



***Experiences and Challenges in
South African-German
Cooperation in Renewable
Energies***

presented by Hagen Späth – 27 October 2009

Agenda



- I. Introduction to Solsquare
- II. Why Solar Energy in SA
- III. Solar Systems
- IV. Challenges Encountered in the SA Renewable Energy Industry

I. Introduction Solsquare



Who we are

- Solsquare is a company supplying renewable energy solutions to the South African market.
- Solsquare is wholly owned by TriVest (www.trivest.co.za), a South African Private Equity and Venture Capital company.

Our partners

- Solsquare's product range was developed by its German partners, Conergy and SunTechnics, harnessing the latest technologies and energy sector breakthroughs.
- Through its partners Solsquare has access to a global network of over 2500 highly skilled specialist, with experience in over 5000 complex installation plants, ranging from 20 W to 20 MW. This enables Solsquare's clients access to reliable and cost-effective products.

I. Introduction Solsquare

Socio-
Economic
Environment



Our mission

- South African citizens are no longer assured of continuous electricity supply which causes major problems in their daily lives.
 - Unscheduled and scheduled supply interruptions are increasing.
 - Significant improvement of the current situation within the next 10 years is not likely.
 - Eskom will be limiting power access for it's clients, both private and commercial.
- Solsquare intends to provide an alternative energy source for On- & Off-grid consumers through the supply, installation & maintenance of solar driven energy systems.

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I. Introduction to Solsquare

II. Why Solar Energy in SA

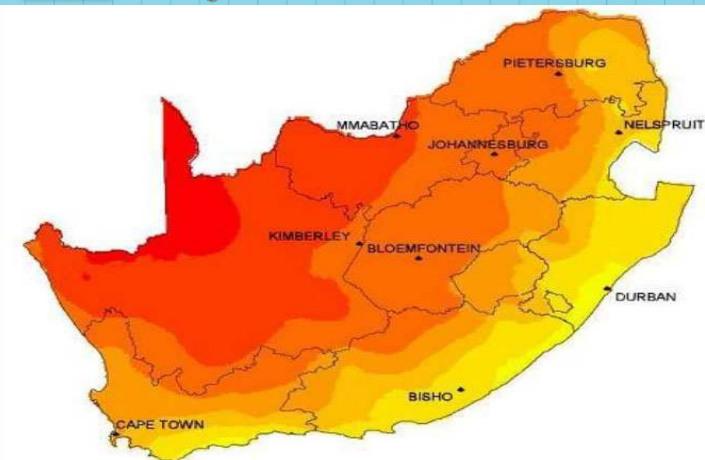
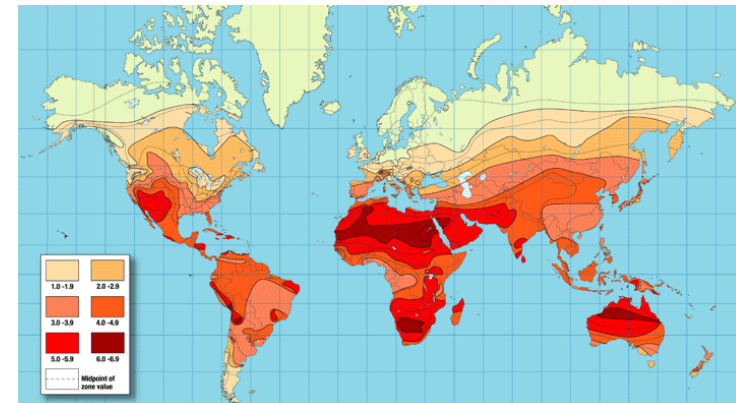
III. Solar Systems

IV. Challenges Encountered in the SA Renewable Energy Industry

II. Why Solar Energy in SA

Potential

- South Africa is one of the regions with the highest solar irradiation in the world.
- It is reasonable to generate energy with solar systems in South Africa.
- Countries like Germany with a very low irradiation already have installed over 400 MW of photovoltaic systems.



