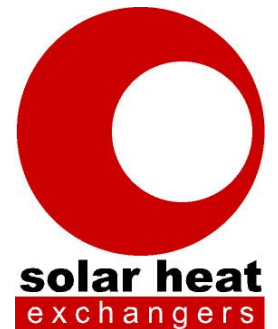




World Trade Organization Environmental Goods and Services Workshop

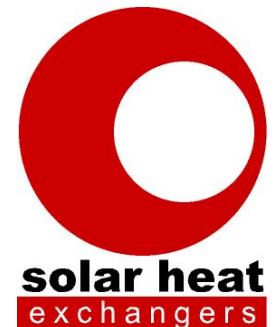
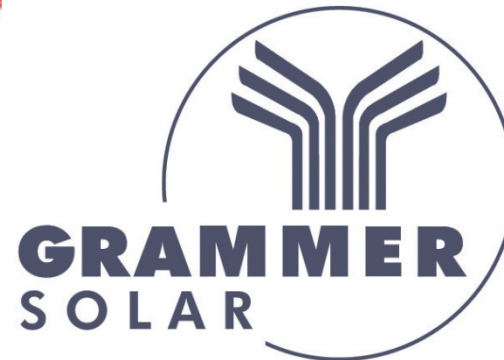


WORLD TRADE ORGANIZATION
ORGANISATION MONDIALE DU COMMERCE
ORGANIZACIÓN MUNDIAL DEL COMERCIO



History of Solar Heat Exchangers

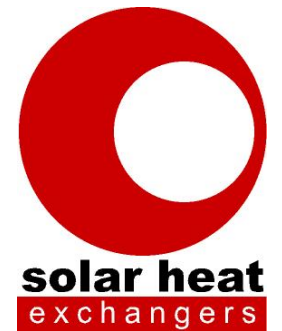
- Solar Heat Exchangers - Established 1987
- Leading South African Distributor of Giordano Solar Water Heaters, Grammer Solar Air Heaters, Heliocol Solar Pool Heaters and other solar accessories
- Active in Sales, Design, Training & Installation
- ±20 000m² of collectors installed to date



Solar Heat Installations

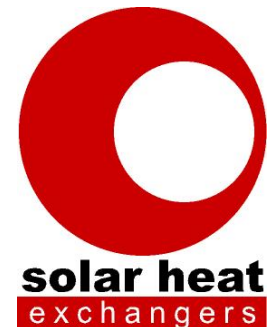


Solar Heat Installations



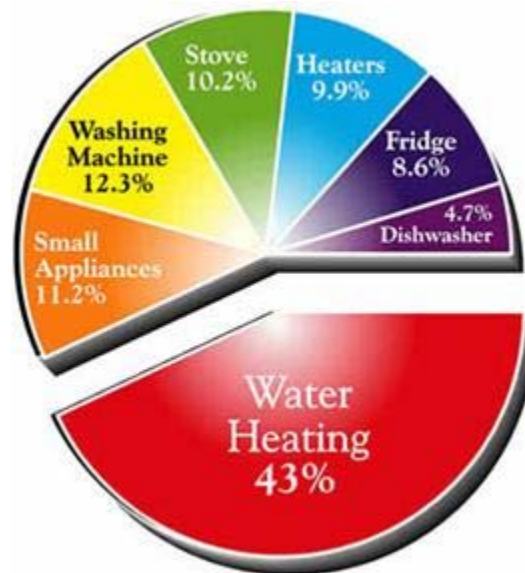
Energy in South Africa

- Eskom has reached peak power generation capacity
- +R300 Billion will be spent on new infrastructure
- Electricity costs are set to double within 2 years
- SA relies on coal-fired power stations to produce 90% of its electricity, using over 100 million tons of coal per year
- The production of 1kW of electricity emits almost 1kg of carbon dioxide (CO₂)



