



The Lebanese Solar Energy Society

Preamble

LSES was established in 1980 on the initiation of highly educated engineers. LSES members included solar energy companies' owners, chairmen of university engineering departments, chemical, mechanical and electrical engineers as a non-profit organization, but the war in Lebanon, from 1975 to 1990, and its economic consequences, were a major handicap to the development of LSES in Lebanon. Not until the start of 2002, LSES was able to resume its activities with new members, new elected administrative board and new challenges. LSES has been very active since.

From 1975 until today and beyond, the Lebanese energy scene was characterized by:

First: The growth of power demand against available power supply, has led to:

- A growing power shortage on the national grid.
- The imposition of daily programmed blackouts and,
- The chaotic spreading of illegal stand-alone power generators filling the power gap and polluting the atmosphere.

Second: Lebanon, imports most of its energy needs in the form of fossil products and consumes them with a high degree of waste (high energy intensity), a waste that ought to be controlled and reduced.

Third: Lebanon possesses renewable energy resources which, if developed and promoted, can partially compensate for the shortage of available energies.

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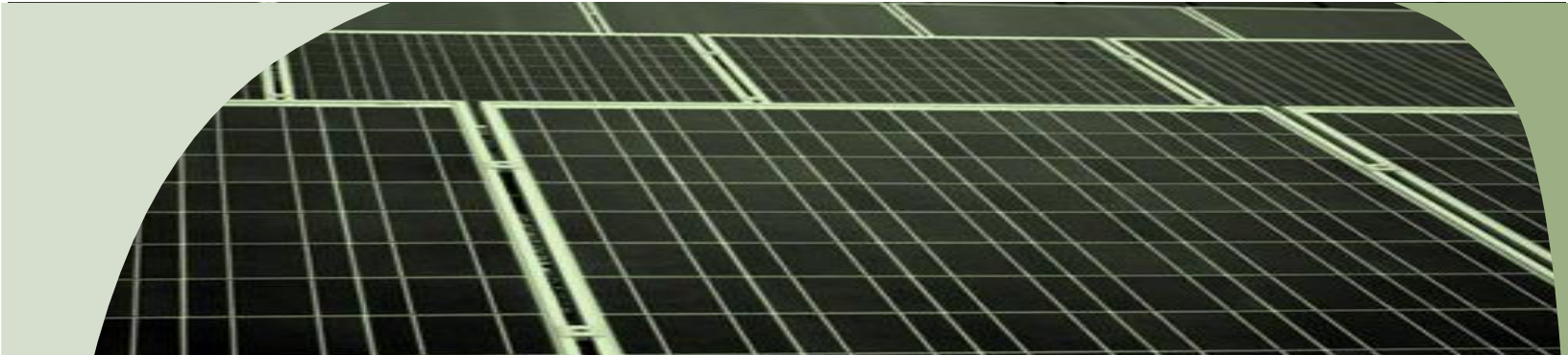
Sustainable Development Through Renewable Energy

LSES Objectives

The main LSES objectives are:

- 1) To get together associations of professionals, as well as individuals interested in the development of solar energy in all its various aspects.
- 2) To develop education programs and training sessions regarding the various applications of renewable energies in general and more particularly direct solar energy.
- 3) To set up gradually "Quality Label" with a view to guarantee the quality of services linked to the design, manufacturing, installation and exploitation of solar energy fields.
- 4) To encourage development and protection of the manufacturing of solar systems, in order to achieve a good quality of the equipment for the benefit of the users.
- 5) To inform and lead the public opinion on any matters regarding solar energy for the benefit of the national economy and environment in Lebanon.
- 6) To take part in scientific activities and to participate in relevant exhibitions and seminars.
- 7) To back any initiatives to elaborate laws and to improve the existing ones, with the aim of developing the solar energy market, as well as other renewable energies.





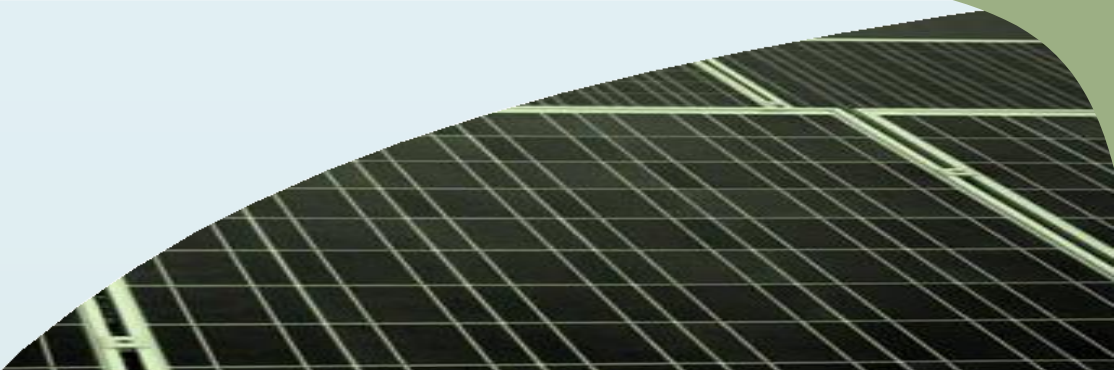
LSES Activities

To follow up on LSES activities, a solar and renewable energy guide was published in 2003, followed by “Newsletters” in the years: 2004, 2005, 2008, 2009 and 2010.