Source: CSIR, ESKOM, DME 2004  7500 – 8000 MJ/m²

II. Why Solar Energy in SA

Benefits of Solar Energy

- Solar Energy can be used for efficiently generating electricity and for efficient heating.
- Solar Energy is free - monthly costs savings on electricity bill.
- Ensures continued power supply on key appliances at home or in the office, thereby mitigating damage during power surges and outages.
- Reduce the household reliance on Main Grid Energy supply.
- Contribute towards environmental issues.



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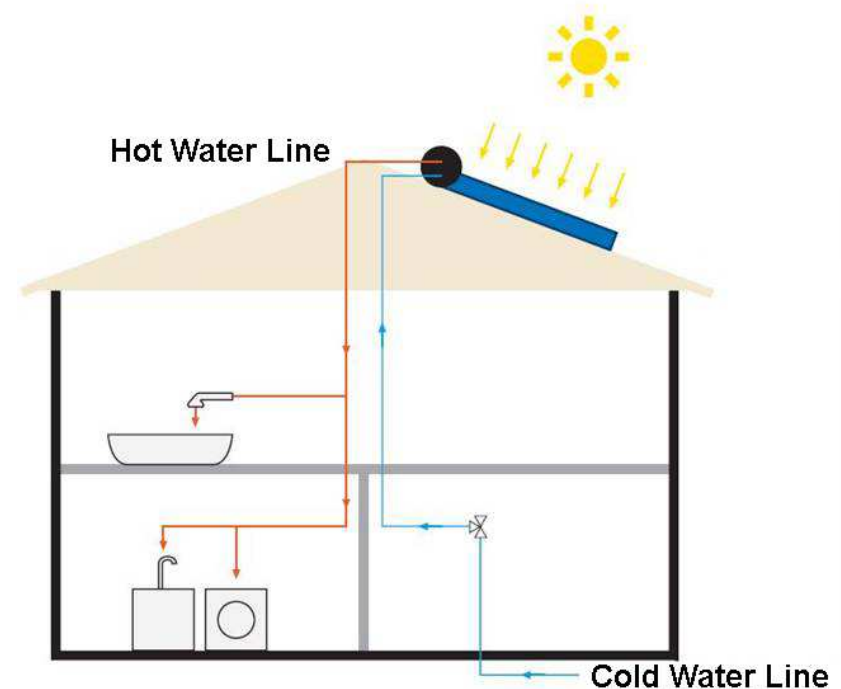


