

Electricity (Solar Water Heating) Regulations, 2019

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IT is hereby notified that the Minister of Energy and Power Development, in terms of section 65(q) of the Electricity Act [*Chapter 13:19*] and after consultation with the Zimbabwe Energy Regulatory Authority, has made the following regulations:—

*Title*

1. These regulations may be cited as the Electricity (Solar Water Heating) Regulations, 2019.

*Objective*

2. These regulations are meant to regulate the installation, licensing, operation, repair, maintenance, retrofit and upgrade of solar water heating systems for the production of sanitary hot water to save electricity.

*Application*

3. (1) These regulations shall apply to all property developers, architects, engineers and users of electricity and users of hot water.

(2) These regulations shall not apply to existing premises with electrical geysers.

*Interpretation*

4. In these regulations, unless the context otherwise requires—

“active solar water heating system” means a solar water heating system that employs a pump to circulate water through a solar collector to a storage tank or to the point of use;

“Authority” means the Zimbabwe Energy Regulatory Authority (ZERA);

“carbon finance” means a mechanism that facilitates the financial reward through carbon credits for the reduction of greenhouse gas emissions by emitters in developing countries;

“Clean Development Mechanism” means a mechanism that allows emission-reduction projects in developing countries to earn Certified Emission Reduction (CER) credits each equivalent to one tonne of carbon dioxide, which can be traded or sold, or used by industrialised countries to meet a part of their emission reduction targets under the Kyoto Protocol;

“cogeneration” means the production of electricity and heat in one single process for dual output streams;

“direct solar water-heating system” means a solar water heating system in which water is heated directly in the collector;

“indirect solar water-heating system” means a solar water heating system in which a heat transfer fluid in the collector transfers heat to the water through a heat exchanger;

“licensee” means the holder of a licence issued under these regulations;

“local authority” means city, town or rural district council and “local authorities” shall be construed accordingly;

“passive solar water heating system” means a solar water heating system that employs natural convection to circulate water through a solar collector to a storage tank or to the point of use;

“premises” means existing, new or alterations and extensions to existing residential or commercial buildings or structures, including—

- (a) all domestic dwellings or residential houses as defined in the building by-laws made under the Local Authority;
- (b) commercial buildings including hotels, lodges, clubs, restaurants, cafeterias, laundries, eating places and similar premises;
- (c) health institutions including hospitals, health centres and clinics and similar medical facilities and;
- (d) (educational institutions including universities, colleges, boarding schools and similar institutions;

“renewable energy” means all non-fossil sources including, biomass, geothermal, small hydro-power, solar, wind, sewage treatment and plant gas;

“solar collectors” include evacuated tube collectors, and glazed and unglazed flat plate collectors;

“solar water heating system” means a device or system that uses sunlight to heat water and comprises of solar collectors, storage tanks, controls, installation hardware and fittings;

“warranty” a written guarantee for a product and declares the maker’s responsibility to repair or replace a defective product or its parts;

“Zimbabwe Standard” means the specification or code of practice declared by the Standards Association of Zimbabwe.

*Installation and use of solar water heating systems*

5. Subject to section 3, no owner of the premises after the effective day of these regulations shall connect electrical geysers but may, at his or her own expense, install and use solar water heating systems.

*Exemptions*

6. (1) Upon application, the Authority shall exempt from these regulations—

- (a) premises with technical limitations;
- (b) premises supplied with hot water from a cogeneration plant in or proximate to the premises;
- (c) premises utilising electricity generated from renewable energy and the excess is used to heat water as a dump load; or
- (d) such other premises as the Authority may determine.

(2) An application for an exemption under subsection (1) shall be made to the Authority, in the form set out in the First Schedule, before the submission of the building plans for approval to the relevant local authority.

(3) The Authority shall process an application for an exemption within 30 days of receipt thereof, and inform the applicant and the relevant local authority of its decision, in writing.

(4) The Authority shall, where it refuses to grant an exemption, give the applicant reasons for the refusal.

*Standardisation*

7. (1) A person shall not use or employ for the purposes of or in connection with a solar heating system, any mode, material or apparatus other than that which complies with the Zimbabwean Standards specified in the Second Schedule.

(2) A solar collector shall, for the purposes of these regulations, be of the unglazed flat plate, glazed flat plate or evacuated tube collector technologies or any other type that meets the Zimbabwe and international Standards for solar collectors.

(3) A glazed, evacuated tube collector or any other type that meets the Zimbabwe Standards for collectors shall be used in all

installations except in installations for heating swimming pools where unglazed collectors may be used.

(4) Solar collector panels shall be insulated to improve their thermal efficiency performance.

(5) The hot water storage tanks shall be insulated.

(6) All components selected for use in the installation of a solar water heating system shall be corrosion resistant.

(7) Selection of components for plumbing works in a solar water heating system shall be in accordance with the planning and Model Building By-laws made under the Local Authorities.

*Conventional backup water heating system*

8. (1) The backup water heater systems that utilise traditional fuels, including electricity, gas, or similar fuels, may be separately installed in buildings or be integrated into the solar heating system to ensure that there is an adequate supply of hot water at all times especially during periods of extended cloud cover.

(2) The conventional back-up system shall be designed to supplement a solar water heating system by operating when absolutely necessary to supply the energy deficit from solar collectors due to adverse weather conditions or a solar water heating system defects.

(3) All geysers with an electricity backup to be inhibited from using electricity during peak hours.

