

CITY OF CAPE TOWN

ENERGY EFFICIENT WATER HEATER BY-LAW, 2007

Draft 13
16 April 2009

To regulate the incorporation of energy efficient water heaters for the production of sanitary hot water in buildings in the City of Cape Town; and to provide for matters connected therewith.

BE IT ENACTED by the Municipal Council of the City of Cape Town, as follows:-

DEFINITIONS

1. In this By-law, unless the context indicates otherwise -

“aperture area” means the area in a collector cover through which unconcentrated solar radiant energy is admitted to the absorber as defined in SANS 1307;

“authorised official” means the Director Environmental Resource Management, the Chief Building Inspector, or a person delegated to perform this function;

“building” means a building as defined in section 1 of the National Building Regulations and Building Standards Act, 1977 (Act No. 103 of 1977);

“City” means the City of Cape Town as established by the City of Cape Town Establishment Notice as published in the Western Cape Provincial Notice No. 479 dated 22 September 2000;

“developer” means the person or organisation which is building or developing a property with a view to sell or rent out when completed;

“domestic solar water heater” means a solar water heater used by a household;

‘multi-storey’ means a building with 3 or more floors

“notice of exemption” means a formal document signed by an authorised official setting out the manner and conditions of exemption of a particular building from the requirements of this By-law;

“owner”, in relation to a building means the person in whose name the land on which such building was or is erected is registered in the deeds office in question: Provided that if—

- (a) such person is absent from the Republic or if his whereabouts are unknown, any person who, as agent or otherwise, undertakes the management, maintenance or collection of rentals or other moneys in respect of such building or land or who is responsible therefor;
- (d) the City is unable to determine the identity of such person, any person who is entitled to the benefit of the use of such building or land or who enjoys such benefit,

shall be deemed to be the owner of such building or land;

“permanent shading” means shading caused by unsuitable orientation or by existing buildings, mountains, and other similar obstacles;

“solar collector” means a device that contains or incorporates an absorber and a means for transferring thermal energy from the absorber to a fluid passing through it as defined in the SANS 1307;

“solar contribution” means the energy input to a hot water tank from a solar collector or collectors;

“solar water heater (SWH)” means a complete operating system that uses energy from the sun to produce hot water and that comprises one or more collectors, hot water tanks and includes all the necessary interconnecting pipes and functional components as defined in SANS 1307.

OBJECTIVES

2. The objectives of this By-law are to -
 - (a) improve energy security and improve energy risk management;
 - (b) reduce the use of electricity;
 - (c) reduce the national contribution to environmental impacts associated with the burning of fossil fuels, such as carbon dioxide (CO₂), sulphur dioxide (SO₂) and nitrous oxide emissions (NO₃);
 - (d) improve the quality of life through the provision of hot water; and
 - (e) create jobs in the solar water heater industry.

SCOPE

3. (1) This By-law applies to all new buildings in the City other than those exempted in subsection (3).

- (2) This By-law applies to all additions to existing buildings which will require the use of hot water (eg bathroom, bedroom with en-suite bathroom and kitchen extensions) other than those exempted in terms of subsection (3).
- (3) This By-law does not apply to the following cases:
- (a) Buildings used exclusively for industrial purposes where hot water requirements exceed that which can be reasonably obtained through solar water heating; and
 - (b) Any residential building which is not to be equipped with an electrical water heating system for sanitation purposes.
- (4) The City shall be authorised to exempt historical buildings with an acknowledged heritage status or parts of buildings from the obligations of this By-law if there are valid reasons for such an exemption, such as –
- (a)
- (5) Multi-storey buildings are required to have efficient water heating installed provided the capital cost of the installation per housing unit is comparable to those of a stand alone building and may apply for a notice of exemption for the hot water requirements not able to be served.
- (6) No notice of exemption will be valid unless given in writing signed by an authorised official.

REQUIREMENTS FOR BUILDING PLAN APPROVAL

4. (1) An application for building plan permission must state the type and location of the energy efficient water heating system complying with this By-law. If solar water heating is used, building plans shall show the position of the solar water heater on the building, giving orientation and inclination to the horizontal.