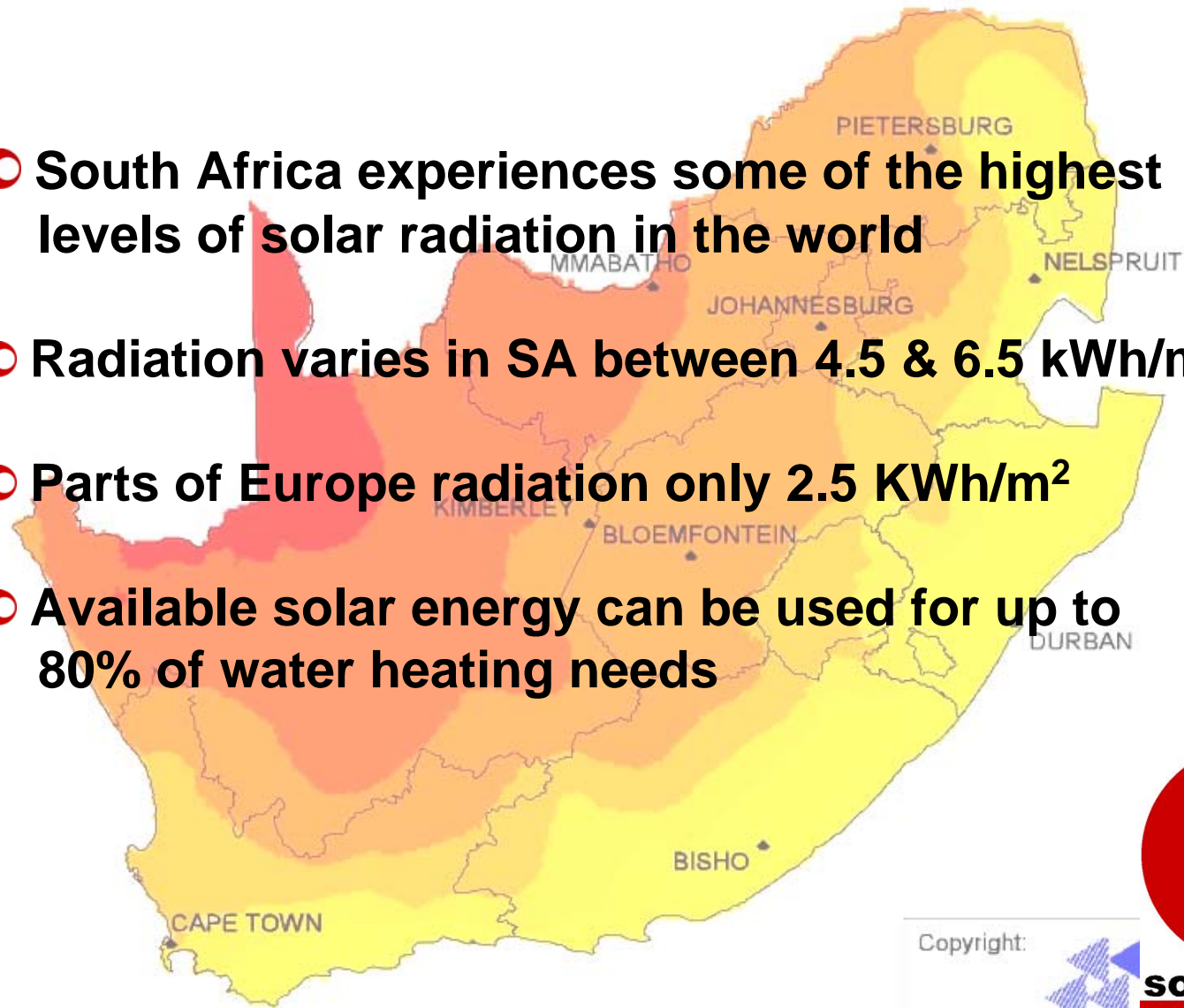
Water Heaters in South Africa

- **Electrical water heaters (EWH) are the single largest contributors to household electricity consumption**
- **EWH consume up to 43% of the total domestic power in SA**
- **The average household EWH contributes approximately 4.5 tons of CO₂ emissions per year**



Solar Energy in South Africa

- South Africa experiences some of the highest levels of solar radiation in the world
- Radiation varies in SA between 4.5 & 6.5 kWh/m²
- Parts of Europe radiation only 2.5 kWh/m²
- Available solar energy can be used for up to 80% of water heating needs

