

# Switch on to solar with Eskom

## Solar rebates for South African consumers

Solar water heating is a clean, renewable technology that can save you money while you help save energy and the environment. Eskom, in collaboration with other national energy-related organisations are making this technology more accessible and affordable to the South African homeowner. The first ever renewable energy rebate is now available. It's easy to claim – the process and its benefits are listed in this brochure.

Not only does the programme aim to significantly increase the number of solar water heaters sold in South Africa, but more importantly, it wants to see the barriers to entry unlocked allowing systems to become available to all levels of society.

## Why the programme?

There are four main reasons for the solar water heating programme:

- a. According to energy experts, water heating accounts for 30% - 50% of the electricity consumed by an average household. It is therefore easy to understand the savings potential of warming water with solar energy.
- b. South Africa is one of the sunniest countries in the world, making solar energy an obvious alternative for electricity.
- c. The South African government has set a target for renewable energy to contribute 10 000 gigawatt-hours (GWh) of final energy consumption by 2013. Research completed by the Department of Minerals and Energy estimates that up to 23% of this target could be contributed by solar water heating.
- d. Although solar water heating technology is not new, the industry in South Africa is still characterised by high manufacturing costs and low sales volumes. World experience has shown that a well planned and well executed programme that offers incentives to consumers to select more appropriate technologies, can increase sales volumes and make solar more accessible.

These four factors combine to provide a powerful motivation for the programme.



Many organisations have collaborated to help make the solar water heating programme a success, such as:

- The Central Energy Fund (CEF)
- Eskom
- The Sustainable Energy Society of Southern Africa (SESSA)
- The National Energy Regulator of South Africa (NERSA)
- The Department of Minerals and Energy (DME)
- South African Bureau of Standards (SABS)

## How does the programme work?

The programme is structured around a rebate scheme which reduces the selling price of a solar water heating system. The reduction in price is based primarily on the performance of the solar water heater and the associated electricity saving potential. Consumers will claim the rebate directly from the programme facilitating auditors, provided that the product and the supplier are registered for the programme and that the installation is signed off by a registered installer.



## How to claim



1. Research the industry and system you wish to install thoroughly.
2. Visit [www.eskom.co.za/dsm](http://www.eskom.co.za/dsm) or call the EEDSM Help Desk on 011 800 4744 to get information and a list of Eskom approved suppliers.
3. Install an Eskom accredited system supplied by an Eskom approved supplier and their registered installers.
4. Ensure that an approved programme timer is installed and set by a qualified ECB registered electrician.
5. Ensure your supplier/installer and electrician fill out the relevant details on your claim form (obtained upon installation).
6. Complete your details on the claim form and attach the required documents (e.g. original invoice, copy of ID, copy of utility bill and/or electricity bill).
7. Within 6 months of date of installation:
  - Post the claim to the facilitating auditors (Deloitte) in the provided self addressed envelope or;
  - Drop the envelope off in a designated drop box
8. You will receive SMS notification:
  - When the facilitating auditors receive your application
  - When your application is processed and queued for electronic funds transfer or if your application is incomplete and has either been returned or the problem is being rectified by your supplier
9. Payment of the rebate will be made within 8 weeks from date of receipt.
10. Random technical audits will be carried out on some systems to ensure installation quality and operation.

## Production inclusion

In order to be eligible for the rebate, a solar water heater system will be checked against a set of criteria, which includes the following:

- The system must have passed the South African Bureau of Standards (SABS) test and comply with the South African National Standards (SANS) for thermal and mechanical performance and safety.
- The system must be installed in conjunction with a timer OR a load management device (i.e. geyser buddy or ripple relay) to optimise energy savings and regulate everyday usage. Alternatively, systems installed with no electrical backup at all will also be eligible for the rebate.
- The system should be sold with a comprehensive guarantee of at least five years and should offer a life expectancy of ten to fifteen years.
- A copy of the Conformity Report, which is a summary of the test results and other relevant information, should be available and can be requested from participating suppliers.

On [www.eskom.co.za/dsm](http://www.eskom.co.za/dsm) consumers can see a list of pre-approved suppliers and registered products in their area with their corresponding rebate values.



## Rebate value

The value of the rebate applicable to any participating solar water heater is based on the capability of the system to replace the use of electrical energy. Each system tested by the SABS receives a system rating (Q-factor), which indicates the kilowatt-hours (kWh) of electricity it is expected to save on a typical day as determined by the SABS testing procedure. All solar water heating systems included in the programme will have a SABS test conformity report rating their efficiency. Based on the test results, a system will qualify for a rebate ranging typically between R1 500 and R5 000.

Consumers should bear in mind that larger systems save more electricity than smaller ones and would subsequently qualify for a greater rebate, but are likely to cost more. All factors, i.e. the rebate value, optimal system size, efficiency, cost of the system and your own personal needs should therefore be considered when a system is selected.

An imported system that has been tested overseas, will not necessarily be suitable for South African weather conditions. Fortunately, information on the technology is at hand to aid you in making a decision.

On [www.eskom.co.za/dsm](http://www.eskom.co.za/dsm) you can download a list of approved suppliers and registered products in your area with their corresponding rebate values. You will also find relevant information to assist you in making an educated decision when buying a system.

No rebate will be paid on an installation before the supplier, the installer and the system have been registered with the programme.



