

Market development for high quality solar thermal systems in Egypt

An economic partnership funded by the Austrian Development Agency

Regions: Cairo and surroundings, Alexandria and surroundings, Ismailia, coastal area of the Red Sea

Timeframe: 04/2011 – 03/2014

Applicant: Consortium of Sekem Energy, Pink GmbH and GREENoneTEC

Local project partner: Sekem Holding, Heliopolis University, Ecoenergy, EGreen

Stakeholder: UNIDO, Ministry of Housing, American University of Cairo

Egypt is a country in transition. Profound political, economic and social difficulties are affecting the country and its people. Solar thermal energy holds enormous economic and energetic potential, which has not sufficiently been tapped into until now.

The aim of this economic partnership is to adapt European solar thermal systems to the conditions found in Egypt and to enable a range of educational establishments (academic as well as vocational) to gain access to knowledge.

Another aim of the partnership is to establish collaborations with local enterprises, so that, in the medium-term, high-quality solar thermal systems can be assembled locally. In this context, the Austrian companies Sekem Energy, Pink and GREENoneTEC contribute their expertise in the areas of solar technology, storage systems and strategic planning. The local partner firm is SEKEM, a producer of organic food, health products and textiles from organic cultivation.

In this economic partnership:

1. technology is adapted to Egyptian requirements
2. teachers and professors at the Vocational Training Centre (Sekem) and Heliopolis University are trained in theory and practice and educational supplements for the field of solar thermal energy are developed for the engineering curricula
3. distribution partners and suppliers are trained in the area of solar thermal energy
4. potential measures for the implementation of a framework to support solar energy development in Egypt are drawn up

Project plot in detail:

The project consists of 3 main components:

- Adaptation of solar thermal systems for Egypt
- Capacity building for educational institutions and local companies
- Public relations and methods for generating attractive framework conditions

K1: Adaptation of solar thermal systems for Egypt

Result: Solar thermal systems with Austrian standards are adapted to suit Egyptian requirements.

K2: Capacity building for educational institutions and local companies

Result 1: Selected Egyptian companies are trained and qualified to develop and install solar thermal systems

Result 2: The educational aspect of solar systems is integrated into the curriculum of the Vocational Training Center at Sekem and teachers are trained to train the students.

Result 3: A "solar thermal technologies" module is integrated into the "Renewable Energy" Bachelor's programme at Heliopolis University (HU) - students will be taught by qualified trainers in theory and practical work.

K3: Public relations and methods for generating attractive framework conditions

Result: Framework conditions for purchasing solar thermal systems are improved and the use of locally sourced components is maximised.

PINK GmbH

Pink was founded in 1989 which has grown into a medium-sized enterprise in Eastern Styria. The company's core competence lies in the development and construction of heat reservoirs (for example hot water- and buffer storage) as well as (stainless) steel vessels and fractioning columns. The company also buys solar components from other manufacturers and is therefore capable of providing solar thermal and cooling systems. The third pillar on which the company stands is consultancy and customer support in the area of energy optimisation. Pink supplies components for around 450 installations firms and exports its heat reservoirs, solar heating and cooling systems to Germany and Hungary. Due to its development and application of high-tech products, Pink has experience training planners and installation companies. The company also runs at least 30 training sessions and presentations per year at business development and higher education.

GREENoneTEC

GREENoneTEC, which is a daughter company of Kioto Clear Energy AG and the biggest manufacturer of flat plate collectors in the world is situated in Carinthia, Austria. Its manufacturing plant in Carinthia has a production capacity of 1.6 million m² of collector surface per year, which will be increased to 3 million m² in the medium-term. Currently the company manufactures around 100 different types of collectors and corresponding mounting systems. GREENoneTEC exports its solar thermal collectors to over 40 countries around the globe and has a European market share of 25 percent. The manufacturing plant in St. Veit (an der Glan) employs 285 people.

SEKEM Development Foundation

The following educational institutions of the SEKEM Development foundation are:

SEKEM - VTC

The SEKEM Vocational Training Centre offers state-approved apprenticeships for 200 young people who have completed nine years of compulsory schooling. There are different areas of vocational training in metalwork, carpentry, textiles, electrical engineering, plumbing and IT/computer maintenance which are taught by 25 vocational teachers. The 3-year plumbing course qualifies 30 apprentices and was developed by the German Technical Cooperation (Deutsche Gesellschaft für Technische Zusammenarbeit, GTZ) in the context of the Mubarak-Kohl-Initiative as a sandwich programme (formal teaching/work placement in an enterprise).

Heliopolis University

Heliopolis University for sustainable development conducts research and teaching activities in engineering (incl. Renewable energy) and economic sciences, organic agriculture, pharmacology, medicine, art and pedagogy. All of the current programmes end with a Bachelor's degree. The state-approved university is currently in its foundation phase and has been operating since autumn 2012. The private non-profit university's tuition fees are set at average Egyptian levels; the institution offers stipends.

EcoEnergy

EcoEnergy, a daughter firm of SEKEM is operating in the trade of solar energy systems. On a mid-term the company will carry out the assembly of the individual components for solar thermal systems (Heat pipes, buffer storage, mounting systems,...) which will be sourced locally (from Egypt) wherever possible. Individual tests and the construction of a prototype are conducted in the course of this economic partnership. Furthermore EcoEnergy has the aim of helping create incentives for solar energy on a political level (ie. lobbying) and also to carry out research projects.

E-Green

E-Green (Egyptian Renewable Energy Co.) is an Egyptian construction company of which SEKEM holds a 20 percent share. In the solar thermal energy sector, E-Green acts as an interface to the final customer, as distribution partner and also consultant. The company is experienced and proficient and has access to the booming tourism industry. E-Green aims to expand the sales of solar thermal systems and also install them.