training (2018)
Services Provided: Organizational development support to management team
Development of online training as well as face to face training
Strategizing & building an action plan for development
Team development and management skills activities
Restructuring, redefining, and reorganizing



RAUL Urban Resto

Start-up, Strategy, & Competitive Planning (2016)
Services Provided: Business plan and strategy assessment
Concept creation and business modeling
Capability assessment following the 5C model



RNW Media

Organizational & Change Assessment (2015)
Services Provided: Assessment of the internal learning strategy and development of a comprehensive strategy for internal and external capacity development
Change analysis and review of Organizational mission & goals
Capability assessment following the 5C model



Munchies House

Organizational & Capacity Development (2014)
Services Provided: Competencies mapping and capacity development strategic plan
Human resources assessment and management strategy



Engineers Without Borders Lebanon

Organizational & Capacity Development (2014)
Services Provided: Review of organizational structure and development of an effective mapping
Capability assessment following the 5C model
Development of an internal learning strategy
Sustainability assessment and planning
Stakeholder mapping and analysis



GREEN DESIGN & ENERGY AUDIT CONSULTANCIES

Green Building Certification

EDGE: Lebanese American University (2020)

Sustainability Consultancy (Design, Planning, and Application)

Keserouan Medical Center: Green consultancy & feasibility analysis of the largest medical center in Lebanon (2018)
Bsalim 315: Green consultancy & feasibility analysis of an 80 dwelling complex (2018)
Aquagate: Green consultancy & feasibility analysis of a seaside commercial complex (2018)
White Residence: Green consultancy & feasibility analysis of a high-end residential building (2018)
The Landmark: Green consultancy & feasibility analysis of a high-end commercial building (2018)
Isocele Commercial Center: Green consultancy & feasibility analysis of a high-end office building (2018)

