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# A BILL FOR AN ACT

RELATING TO THE PUBLIC UTILITIES COMMISSION.

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

1           SECTION 1. The legislature finds that to implement  
2 Hawaii's aggressive renewable portfolio and energy efficiency  
3 standards, the State may have to deploy a number of  
4 transformational technologies with real benefits, rather than  
5 inflated expectations. Hawaii's electricity ratepayers and tax  
6 payers should not have to bear the burden of the integration of  
7 potentially costly renewable energy projects or energy  
8 efficiency devices that are not technologically feasible or are  
9 in their developmental infancy.

10           The legislature further finds that many federal agencies  
11 already use assessment scales to determine technology readiness  
12 to ascertain the amount of risk to assign to a project or  
13 program to gauge expectations and outcomes.

14           The purpose of this Act is to require the Hawaii natural  
15 energy institute to provide a technology readiness assessment of  
16 a renewable energy project when requested by the public  
17 utilities commission and to prohibit the approval by the public



1 utilities commission of any project or contract for a renewable  
2 energy project with an unspecified technology readiness level.

3 SECTION 2. Chapter 269, Hawaii Revised Statutes, is  
4 amended by adding a new section to part V to be appropriately  
5 designated and to read as follows:

6 "§269- Technology readiness. (a) Upon the request of  
7 the public utilities commission, the director of the Hawaii  
8 natural energy institute shall provide the commission with an  
9 analysis of the technology readiness of a renewable energy  
10 project. The analysis shall use the technology readiness levels  
11 established by United States Department of Energy assessment  
12 guide document number DOE G 413.3-4, as adopted on October 12,  
13 2009, as set forth in paragraphs (1) through (9), to determine  
14 the technology readiness level of a renewable energy project:

15 (1) Technology readiness level 1 means scientific research  
16 has begun to be translated into applied research and  
17 development.

18 (2) Technology readiness level 2 means practical  
19 applications based on observed principles, including  
20 experimental work that corroborates basic scientific  
21 observations, can be invented.



- 1        (3) Technology readiness level 3 means active research and  
2        development, including analytical studies and  
3        laboratory-scale studies, has been initiated.
- 4        (4) Technology readiness level 4 means the basic  
5        technological components have been integrated to  
6        establish that the pieces work together as a system.
- 7        (5) Technology readiness level 5 means the basic  
8        technological components have been integrated so that  
9        the system configuration is similar to the final  
10       application in almost all respects.
- 11       (6) Technology readiness level 6 means engineering-scale  
12       models or prototypes have been tested in an  
13       environment that closely resembles the actual  
14       operating environment.
- 15       (7) Technology readiness level 7 means an actual system  
16       prototype of the technology is able to be demonstrated  
17       in a relevant environment.
- 18       (8) Technology readiness level 8 means the technology has  
19       been proven to work in its final form and under  
20       expected operating conditions.



1       (9) Technology readiness level 9 means the technology is  
2       in its final form and operates under the full range of  
3       possible operating conditions.

4       (b) The public utilities commission shall not approve a  
5       proposal or contract with a technology readiness level of or  
6       below.

7       (c) The public utilities commission may consider a  
8       proposal or contract with a technology readiness level above  
9       level ; provided that positive external factors, including but  
10       not limited to cost to consumers, job creation, capital  
11       attraction, and increased state tax revenues are found in its  
12       final determination.

13       (d) This section shall not apply to proposals, contracts,  
14       or demonstration projects of less than three years with primary  
15       purposes for experimental and data collection purposes."

16       SECTION 3. New statutory material is underscored.

17       SECTION 4. This Act shall take effect upon its approval.



**Report Title:**

Public Utilities Commission; Technological Readiness; Hawaii  
Natural Energy Institute

**Description:**

Sets forth technology readiness levels based upon the U.S. Department of Energy's assessment guide. Requires the director of the Hawaii Natural Energy Institute to provide the Public Utilities Commission with an analysis of the technology readiness of a renewable energy project, upon the request of the Public Utilities Commission. Requires the Public Utilities Commission to only consider projects with a technology readiness level of above an unspecified level. (SB2438 HD2)

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