## Selecting a solar water heating system

When selecting a solar water heating system, the following should be taken into consideration:

- Appropriate sizing for the household to ensure optimal benefits, i.e. an oversized system may result in an extended payback period, whereas an undersized system could leave you with cold water. A typical indication is to select a tank with a capacity of between 50 and 100 litres per person.
- Appropriate system for the area in which it is installed, especially in terms of frost protection and water quality compatibility. Not all systems are suited to areas that experience freezing conditions. Freeze resistance is tested and reported on by the SABS. Any limitations in this regard will be reported in the SABS Conformity Report, which is available from participating suppliers.
- Similarly, systems with a direct water heating configuration are not suited to areas with hard (high mineral content) water.

Any of the suppliers registered with this rebate programme can advise you on the selection requirements. Comprehensive guidance on the optimal and appropriate selection of a solar water heater is also available on [www.eskom.co.za/dsm](http://www.eskom.co.za/dsm). Alternatively, you can contact the SESSA Solar Water Heating division for advice.

## Suppliers and installers

All suppliers and installers participating in the solar water heating programme have been registered through a process managed by an auditing firm.

## Who pays for the programme?

The programme is funded through the Energy Efficient Demand Side Management (EEDSM) Fund. This fund is financed through a levy on the electricity tariff and was established under the auspices of NERSA. Eskom EEDSM acts as an agent of the fund, which is intended to support energy efficiency in South Africa.

## SABS mark approval vs. valid test report

In order to participate in the Eskom EEDSM programme, a supplier has to obtain, as a minimum requirement, a test certificate from the SABS to verify the mechanical and thermal performance of the specific solar water heating system. This serves as an indication of the quality of the system, but does not constitute SABS approval.

### - SABS mark approval

SABS product certification mark approval is a voluntary scheme that entails the submission of a test report to the approvals board and an audit of the applicant's factory manufacturing quality system (e.g. ISO 9001).

To maintain SABS mark approval acceptance, manufacturers have to submit samples for testing to demonstrate ongoing acceptance and conformance to the relevant specifications.

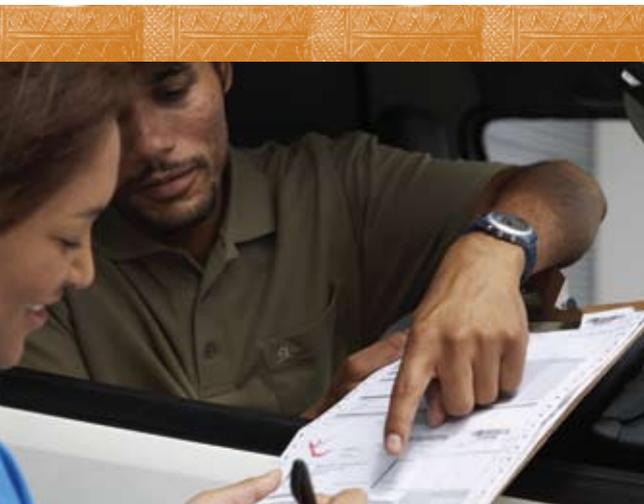
Only manufacturers that are in possession of a valid and current permit to apply the SABS mark may claim to be "SABS-approved".

### - SABS test report

A test report relates only to the specific sample(s) tested as identified in the report. It does not imply SABS approval of the quality and/or performance of the item(s) in question, and the test results do not apply to any similar item that has not been tested.

SABS approval gives a vastly better assurance of quality products and consumers should bear this in mind when making a decision about price and longevity of products.





### Electrical Certificate of Compliance

Once your system is installed, you need to have a registered electrician install the timer on your system. You can request that the electrician issues an Electrical Certificate of Compliance (CoC) for your own comfort. Please also note that to comply with building regulations, some structures may require inspection and certification by a registered structural engineer. Your solar water heater supplier will be able to advise you.



### The benefits of Solar Water Heating



Solar water heating benefits people and their pockets in two main ways.

- Economically speaking, homeowners make considerable savings on their electricity usage, at least 70% of their electrical geyser consumption depending on the system selected and how they use it.
- In terms of the environment, the benefits are impressive. A 150-litre solar water heater will replace in the order of 4.5kWh of electricity per day, resulting in the following environmental savings:

### Approximate annual savings

| Savings per kWh   |            | Annual Savings  |
|-------------------|------------|-----------------|
| Water:            | 1.26l/kWh  | 2.07 kilolitres |
| Coal:             | 0.5kg/kWh  | 821 kg          |
| Ash:              | 0.28g/kWh  | 460g            |
| SO <sub>2</sub> : | 8.79g/kWh  | 14.4kg          |
| NO <sub>x</sub> : | 3.87g/kWh  | 6.4kg           |
| CO <sub>2</sub> : | 0.96kg/kWh | 1.6 tonnes      |

*'As obtained from Eskom Corporate Technical Audit'*

### Where to find more information

- Website: [www.eskom.co.za/dsm](http://www.eskom.co.za/dsm)
- Telephone: Energy Efficient Demand Side Management Help Desk 011 800 4744
- From any participating suppliers (see complete list on website)
- E-mail: [dsmhelpdesk@eskom.co.za](mailto:dsmhelpdesk@eskom.co.za)