Horizon: Green consultancy & feasibility analysis of a high-end residential building	(2018)
FLYP: Green consultancy & feasibility analysis of an entertainment facility in Beirut	(2018)
Cronus Dorms: Green consultancy & feasibility analysis of a 240-studio dorms	(2018)
Yared Headquarters: Green consultancy & feasibility analysis of an industrial warehouse	(2018)
Maximus Hotel: Green consultancy & feasibility analysis of a 200-room hotel	(2018)
Forest Resorts: Green consultancy & feasibility analysis of a commercial complex in Metn area	(2018)
Skyfall: Green consultancy & feasibility analysis of a commercial complex of more than 5,000 square meters	(2018)
Centre Hospitalier Du Nord: Green consultancy & feasibility analysis of the extension building	(2018)
The One Residential Complex: Green consultancy & feasibility analysis of a residential complex offering more than	(2018)
Lebanese American University: Green consultancy & feasibility analysis of a new extension building	(2017)
Emile Rassam HQ: Green consultancy & feasibility analysis of a new industrial facility	(2017)
V-Verdun: Green consultancy & feasibility analysis of a mixed-use building	(2017)
Royal Hills: Green consultancy & feasibility analysis of a residential building in Beirut	(2017)
Searock Residence: Green consultancy & feasibility analysis of a residential building in Beirut	(2017)
Zouk817: Green consultancy & feasibility analysis of a commercial center in Zouk	(2017)
Tilal Faqra Complex: Green consultancy & feasibility analysis of a 40-chalet complex	(2016)
UrbOne: Green consultancy & feasibility analysis for a multi-use complex in Hazmieh	(2016)
ValVerde Complex: Green consultancy & feasibility analysis of an 8-bloc 5-storey residential complex	(2016)
Forest Hill Complex: Green consultancy & feasibility analysis of a 18-bloc 5-storey residential complex	(2016)
BH1920: Green consultancy & feasibility analysis of a 10-storey office building	(2016)
H163: Green consultancy & feasibility analysis of a 12-storey commercial/residential building	(2016)
Wimpy Hotel: Green consultancy & feasibility analysis of a commercial hotel in Hamra	(2016)
Bsalim 1247 Complex: Green consultancy & feasibility analysis of a residential complex in Bsalim	(2016)
Dr. Abou Jawdeh Residence: Green consultancy & feasibility analysis of a 3-storey building in Roumieh	(2016)
Olive Gardens: Green consultancy & feasibility analysis of a 20,000 sq. meter complex in Bchamoun	(2016)
Mont-Royal Challets: Green consultancy & feasibility analysis of a challet complex in Faqra	(2016)
Nabay 501 Residences: Green consultancy & feasibility analysis of a 2-bloc residential complex in Nabay	(2016)
S.Bechara Residence: Green consultancy & feasibility analysis of a residential building in Kleiat	(2016)
Les Domes De Sursock Apartment: Green consultancy & feasibility analysis of an apartment in Ashrafieh	(2016)
Mansour Villa: Green consultancy & feasibility analysis of a 2,000 sq. meter villa in Rabieh	(2016)
Baabdat Residences: Green consultancy & feasibility analysis of a 2-bloc residential complex in Baabdat	(2016)
Kaslik 2483: Green consultancy & feasibility analysis of a chalet complex in Kaslik	(2016)
Rahhal Villa: Green consultancy & feasibility analysis of a residential Villa in Louaizeh	(2016)
Majdalani Villas: Green consultancy & feasibility analysis of a residential villa in Ajaltoun	(2016)
Jran Bangalows: Green consultancy & feasibility analysis of a religious tourism complex in Jran	(2016)
Haddad Villa: Green consultancy & feasibility analysis of a residential Villa in Ain El Kharoubeh	(2016)
Antoun Villa: Green consultancy & feasibility analysis of a residential Villa in Barsa	(2016)
Bridi Residence: Green consultancy & feasibility analysis of a residential unit in Qortada	(2016)
Roukoz Residence: Green consultancy & feasibility analysis of a residential unit in Metn	(2016)
Dandan Villa: Green consultancy & feasibility analysis of a residential Villa in Jbeil	(2016)
Najem Villa: Green consultancy & feasibility analysis of a residential Villa in Hboub	(2016)
MHM Office Building: Green consultancy & feasibility analysis of an office complex in Beirut	(2016)
SG Matta Antelias: Green consultancy & feasibility analysis of a showroom building in Antelias	(2016)
Tilal Faqra: Green consultancy & feasibility analysis of a multi-bloc chalet complex in Faqra	(2016)
IKON-294: Green consultancy & feasibility analysis of a 15-storey residential building	(2015)
Vermelho: Green consultancy and feasibility analysis of a 14-storey residential building	(2015)
Geitaoui General Hospital: Green consultancy for an extension of the hospital	(2015)
Tilal Ain Saade Complex: Green design & feasibility for a 10,000 sq.m complex	(2015)
Librex Commercial Building:s Green design for two 6-storey commercial buildings	(2015)
Faraya Square Center: Green design for a 2,500 sq.m challet complex	(2015)
Faraya 1716: Green design for a 3,000 sq.m challet complex	(2015)
Uniview Apartments: Green design & feasibility for a 90-room dormitory	(2015)
Khairallah Residence: Green design for an 800 iconic sq.m residence	(2015)
Judge Ziad Dawalibi Residence: Green design for a 500 sq.m residence	(2015)

Energy Audits

World Vision National Office	(2019)
Dalal Steel	(2019)

Perla Tissue Manufacturing	(2017)
Tel Chiha Hospital	(2016)
Lebanese Fiber Company (LEFICO)	(2016)
Lebanese Recycling Works	(2016)
Skaffarm Dairy	(2016)
New Canon Textile	(2016)
Sajouna Bakery	(2016)
Khalil Rizk Plastic Works	(2016)
Ezzedine Group for Plastic Works	(2016)
Perla Paper Tissues Industry	(2016)

SELECTED PROJECTS & ACTIVITIES

Technical

Coordination: MEW RFP for the purchase of public street lighting systems (on-grid, decentralized)	Mar 2013 – May 2013
Support: MEW national public street lighting initiative through the installation of photo-sensors	2012 – 2013
Supervision: Supply & installation of a solar water heating system for Mays El Jabal governmental hospital	Apr 2009 – Dec 2009
Supervision: Energy audit studies for 120 industrial, commercial and public sector buildings	Mar 2008 – Aug 2009
Supervision: Installation of solar water heating systems for nonprofit centers in Bekaa and South Lebanon	Mar 2008 – Mar 2009