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III. Solar Systems

Solar Water Heating Systems

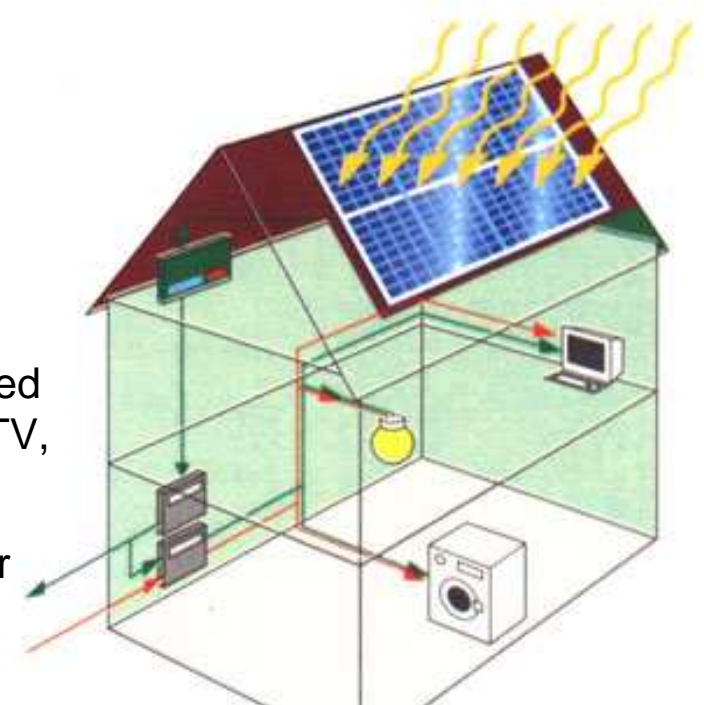
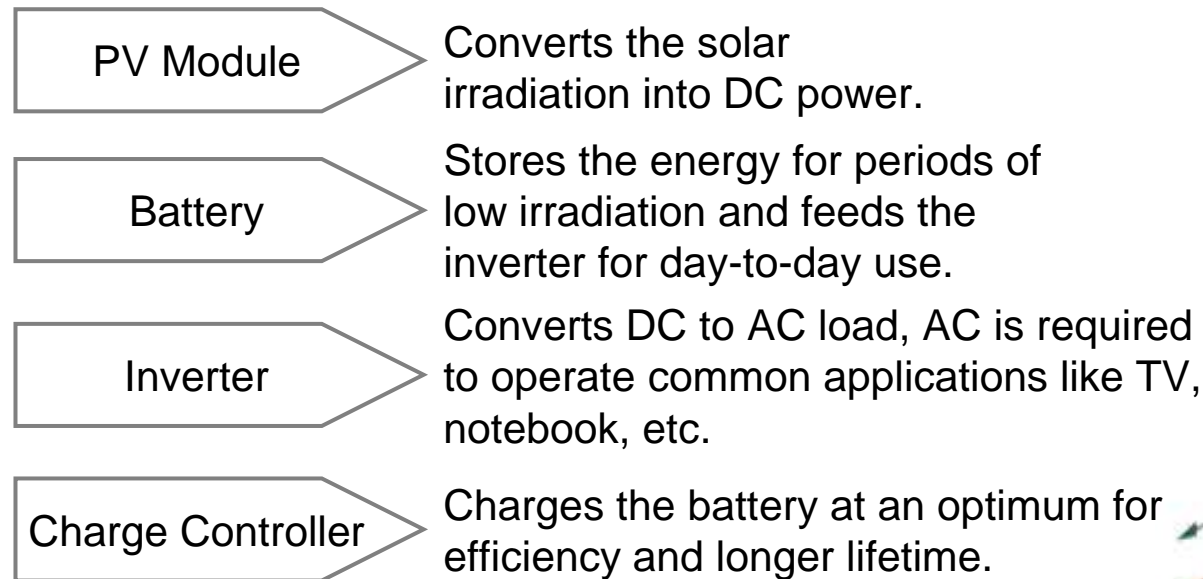
- Solar Water Heaters are an energy efficient alternative to a conventional electric geyser.
- Electric water heaters require up to 4 kW of power, making it the single most power hungry appliance in most households
- Reduce household electricity costs by 25 to 40%.
- Rebates available from Eskom to claim 20-30% of capital outlay.



Ideally suited to reduce electric energy requirements for domestic use!

III. Solar Systems

Photovoltaic (PV) System



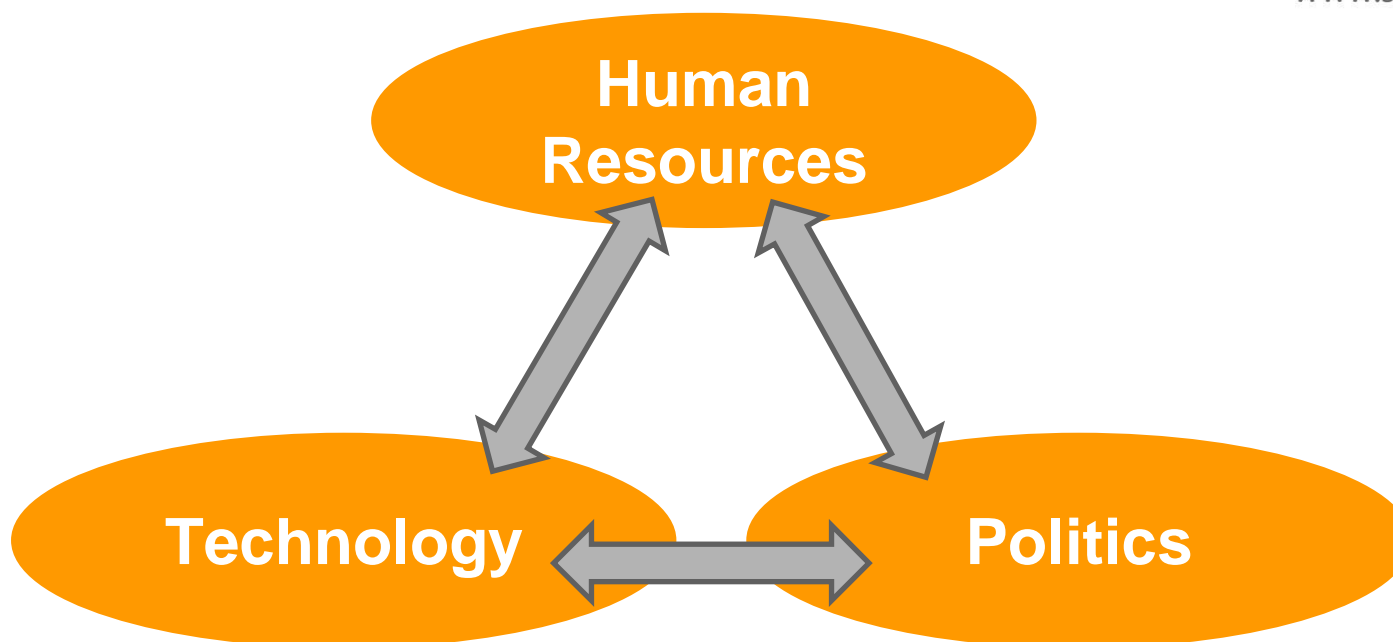
Ideally suited as a back-up solution in on-grid and as a source of electric energy in off-grid areas!

