
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
18 utilities commission of any project or contract for a renewable



1 energy project with a technology readiness level of six or
2 below.

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 6 or
6 below.

7 (c) The public utilities commission may consider a
8 proposal or contract with a technology readiness level above
9 level 6; 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 6. (SB2438 HD1)

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