Business & Management Consultancy

Market strategy & business development for a startup wedding & event planning company (Silver Lining sarl)	2014
Operations consultancy and strategy setup for a local restaurant (Munchies House)	2014
Feasibility and Market Study for the establishment of a commercial snail farm in Lebanon	2014
Financial feasibility and business planning for an athletic gym in Lebanon	2014
Feasibility and market study for the implementation of Gasification Waste-to-Energy plants in Lebanon	2012
Business plan for establishing a regional Energy Service Company serving the MENA region	2011

Capacity Building

Training on Solar Thermal Systems Installation, Commissioning, & Design	Chouf – Lebanon	22-30 Aug 2017
Training on Design, Installation and Operation of Solar Systems	Zahle – Lebanon	10-12 Aug 2017
Training on Solar Thermal Systems Installation, Commissioning, & Design	Jib Jinin – Lebanon	1-9 Aug 2017
Training on Solar Thermal Systems Installation, Commissioning, & Design	Zahle – Lebanon	12-21 Jun 2017
Training on Design, Installation and Operation of Solar Systems	Sour – Lebanon	18-22 Jul 2016
Training on Installation and Operation of Solar Water Heaters	Schneller school – Bekaa, Lebano	17-18 Nov 2011
Practical Training on Manufacturing SWH Collectors (5 Courses)	IRI – Beirut, Lebanon	2009 - 2011
Vocational Training on Installation, Operation, and Maintenance of SWH	Aleppo Training Center – Syria	26-28 Mar 2011
Intensive Course on Installing Solar Systems	DonBosco Technique – Lebanon	24 Nov 2009
Training on Installation of SWH Systems (In Theory & Practice)	Dikwaneh Technique – Lebanon	4-6 May 2009
Training on Energy Efficiency and Conservation (6 sessions)	Finance Institute – Beirut, Lebanon	Jun – Aug 2008
Training on Self Construction of Solar Thermal Systems	DonBosco Technique – Lebanon	2-23 Jul 2008

Rural Development

Beekeeping for Poverty Alleviation and Sustainable Rural Livelihood	Mar 2012 – Sep 2014
Developing Skills for Farmers in Rural Areas of Aleppo	Mar 2011

TRAINING

Carbon Reduction Manager Training	AEE	Mar 2020
Certified Sustainable Development Professional Training	AEE	Nov 2017
Hands on training on the preparation and reporting of mitigation actions	UNFCCC - Siem Reap, Cambodia	4-7 Sep 2017
Certified Energy Manager Training Course	AEE - Byblos, Lebanon	27-31 Jul 2017
Solar Resource Assessment & PV System Engineering	Renac - Solar Med Atlas	6-10 Sep 2015
ESCOs for Management and Business Developers	MED-ENEC/LCEC	20-24 Apr 2015
Sustaining Training on Biogas	RenAc - Berlin, Germany	Sep 2014 - Feb 2015
PV course: Everything you always wanted to know about PV (photovoltaics)	Leonardo Energy	Jan - Jun 2014
Residential Photovoltaic Systems	Leonardo Energy	Jun 2014
Small Scale Wind Energy Systems	Leonardo Energy	Jun 2014
Project Management Professional Training	SimpliLearn	Mar 2014
Standardization, Certification, and Testing of Solar Thermal Products	Universität Stuttgart – Germany	5-8 Jun 2012