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IV. Challenges Encountered in the South African Renewable Energy Industry



Human Resources, Technology and Politics seem to be inter-dependent success factors in overcoming the challenges the renewable energy industry faces – factors where the South African - German Cooperation can play an integral role.

IVa. Human Resource Challenges



Corruption / Business Ethics

- Corruption at institutions is still a wide-spread problem. Standing relationships between officials, staff and clients have shown to prejudice work done at institutions.
- Tendering for public and private contracts usually entails giving “backhanders”. New players in the market risk falling for such requests, especially if financial pressure mounts and/or the perception is created that it is “standard practice”.

Qualifikation

- It is difficult to find suitably qualified personnel. Cross-functional requirements often exist, i.e. an installation team for a certified SWH installation needs to consist of a plumber and electrician, increasing the cost of an installation.
- Renewable energies mostly do not, and if so, insufficiently form part of plumbers & electricians syllabus.

Quality Consciousness

- Clients are to a large extent cost driven in their purchase decision. A long-term decision is rarely made, therefore the pressure is on the installer not to waste time on reinforcements, life extending components, and servicing.
- Cheap products and fly-by-nights give the industry a bad name.

IVb. Technical Challenges



Standardisation

- Even though standards exist for SWH, these are implemented differently by every testing facility.
- Standards from other countries are not accepted in South Africa.
- Unnecessarily draconian standards exist.
- Limited to no standards exist for other renewable energy technologies, i.e. PV / wind.

Testing Facilities

- Testing facilities are not sufficiently equipped to handle all the testing requirements.
- Facilities are not equipped with state-of-the-art equipment to handle the samples and / or to maintain a standard for all products.
- Outsourced services open the door to bribery and favouritism.

Quality Assurance

- Adherence to requirements laid out by law are not controlled, and reports of misconduct are insufficiently apprehended.
- Testing quality is often questionable and little to no transparency is given.

IVc. Political Challenges



Incentives

- Countries, where incentives for renewable energy technologies were incentivised did so decisively, with generous and regressive incentives. Feed-in tariffs were not only decided on, but also enforced by law.
- The SABS incentive is not sufficiently high. A system which qualifies for the rebate system is by default R1500.00 more expensive (due to the timer, special anodes, etc.), takes approx. 8 months to get SABS approval (at a cost of approx. R40k) and a further 12 months to get the Mark (at a cost of further approx. R80k). This by far exceeds the R1k to R3k rebate, which in itself takes 3 months to apply for from a client perspective. Therefore South Africa is flooded with systems which are not SABS approved.

Tenders

- Requests for tenders are often submitted with insufficient information.
- The outcome of the tender is not published and it remains unclear who won it.

Red Tape

- The government and public institutions have managed to create a “2-class-industry”; those who import (who therefore have to comply with SABS standards to be able to clear their imports), and those who manufacture locally.



Thank you for this
opportunity!

Any Questions?