*Design, installation, repair and maintenance*

9. (1) The design, installation, repair and maintenance of a solar water heating systems shall be in accordance with the standards specified in the Second Schedule.

(2) The design, installation, repair and maintenance of a solar water heating system shall also be in accordance with the building by-laws made under the respective Local Authority.

(3) Solar water heating system technician or contractor shall, upon commissioning a solar heating system, issue an installation certificate, the date of installation, capacity of the solar water heating system, details of the installer and warranty, for the premises.

*Responsibility for compliance*

10. (1) A developer of a housing estate, a promoter of the construction, an owner of the premises or an architect or an engineer engaged in the design or construction of premises shall comply with these regulations.

(2) An owner of premises, architect and an engineer engaged in the design, construction, extension or alteration of premises shall incorporate solar water heating systems in all new premises designs and extensions or alterations or retrofitting to existing premises.

(3) An owner or occupier of premises that has a solar water heating system shall use and carry out the necessary operational maintenance and repairs required to keep the installation in good and efficient working condition.

(4) An electric power distributor or supplier shall not provide electricity supply to premises where a solar water heating system has not been installed in accordance with these regulations.

(5) An owner or occupier to whom these regulations apply may investigate the inclusion of the relevant solar water heating system into a project to be registered under any carbon finance mechanism that may be established from time to time including the Clean Development Mechanism (CDM).

(6) A person who contravenes the provisions of this section commits an offence and shall be liable to a fine not exceeding level 6 or imprisonment for a term not exceeding one year, or to both such fine and such imprisonment.

*Warranty*

11. The installed water heaters shall have a guarantee minimum period of five years failure during this period renders the supplier or installer liable to replacing or repairing the unit at full cost.

*Compliance with other technical, legal and regulatory requirements*

12. The installation of a solar water heating system in premises shall comply with all other relevant technical, legal and regulatory requirements applicable in Zimbabwe.

FIRST SCHEDULE (*Section 6(2)*)

*Form for Application for Exemption from Solar Water Heating Regulations*

APPLICATION FOR EXEMPTION

APPLICATION FOR EXEMPTION FROM THE SOLAR WATER  
HEATING REGULATIONS

This form must be accompanied with a technical report signed by an expert (registered engineer, architect, or technician) explaining why it is not technically viable to have solar water heating system in the premises.

GENERAL PARTICULARS

State

1. Name and address of applicant in full; in the case of a partnership or other joint venture (other than a body corporate), give the names and addresses of each party concerned:.....  
.....
2. Name, address and telephone number of person to whom correspondence or enquiries concerning the application should be directed.....
3. State whether the applicant is a public limited company, private limited company, overseas company, other body corporate, partnership, unincorporated association, sole trader or other entity (and in the last case give particulars of the legal status):.....  
.....
4. If the applicant is a body corporate, state—
  - (a) the jurisdiction under which it is incorporated:.....  
.....  
.....  
.....
  - (b) if applicable, its registered number:.....  
.....  
.....  
(Attach copies of Certificate of Registration, Certificate of Incorporation, Memorandum and/or Articles of Association where applicable).
  - (c) the full names and addresses of its current directors:.....  
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(d) the name and registered office of any holding company of the applicant:

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5. If the applicant is neither a body corporate nor a sole trader, give the name(s) and address(es) of the person or persons in whom effective control of the applicant rests:.....

.....

6. Where any person (other than a person whose name is given at paragraph 2(ii)(d) or paragraph 2(iii) above) holds 20 percent or more of any class of the shares of the applicant, give the name and address of each such person, specifying in each case the number of shares so held and the percentage of the aggregate number of shares of that class represented thereby:.....

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7. Give the Land Reference Number and name and address of the local authority where the premises are situated:.....

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8. The grounds on which the applicant seeks exemption:

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9. Name(s) and designation(s) of person(s) signing the application:

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10. Date of application:

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SECOND SCHEDULE (*Sections 7(1) and 9(1)*)

## ZIMBABWE STANDARDS

<i>Item</i>	<i>Standard</i>	<i>Title</i>
1	ZWS 278:20076	Domestic water heater
2	ZWS 744:2003	Installation of solar water heaters
3	ZWS ISO 9459:1999	Solar heating system; Part 2: outdoor test methods for system performance characterisation and yearly performance prediction of solar system
4	ZWS 278:2006	Collectors of solar water heaters
5	ZWS 1017	Domestic solar water heaters – mechanical qualification test
6	ZWS 1016	Installation, maintenance, repair and replacement of domestic solar water heating systems
7	ZWS 1026	Fixed electric storage water heaters
8	ZWS 1025	Domestic storage solar water heating systems
9	ZWS ISO 9227	Corrosion tests in artificial atmospheres – salt spray tests
10	ZWS ISO 6509 – 1	Corrosion of metals and alloys – determination of dezincification resistance of copper alloys with zinc-Part 1 Test methods
11	ZWS 1030	Energy efficiency for electrical and electronic apparatus
12	ZWS 1033	Thermostats for electric storage water heaters
13	ZWS 1027	Immersion heaters for electric storage water heaters
14	ZWS 1032 Part 1	Domestic solar water heaters Part 1: Thermal performance using outdoor test method

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<i>Item</i>	<i>Standard</i>	<i>Title</i>
15	ZWS 1032 Part 2	Domestic solar water heaters: Part 2: Thermal performance using an indoor method
16	ZWS 1031	The installation, maintenance, replacement and repair of fixed electric storage water