Integrated Home Systems	Leonardo Energy	Jan 2012
Introduction to Renewable Energy - SEI	Solar Energy International	Oct 2011
Power Quality Learning Series	Leonardo Energy	Sep 2010 - Aug 2011
Voltage fluctuations (flicker)		Aug 2011
Reliability of electricity supply		Aug 2011
Compensation of reactive power. Voltage and current unbalance		Aug 2011
Distributed Energy Sources and Power Quality. Energy storage systems		Jul 2011
Earthing systems		Apr 2011
Overvoltages and transients		Jan 2011
The influence of static converters on the supply network		Jan 2011
Utility Package Electricity supply system. Frequency and Voltage control. Quality of supply. Tariffs and		Oct 2010
Introduction into Power Quality. Voltage dips and short interruptions		Sep 2010
PV Systems: Design, construction, operation and maintenance	Leonardo Energy	Sep 2010
Pricing Renewables: Feed-in Tariff Design and Structure for Wind and Solar	EgyptERA – Cairo, Egypt	4-8 Apr 2011
Introduction into Power Quality, Voltage Dips and Short Interruptions	Leonardo Energy	Aug 2010
Design Electric Substations	Bentley	Aug 2010
Energy Audit in Buildings Training	RCREEE – Gammarth, Tunisia	1-5 Jun 2010
Large Portfolio Benchmarking 201	Energy Star	24 Feb 2010
Benchmarking Water/Wastewater Plants in Portfolio Manager	Energy Star	23 Feb 2010
Young Leaders Training on Renewable Energy and Energy Efficiency	RenAc – Berlin, Germany	1-12 Nov 2009
Energy Audit Infield Intensive Training	CRA2E – Tunis, Tunisia	11-18 Oct 2009

WORKING GROUPS

First Lebanese Wind Farm Expression of Interest Evaluation Committee		2011-2012
Low Carbon Development Network - MENA Countries		2012-2013
Working Group of the Shamci Network - RCREEE Countries		2012-2013
ARAB NEEAPs Implementation Group		2012-2013
Solar Atlas for the Mediterranean Working Group		2011-2013
Implementation Management Unit of the Ministry of Energy and Water National Strategy		2010-2011
SHAMCI Network		2012-2013

REMARKABLE PROJECTS

Development of the Agricultural Rural Development Initiative (ARDI) Oct – Nov 2014

- Development, Planning, and Feasibility Analysis
- Business Plan and Project Concept
- Feasibility Study and Impact Analysis
- Strategic Action Planning & Project Benchmarks

50 MW PV Park in the Hashemite Kingdom of Jordan (BOO) Nov 2013 – Jun 2014

- Predevelopment, Development, Design, Bidding, & Negotiation
- Technical Due Diligence (Geological and topographic study, Solar and shadow study, Grid connection study, Environmental Impact Study, Landscape analysis, and Yield analysis)
- Financial & Legal Due Diligence (Tax revision, legal structuring, financial modeling, grid feasibility...)
- PPA Definition (Capex & Opex validation, Purchase price proposal, Negotiation & terms review...)



5 MW Grid-tied PV System at the Hashemite University of Jordan (DSI) Oct 2013 – Jan 2014

- Design & Bidding
- Technical design of a 4 MW medium-voltage ground-mounted PV system
- Technical & architectural design of a 1 MW low-voltage canopy and carport PV system



PUBLICATIONS

Books

Solar Photovoltaic Electricity for your House (Co-Author)	Sep 2013
Training Manual on the installation, operation, and maintenance of the solar heater	Dec 2010
The Manufacturer's Guide on Solar Water Heaters	Jul 2009

Reports & Studies

Solar Water Heater's Market evaluation: Case Study of Lebanon 2015	Nov 2015
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Sustainable Street Lighting: A Guide to Efficient Public Street Lighting for Lebanon	Nov 2015
Solar-Powered Pumping in Lebanon	May 2015
Lebanon's First National Survey Study of the Solar Water Heaters Market	May 2014
The Residential Solar Water Heaters Market in Lebanon in 2011	Sep 2012
The National Energy Efficiency Action Plan for Lebanon	Feb 2012
Findings of Nine Energy Audit Studies	Oct 2010
The Solar Thermal Market in Lebanon: Current Supply, Trends, and Barriers	Mar 2010

Conference Proceedings

The Solar Thermal Initiative: 190,000 m2 of Solar Water Heaters by 2014	Apr 2010
Feasibility Study of a Solar Water Heating System for a Typical Hospital in Lebanon	Mar 2009
Renewable Energy in Lebanon: The Sustainability Strategy & the Significant Role of LCEC	Feb 2009