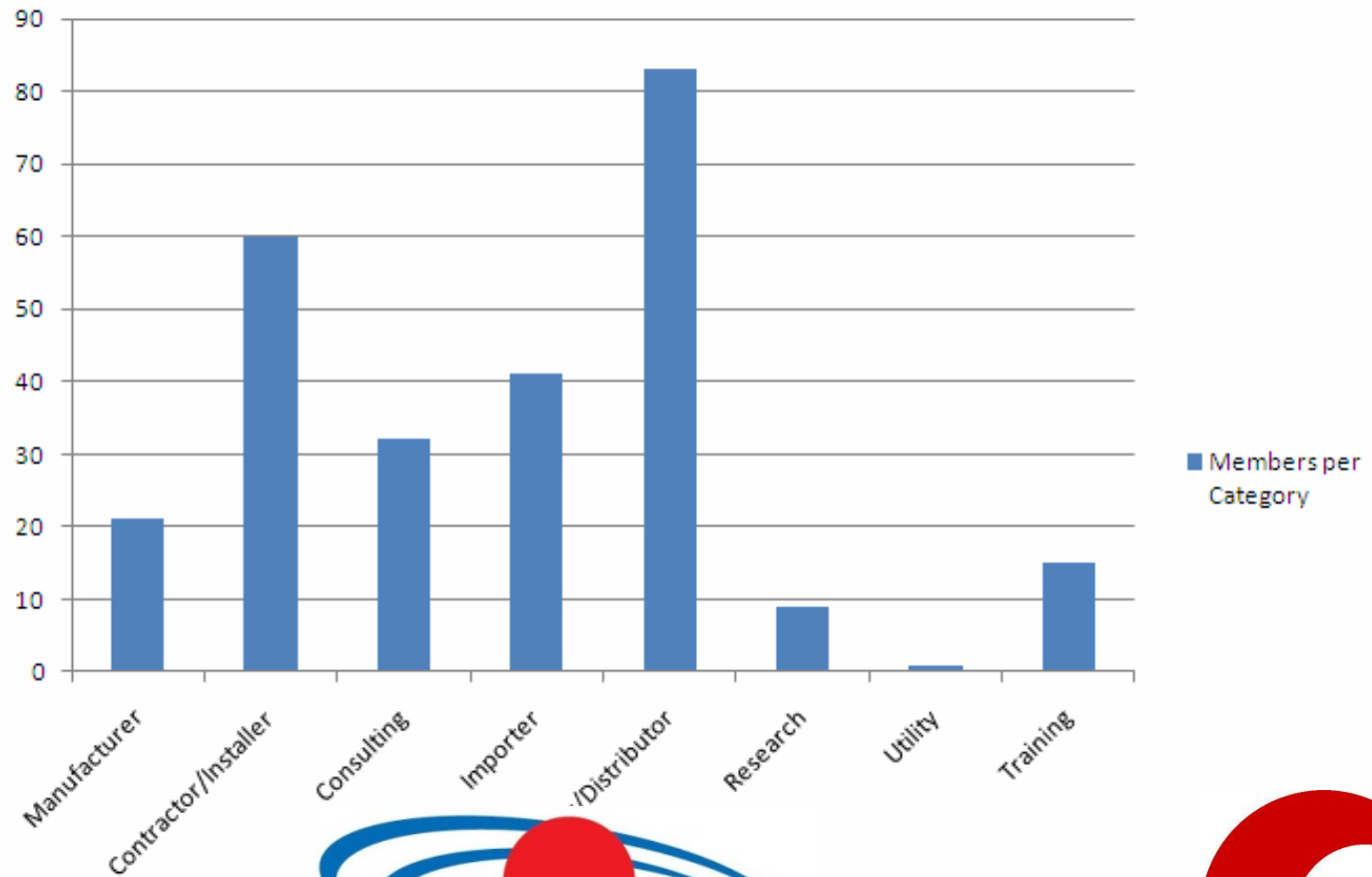


Copyright:



SESSA SWHD

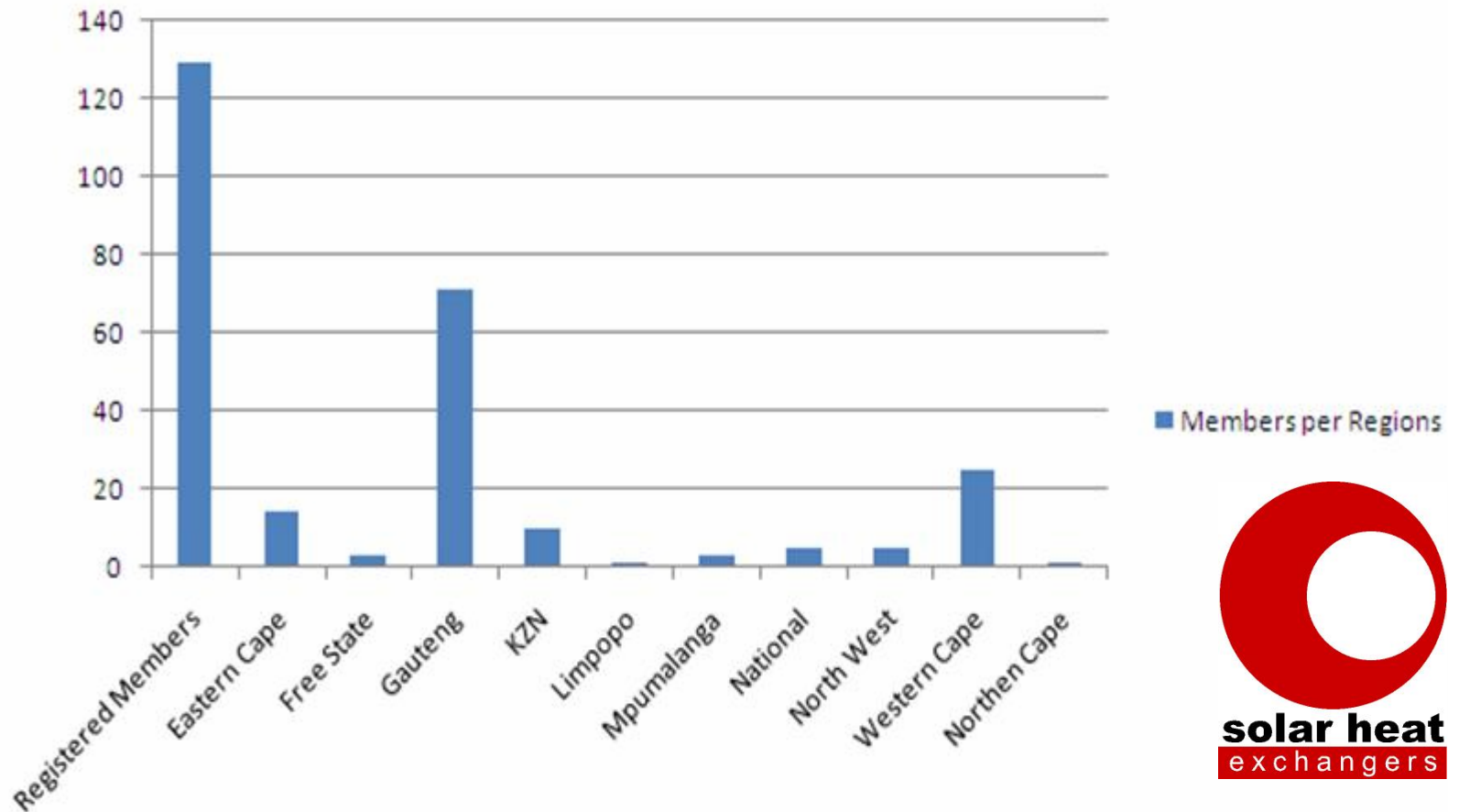
SESSA SWHD Members



Membership

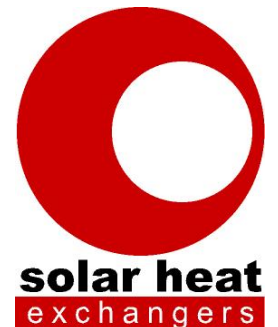
- 2007 membership = 15 members
- 2009 membership = +190 members and growing
- Geographic spread of members within South Africa

SESSA Members per Region



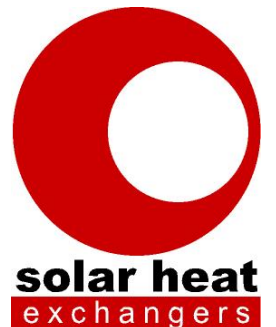
Future of SWH in South Africa

- **Government has set Renewable Energy targets of 10000GWh by 2013**
- **Government & Eskom have set SWH targets at +3 million systems over the next 5 years**
- **To be achieved by Regulations & Incentives**
- **Energy Efficiency National Standards for Buildings to include SWH**



Financing Mechanisms

- All major commercial banks are working on developing financial products for SWH
- Insurance companies are working on methods to convert EWH to SWH at point of failure



Quality Control & Market Assurance

- SABS has only one outdoor test facility for thermal testing
- Adoption of Component Testing has been proposed
- Consumer Education on the use of approved products is not sufficient



Manufacturing Capacity & Requirements

- **Installation Capacity need to be increased in order to meet set targets**
- **Artisan training is essential to ensure quality installation**
- **Training provider capacity needs to be increased**



Import Tariffs

- **Government policy is to develop local industry**
- **Due to lack of local production capacity, SWH must be imported in the short to medium term**
- **SA balance of payments does not allow for the import of 3 million SWH**
- **Therefore technology transfers and local production are essential in the long term**
- **Propose the reduction of applied tariffs for a period in order to meet and stimulate demand and therefore justify local investment**
- **After a period tariffs can be adjusted accordingly**



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