

Austrian Development Agency (ADA): Economic partnership – Strategic alliances

Titel of project

Paving new ways for sustainable Photovoltaic solutions in Egypt

Project partners & participants

Austrian consortium (ARGE)

- **Sekem Energy GmbH** (federführend)
- **Elektro Merl GmbH**
- **Berufsförderungsinstitut Burgenland**
- **Sattler & Schanda Rechtsanwälte**

External staff from Austria (participant)

- **Technische Universität Graz**, Institute of Electric Systems, Univ.-Prof. Dipl.-Ing. Dr.techn. Lothar Fickert

Egyptian partners (participant)

- **Sekem Holding for Investment Company**
- **Eco Energy**
- **Heliopolis University for Sustainable Development**
- **Prof. Dr. Hani Atef Nabhan Sewelam, Department for Sustainable Development, AUC (American University Cairo)**

Project target

Creating basic conditions of suitable PV-systems for the Egyptian market – focusing their sustainability and quality.

Project content

COMPONENT 1 - Survey of the framework conditions

Identifying existing quality & safety standards, responsibility of public authorities, regular & technical approval procedures and legal & fiscal security from the investors' point of view – for designing and installing long lasting PV systems as well as for analysing the existing PV market in Egypt.

COMPONENT 2 - Research activities and survey of the composition of PV systems in Egypt as well as a performance review of them

Identifying the system composition of existing PV plants as well as their problems with the components that are used within the PV plants. Therefore it will be focused on the ideal system composition of the PV components.

Examination of existing PV systems with regard to output data, functionality, failure in installation and maintenance - output situation, failures and interference liability of existing PV systems. Results of these examination will be integrated in the curriculum (training).

Examination of the feasibility for technical meaningful application possibilities of PV - verifying the legal, technical and economical feasibility of alternative application for PV-systems. Possible interesting application could be irrigation for agriculture purpose, fresh water supply in general, cool houses, improvement of the stability of the grid, increasing the prevention of break-offs of the grid, etc.

Identification of problematic substances and development of prevention and disposal strategies - Problem of problematic substances.

Quality control – development of quality standards.

COMPONENT 3 – Training

Training program and focus: "Egyptian PV technician" with certification (design, construction, startup and maintenance), practical training for a secure startup of the PV plant and the inverter, training for PV excursions guides, training for financial institutes, training for PV attendant for the VTC at Sekem farm.

COMPONENT 4 - Building up a PV demonstration plant (30 kW capacity)

For analysing some practical issues it is planned to design, construct and startup a 30 kW PV plant whether grid connected or off grid plant. In case realising an off-grid plant, the capacity will be used for a PV pumping station at an isolated farm of Sekem.

COMPONENT 5 - Public relations

Designing and elaborating of marketing and information material, focused excursions to PV plants, workshops, conferences, etc.

COMPONENT 6 - Awareness raising, networking, conceptualization of a PV platform

Connecting the relevant partner and stakeholder in the field of PV, including the design and initiation of an Egyptian PV platform.

Duration of project

Project start: 01.11.2016

Project end: 31.10.2019