From the start and as a confirmed policy, LSES cooperated with local stakeholders (Ministry of Energy and Water (MEW), Syndicate of Engineers and Architects (OIB), Industrial Research Institute (IRI), National Council for Scientific Research (NCSR), LIBNOR, and Lebanese Centre for Energy Conservation (LCEC), UN Specialized Agencies (ESCWA, UNDP, UNIDO...), local Universities, local NGOs, and others.

The main LSES executed activities & projects:

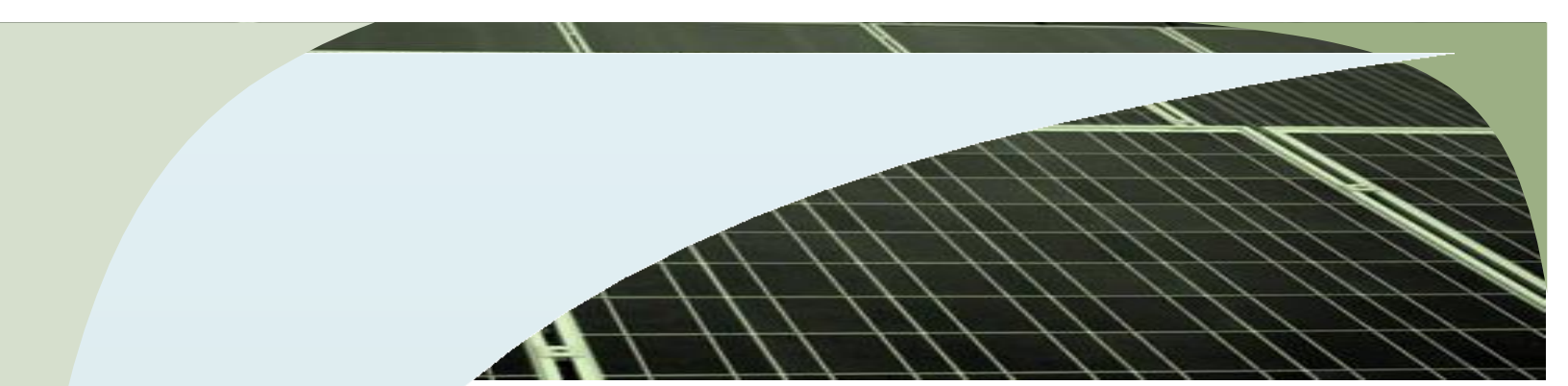
- 1) Solar Energy meetings with national partners, to define role and promotion of solar energy in buildings and quality control. **March/ April, 2002.**
- 2) Participation in the training session for solar water heaters organized by NERC- Amman- Jordan, **May, 2002.**
- 3) Lebanese-Syrian Scientific days on renewable energy sources and applications, Beirut, March , 2003 **August, 2002**
- 4) Publishing of the Lebanese Solar and Renewable Energy guide, **May, 2003.**
- 5) Signature of a three year cooperation convention between the Industrial Research Institute (IRI) and LSES – **June, 2003** renewed periodically by common agreement
- 6) Participation in the yearly exhibitions of Project Lebanon, Beirut, starting **2004.**
- 7) Co-organized a regional workshop and site visits on UK experience in Renewable Energy, with the British Embassies in Lebanon, Damascus and Jordan, Beirut **March, 2004.**
- 8) Preparation of a draft law on the promotion of solar water heating (SWH) in Lebanon delivered to the MEW Minister, with a note urging for the elaboration of a wind and solar radiation atlases for Lebanon **November 2004.**
- 9) Joining and subscribing as a chapter with the International Solar Energy Society (ISES), **2004.**