STANDARDS

5. Solar Water Heating

- (1) A domestic solar water heating system and its sub-components shall comply with either SANS 1307 or accepted international standards. Compliance has to be declared in writing.
- (2) The solar collector shall be positioned in such a manner as to obtain a minimum of 80% of its optimal output, given the constraints of the building geometry and orientation. For Cape Town, orientation and inclination constraints are as follows:
- (a) For E – W (passing through N): $5^{\circ} < \text{inclination} < 40^{\circ}$
 - (b) For ENE – WNW: $40^{\circ} < \text{inclination} < 60^{\circ}$,

noting that a true north orientation and an inclination of the collector of 30° to the horizontal are optimal'

(3) The installation of the solar water heating system shall be done according to national codes of practise SANS 10106,

(4) The installer shall complete the installation certificate which shall as a minimum contain the following information:

- (a) The unit aperture area; where an aperture area which will provide a minimum of 0.167MJ of energy per litre of water per day under conditions specified in SANS 1307 Section 14.13.1 is deemed the minimum acceptable;
- (b) whether the SWH is freeze resistant or not freeze resistant;
- (c) for domestic solar water heating, a signed declaration on compliance of the SWH with SANS 1307 in terms of section 4(2)(e) from manufacturer or distributor;
- (d) a declaration including the rated daily output according to SANS 6211-1 or SANS 6211-2.
- (e) the name of the installer and the installing company.

(5) The manufacturer shall give a minimum 5 year performance warranty declaration in writing on the solar water heating system.

A service contract is encouraged and should include, as a minimum -

- (a) a commitment from installer to perform a commissioning check within one month after installation, handing over the commissioning check list according to national code of practise SANS 10106 to the owner. This commissioning check shall be included in the price of the system; and
- (b) a commitment from installer to perform an annual service check at a reasonable fixed price stated in the contract, for a period of at least the two first years.

6. Heat Pumps

- (1) A domestic heat pump system and its sub-components shall comply with either **SANS ?????** or accepted international standards. Compliance has to be declared in writing.
- (2) The installation of the heat pump system shall be done according to national codes of practise SANS 10106
- (3) The manufacturer shall give a mimimum 5 year performance warranty declaration in writing for the heat pump system

7. Other Efficient Water Heating Technology

- (1) The owner may install other forms of water heating technology, provided the owner can provide proof that the technology bears the SABS mark of approval, and has independent tests from a recognized authority proving reduction in electrical energy levels at least equal to or better than 60% when compared to an equivalent electric geyser.
- (2) The manufacturer shall give a minimum 5 year performance warranty declaration in writing for the energy efficient water heating system

APPEARANCE AND DESIGN

6. (1) The City shall be entitled to require changes in the proposed design and appearance of a building in order to minimise the visual impact of the solar water heater. Design and appearance shall comply with the guidelines in Appendix ? of this bylaw.

(2) Where possible, hot water cylinders shall be installed within the roof space or internally -
 - (a) in areas of frost prevalence to address insulation concerns; and
 - (b) for aesthetic reasons in sensitive contexts such as –
 - (i) buildings older than 60 years; and
 - (ii) in heritage areas.

OWNERS OBLIGATIONS

7. (1) The owner, or in the case where transfer to a final owner has not yet taken place, the developer of a building in which an energy efficient water heater system is installed, is responsible for compliance with this By-law.

(2) The owner of the energy efficient water heating system is responsible for maintenance and repairs necessary to keep it in good repair and functioning adequately.

INSPECTION

8. (1) The City may by written notice require an owner of a building to provide within a reasonable period any information it requires to give effect to this By-law.

- (2) If such information is not provided within the time stated in the notice, the City may carry out an inspection of the building at the owner's cost to check compliance with the requirements of this By-law.

CONTRAVENTIONS

9. The following conduct or omission is prohibited in this By-law:
- (a) Installing an efficient water heating system in contravention to requirements in this By-law;
 - (b) failure to maintain the efficient water heating system according to requirements of this By-law; and
 - (c) failure or refusal to provide information or give access to buildings as provided for in section 8 of this By-law.

COMPLIANCE NOTICES

10. (1) When the Council or agent thereof finds that a provision of this By-law is contravened by an applicant or that a condition has arisen that has the potential to lead to a contravention of this By-law, such authorised official may issue a compliance notice to the applicant or the person in charge of the energy efficient water heater.
- (2) A notice issued in terms of subsection (1) must state –
- (a) the provision of the By-law that has been contravened or will be contravened if the condition is allowed to continue;
 - (b) the measures that must be taken to rectify the condition;
 - (c) the time period in which the notice must be complied with.
- (3) If a person on whom notice was served in terms of subsection (1) fails to comply with the requirements of the notice, the Council may take such steps as may be necessary to rectify the condition at the cost of the applicant or owner of the energy efficient water heater.

OFFENCES AND PENALTIES

11. A person who contravenes a provision of this By-law, or fails to comply with a condition or notice legally issued in terms of this By-law, is guilty of an offence and on conviction is liable to the payment of a fine. ***(SHOULD FINE LEVELS BE STIPULATED – IF SO AT WHAT LEVEL)***

DATE OF ENACTMENT

12. All applications for building permissions received by the authorities of the Building Plans Department of the City after 1st of July 2009 must comply with this By-law.

SHORT TITLE

13. This By-law is called the City of Cape Town: Energy Efficient Water Heater By-law, 2009.

