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# 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  
12 percentage of any heat absorbed by the roof back into the  
13 atmosphere. The effect results in a cooler building and reduced  
14 energy costs for buildings with cooling systems by an average of  
15 seven to fifteen per cent. While the cost of cool roofing  
16 materials are slightly higher when compared to traditional  
17 roofing materials, a building owner may recover the extra cost



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

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

17 The purpose of this Act is to promote energy conservation,  
18 reduce the State's dependence on foreign oil, and decrease the  
19 heat island effect by establishing specific performance  
20 standards mandating the use of cool roofs in all new residential  
21 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 and carries  
10 the United States Environmental Protection Agency's energy star  
11 label.

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

14 "New construction" means all residential construction,  
15 including single family and multi-family residential properties,  
16 and all commercial construction, including construction for  
17 businesses of any kind and all government buildings.

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

20 § -2 Requirements. On or after January 1, 2011, no  
21 permit shall be issued for the construction of any new  
22 residential or commercial structure, unless the structure has a



1 cool roof that meets the standards of the United States  
2 Environmental Protection Agency's energy star system for low  
3 sloped roofs or steep sloped roofs, as applicable.

4       § -3 **Exemptions.** 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 findings 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  
13 establish that the cool roof will not significantly reduce the  
14 energy consumption of the residential or commercial building.

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

19       (b) The appropriate county agency shall enforce this  
20 chapter through the building inspection process. The building  
21 inspector shall confirm, as part of the regular inspection  
22 process, including inspection of the documentation required to



1 be submitted by the builder, that the roof material qualifies as  
2 a cool roof in accordance with this chapter."

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

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**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.