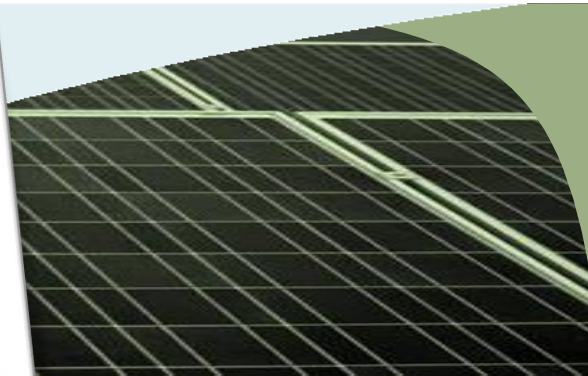
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- 10) Cooperating with the Beirut Order of Engineers to amend provisions related to the use of solar water heaters on the implementation decree of the "Building law", **June 2005**.
 - 11) Promoting and helping local primary and secondary schools to participate in the "ISES Solar Schools- Brighter future competition. Lebanon won first international prize. **August 2005**.
 - 12) Signing a partnership contract to carry out the EU funded project (CRESMED) "Cost efficient and reliable rural electrification schemes for South Mediterranean countries (Morocco, Algeria, Jordan & Lebanon), based on multi user Solar Hybrid grids (MSG). This was a 42 months project, ending mid-2009. The solution is the employment of hybrid systems using a mix of renewable energies and fossil fuel, and by providing energy service for the population of a rural community via a micro grid.
 - 13) Designing and promoting software "Solarator" to design solar water heating systems, **2006**.
 - 14) Participating in the technical and economic feasibility study to implement PV solar panels at the IRI premises jointly with the French consulting firm Transenergie **2006**
 - 15) Two new books authored by Eng. Chafic Abi Said (LSES Board member):
 - a. The Arabic version entitled "Development and promotion of renewable energies and energy efficiency in Lebanon- An effective way to face up to the actuality of conventional energy". The book was supported by the Beirut Order of Engineers (OIB) and LSES. **February 2006**.
 - b. A revised and updated English version carried the same title. This English version was supported by UNDP/LCECP and LSES. **April 2008**.
 - 16) Developing the Lebanese solar standards in collaboration with the Lebanese Norms (LIBNOR) and UNDP/LCECP (Lebanese Centre for Energy Conservation). The project was finalized in **2007** and is currently available on line.
 - 17) Elaborating and diffusing a "Statement of Motives" to prepare and ratify a "Feed-in law" on renewable energies, **2007**
 - 18) Preparing a draft standard for testing procedure of solar hot water panels, **2007**
 - 19) Conducting technical training in the North of Lebanon in collaboration with GTZ, LSES supervised successfully a workshop and a practical training session in the Tripoli and Dekwaneh technical schools. Teachers and students attended both events (20 trainees on average), **2008**.



- 20) Strengthening cooperation with ASHRAE, IRI, ESCWA, LCECP, MEW, Greenpeace, Green line, Green Greens, MECTAT, the Order of Engineers and Architects-Beirut and others.
- 21) Within the framework of the UN-ESCWA Expert meeting "Best Practices and Methods for Promoting Renewable Energy Applications in the ESCWA Region, LSES & ESCWA co-chaired the conclusion of the CRESMED project international workshop on Multi-user Solar hybrid Grids, **February, 2009**.
- 22) LSES conducted 4 training sessions for the manufacture and maintenance of solar water heating systems in collaboration with ESCWA. The training sessions were held at IRI, and attended by 12-16 trainees, Lebanon **2009-2010**.
- 23) LSES initiated a new and improved informative website, **2010**.
- 24) LSES initiated a national energy efficiency and renewable energy directory which is freely available on line.
- 25) LSES was invited to participate at the conference organized by InfoPro and titled "Economic Sustainability during crisis", **February 2014**
- 26) LSES was invited to the MED-DESIRE conference and meeting in Bari/Italy. LSES participated in the roundtable "Mediterranean Solar Market Constraints and Opportunities" presenting the development of the renewable energy sector in Lebanon, **March 31 and April 1 2014**



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- 26) LSES participated to the EcOrient conference held in BIEL, alongside two major exhibitions: Project Lebanon and Energy Lebanon, **June 2014**
 - 27) LSES was a contributor to the event Beirut Energy Forum, and many of the LSES members participated to the event, **Septembre 2014**
 - 28) A new edition of the LSES newsletter was prepared with original articles from the LSES members, printed and distributed during LSES participation to outdoor activities and conferences , **October 2014**
 - 29) LSES developed a new website and it is decided and expected to go online during **March 2015 , November 2014**
 - 30) LSES participated in the AREC **Arab Renewable Energy Commission** meeting in Jordan. The **AREC** showed high interest in coordinated future activities with LSES, **November 2014**
 - 31) ENERGY & RENEWABLE ENERGY Conference at the Industrial Research Institute (IRI) , **January 2015**
 - 32) Green Week at the OEA – Tripoli: Mr. Walid El Baba presented the LSES activities and the Ecotruck project at the green week held in Tripoli on **January 2015**
 - 33) ESCWA: Training of trainers (Mainstreaming Appropriate Renewable Energy Technology in the Rural Productive Sectors of the Arab Region" in Amman, Jordan **May 2015**)
 - 34) EcoTruck activities: Visits to Baabdat municipality, Beirut Arab University and Rafic Hariri University open houses, and sustainability day at IRI, chamber of commerce Tripoli, among other school visits
 - 35) LSES in collaboration with IRI has initiated the Eco Truck project which is a truck loaded with Renewable energy demonstration kits. Eco truck visits schools and institutions with a presentation and demonstration on RE equipment like PV, solar thermal panels, bio mass boilers, wind turbine etc. Since then the Eco truck has done tens of visits to various areas of Lebanon.
 - 36) LSES has organized and has been part of various lectures in the Order of Engineers and within other programs like **SHAAMS project** and **CCIAB , Solar Process Heating in Lebanon – Opportunities and key factors for quick assessments , Green School Coalition , Build it green Lebanon** and other promoting various aspects of Renewable Energy use.





Promoting Renewable Energy since the 1980s

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