
A BILL FOR AN ACT

RELATING TO ENERGY.

BE IT ENACTED BY THE LEGISLATURE OF THE STATE OF HAWAII:

1 SECTION 1. The legislature finds that the State should
2 upgrade the performance standard on roofs for all new
3 residential and commercial construction projects by mandating
4 the use of only cool roof materials. The use of cool roofs will
5 facilitate a decrease in dependency on foreign oil by the State
6 and assist in reaching the goal of producing seventy per cent of
7 the State's energy from clean sources by 2011.

8 A cool roof is a special roofing material that
9 significantly reduces heat absorption due to two special
10 qualities: high solar reflectance, or albedo, which reflects
11 light, and high thermal emittance, which emits a high percentage
12 of any heat absorbed by the roof back into the atmosphere. The
13 effect results in a cooler building and reduced energy costs for
14 buildings with cooling systems by an average of seven to fifteen
15 per cent. While the cost of cool roofing materials are is
16 slightly higher when compared to traditional roofing materials,
17 a building owner may recover the extra cost of the cool roof

1 within three to five years, if not sooner, depending upon the
2 cost of electricity and the specifics of the building.

3 In addition to reducing the building's cooling costs, cool
4 roofs will also offset carbon dioxide emissions that contribute
5 to global warming. A one thousand square foot roof would offset
6 ten metric tons of carbon dioxide by reducing the need to use
7 electricity to cool the building. Cool roofs also combat the
8 heat island effect, which is a condition that occurs in urban
9 areas like downtown Honolulu where buildings and surrounding
10 infrastructure retain heat and increase the ambient air
11 temperature. The United States Environmental Protection Agency
12 estimates that over the last several decades, approximately
13 three to eight per cent of all energy used was to combat the
14 heat island effect. Installation of cool roofs will decrease
15 the heat island effect and lower energy usage.

16 The purpose of this Act is to promote energy conservation,
17 reduce the State's dependence on foreign oil, and decrease the
18 heat island effect by establishing specific performance
19 standards mandating the use of cool roofs in all new residential
20 and commercial construction in Hawaii.

1 SECTION 2. The Hawaii Revised Statutes is amended by
2 adding a new chapter to be appropriately designated and to read
3 as follows:

4 "CHAPTER
5 COOL ROOFS

6 § -1 **Definitions.** As used in this chapter, except as
7 otherwise specifically provided herein:

8 "Cool roof" means any variety of roofing material that has
9 a high solar reflectance and high thermal emittance, carries the
10 United States Environmental Protection Agency's ENERGY STAR
11 label, and meets the standards United States Environmental
12 Protection Agency's ENERGY STAR system low sloped roofs or steep
13 sloped roofs, as applicable.

14 "Low sloped roof" means the roof has less than two inches
15 of rise over twelve inches of run.

16 "New construction" means any new construction of a
17 residential structure, including single-family and multi-family
18 residential properties, and any new construction of a commercial
19 structure, including construction for businesses of any kind.

20 "Steep slope roof" means the roof has more than two inches
21 of rise over twelve inches of run.

1 § **-2 Requirements.** On or after January 1, 2011, no
2 permit shall be issued for new construction, unless the
3 structure has a cool roof.

4 § **-3 Exemptions.** (a) A variance may be requested by
5 application to the energy resources coordinator of the
6 department of business, economic development, and tourism. The
7 application shall include a description of the property and
8 detailed explanation justifying the request for the variance. A
9 variance shall be deemed approved if not denied by the energy
10 resources coordinator within thirty working days of the energy
11 resource coordinator's receipt of the variance application. A
12 variance shall be granted only if the detailed findings by the
13 energy resources coordinator establish that the cool roof will
14 not significantly reduce the energy consumption of the
15 residential or commercial building.

16 (b) New residential or commercial structures that are or
17 will be outfitted with on-site photovoltaic energy systems that
18 provide or will provide sufficient power to cover the
19 structure's daytime energy usage shall not be subject to the
20 requirements of subsection (a); provided, however, that in order
21 to qualify for this exemption, the applicant for the building
22 permit shall be required to submit information, together with

1 the permit application, regarding the on-site photovoltaic
2 energy system installed or to be installed in order to confirm
3 the type of existing or proposed system and such system's
4 sufficiency of power.

5 (c) That portion of roof that is or will be covered by a
6 solar energy system shall not be required to utilize cool roof
7 materials as provided in subsection (a); provided, however, that
8 in order to qualify for this partial exemption, the applicant
9 for the building permit shall be required to submit information,
10 together with the permit application, regarding the size and
11 proposed location of the solar energy system installed or to be
12 installed on the structure's roof.

13 § -4 **Enforcement; powers of counties.** (a) All counties
14 in the State shall adopt and enforce rules, ordinances, and
15 guidelines to take all reasonable actions to implement and
16 enforce this chapter.

17 (b) The appropriate county agency shall enforce this
18 chapter through the building inspection process. The building
19 inspector shall confirm, as part of the regular inspection
20 process, including inspection of the documentation required to
21 be submitted by the builder, that the roof material qualifies as
22 a cool roof in accordance with this chapter."

1 SECTION 3. This Act shall take effect on July 1, 2009.

Report Title:

Cool Roofs; Residential Construction; Commercial Construction;
Energy Conservation

Description:

Establishes specific performance standards and mandates the use
of cool roofs on all new residential and commercial construction
in Hawaii beginning in 2011. (SD1)