

# Green Entrepreneurship

## Successful business cases of Green Entrepreneurs in the Mediterranean



Regional Activity Centre  
for Cleaner Production



### Biome Solar Industry: Tunisian production of Solar Water Heaters

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**Name:** Biome Solar Industry  
**City, country:** Béja, Tunisia  
**Name of entrepreneur/ founder:** Mr. Ahmed Ernez

**Description** Production of Solar Water Heaters.

**Investment**  
*Start up capital:* DT 400,000.  
*Rate of return on investment:* 70 %  
*Sources of funding:* Private funding, bank loan and investment from SICAR (Société d'Investissement à Capital Risque).

**Stakeholders**  
*Shareholders:* Individuals (most of them energy specialists).  
*Customers:* individual users of SWH (households) and Tertiary sector (hotels, hospitals, stadium...)  
*Providers:* Établissement Krichène Tunisia, SOPAL Tunisia.  
*Strategic partners:* ANME (National Agency for Energy Conservation) and STEG (Electricity and Gas Company of Tunisia) and CNSEnR (Professional Association of Renewable Energy), STB (Société Tunisienne de Banque) and BFPME (Banque de Financement des PME).  
*European partnership:* KBB Germany, CEDRIS France.

**Employment generation** Not available.

**Timeline**  
 Date of Start up: 2007.  
 Up to 2011: BSI took 17% shares of the local market and export to Morocco, Guadeloupe and Martinique.

**Feasibility study**  
 The feasibility study demonstrated that the market of SWH in Tunisia is an emerging one due to the PROSOL mechanism (subsidies and loan from conventional commercial banks to the end users). Potentialities of solar radiation in Tunisia and the increase of electricity and gas prices since the increase of energy prices (petrol) on international market, should lead Tunisian households to be equipped with SWH.

**Geo-social-economic setting**  
 BSI produces SWH in Tunisia, which is the main market of its products. BSI is exporting to Morocco, Martinique and Guadeloupe. The good quality of BSI products (according to Solar Keymark standard) allows the company to access to international markets.

**Key features**  
 BSI intends to become the first providers of SWH in Tunisia and to widen its market at international level.

**Overall rational and motivation** Not available.

<b>Strenghts</b>	BSI has very experimented technical staff and a wide network of installers that operate in almost all regions of Tunisia (130 installers in 2011). BSI also launched many subsidiaries in several regions of the country. The high quality of BSI SWH is one of the strenghts of the company.
<b>Challenges and constraints</b>	Currently, BSI is evaluating to diversy its products and this is the most difficult challenge. BSI intends to produce additional SWH of new capacities (150 l, 250 l et more than 300 l). Moreover, BSI plans to introduce new technologies of tanks production, by changing the current tanks made of concrete to enamelled tanks.
<b>Direct activities and Impacts</b>	<i>Social:</i> 45 direct employment and 130 indirect employments were created by BSI in less than 5 years from start up. <i>Environmental:</i> 36,000 m <sup>2</sup> of solar collectors installed contributing to reduce the CO <sub>2</sub> emission (6840 TeqCO <sub>2</sub> ). <i>Economic:</i> So far, 12,000 SWH installed in Tunisia contributing to reduce the energy bill of households and public and private organizations.
<b>Use of innovative Technologies</b>	The introduction of Solar Keymark standard in BSI solar water heaters is considered as an innovation in the Tunisian market of SWH as BSI is the first company who adopted their standard. A change in production technology is planned for the production of enameled tanks.
<b>Evidence of a holistic approach/world view</b>	BSI vision is to contribute to a sustainable energy supply in Tunisia and other countries and to the protection of the environment throughout the reduction of CO <sub>2</sub> emissions.
<b>Scale of benefits</b>	BSI is considered as a successful experience on several levels, mainly in term of jobs creation contribution to the Tunisian economy and through an important financial turn-over despite the company is still a young one.
<b>Policies, incentives and regulations needed</b>	The SWH market in Tunisia is still emerging due to the PROSOL mechanism (subsidies and loan to the end users). Thus, maintaining the PROSOL is one of the crucial conditions to maintain a viable market. On the other hand, a new promotional mechanism related to the use of solar thermal technology in the industrial sector is to be launched, allowing to impulse new niches. New regulation is also needed to make the usage of SWH compulsory in new buildings. Such regulation will allow reducing energy imports at the macro-economic level, decreasing the energy bill at the household level and to further boost the SWH market in the country.
<b>Lessons and recomendations</b>	High technical and economic skills of the founder and the shareholders as well as the high competency technical team are necessary to achieve success in the SWH market. Human resource management is also an important issue to guarantee the continuity of the business.

#### References:

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