Articles & Writings

Awakening Decentralized Photovoltaic Solar Power in Lebanon	Renewable Energy World.com	Feb 2013
Solar PV Self-Cleaning Solution	LSES Newsletter - Issue 8	Sep 2014
Municipal Solid Waste: A Source of Untapped Potential	LSES Newsletter - Issue 7	Jun 2011
Energy from Unusual Sources	LSES Newsletter - Issue 6	Oct 2011
The Feed-in Policy and Net Metering in Lebanon	LSES Newsletter - Issue 5	Oct 2010
Energy Efficiency in the Food and Beverage Industry	SLFI Newsletter - Issue 2	Jan 2012
Energy Efficiency, Renewable Energy, and Green Projects	SLFI Newsletter - Issue 1	Oct 2011

Reference Work (Click to Access)

Awakening Decentralized Photovoltaic Solar Power in Lebanon	Solar PV Electricity for your House
Solar Manufacturing Guidebook (Arabic)	Residential SWH Market in Lebanon
A guide to efficient public street lighting in Lebanon	NEEAP for Lebanon 2011-2015
Solar-Powered Pumping in Lebanon	Findings of Nine Energy Audit Studies
Menjez Sustainable Energy Action Plan	Solar Thermal Market in Lebanon
Lebanon's First Survey of SWH	

Reference Data

AEE	Association of Energy Engineers
ASME	American Society of Mechanical Engineers
BDL	Banque du Liban
BOO	Build, Own, and Operate
CEDRO	Country energy efficiency and renewable energy demonstration project for the recovery of Lebanon
CRAZE	Cabinet de Realisation des Audits et Etudes Energetiques
CRES	Center for Renewable Energy Sources
DSI	Design, Supply, & Installation
DTU	Technical University of Denmark
EgyptERA	Egyptian Electric Utility and Consumer Protection Regulatory Agency
EIB	European Investment Bank
EPFL	École Polytechnique Fédérale de Lausanne
ESCWA	Economic and Social Commission for Western Asia
ESIB	Ecole Supérieur des Ingenieur de Beyrouth at USJ
EWB-I	Engineers Without Borders International
EWB-Leb	Engineers Without Borders Lebanon
GGF	Green for Growth Fund
GSTEC	Global Solar Thermal Energy Council
Ideko	Industrial Engineering Company
IEA	International Energy Agency
IFC	International Finance Cooperation
IIEC	International Institute for Energy Conservation
ILO	International Labor Organization
IRI	Industrial Research Institute
ISES	International Solar Energy Society
ISSP	International Society of Sustainability Professionals
JPMC	Jordan Pipes Manufacturing Company
LAS	League of Arab States

LCEC	Lebanese Center for Energy Conservation
LGBC	Lebanese Green Building Council
LMU	Ludwig-Maximilians-Universität München
LSES	Lebanese Solar Energy Society
MED-ENEC	Energy Efficiency in the Construction Sector in the Mediterranean
MENA	Middle East and North Africa
MEW	Ministry of Energy and Water
NEEAP	National Energy Efficiency Action Plan
NEEREA	National Energy Efficiency and Renewable Energy Action
NERC	National Energy Research Center
NREA	New and Renewable Energy Authority
OEA	Order of Engineers and Architects in Beirut
PMI	Project Management Institute
PMP	Project Management Professional
PWMSP	Paving the Way for the Mediterranean Solar Plan
RCREEE	Regional Center for Renewable Energy and Energy Efficiency
RenAc	Renewable Energy Academy
RMF	Rene Moawad Foundation
RNW	Radio Netherlands Worldwide
SEI	Solar Energy International
SLFI	Syndicate of Lebanese Food Industrialists
TTA	Trama TecnoAmbiental
UCSD	University of California San Diego
UNDP	United Nations Development Programme
UNEP	United Nations Environment Programme
USJ	Université Saint-Joseph de Beyrouth
WEC	World Energy Council