

AMENDMENT TO H.R. 5374
OFFERED BY Mr . Lipinski

Page 12, after line 14, insert the following (and re-designate succeeding sections accordingly):

1 SEC. 6. GEOTHERMAL HEAT PUMPS AND DIRECT USE.

2 (a) IN GENERAL.—Title VI of the Energy Independ-
3 ence and Security Act of 2007 is amended by inserting
4 after section 616 (42 U.S.C. 17195) the following:

5 “SEC. 616A. GEOTHERMAL HEAT PUMPS AND DIRECT USE

6 RESEARCH AND DEVELOPMENT.

7 “(a) PURPOSES.—The purposes of this section are—

8 “(1) to improve the components, processes, and
9 systems used for geothermal heat pumps and the di-
10 rect use of geothermal energy; and

11 “(2) to increase the energy efficiency, lower the
12 cost, increase the use, and improve and demonstrate
13 the effectiveness of geothermal heat pumps and the
14 direct use of geothermal energy.

15 “(b) DEFINITIONS.—In this section:

16 “(1) DIRECT USE OF GEOTHERMAL ENERGY.—

17 The term ‘direct use of geothermal energy’ means
18 geothermal systems that use water directly or
19 through a heat exchanger to provide—

1 “(A) heating to buildings, commercial dis-
2 tricts, residential communities, and large mu-
3 nicipal, or industrial projects; or

4 “(B) heat required for industrial processes,
5 agriculture, aquaculture, and other facilities.

6 “(2) ECONOMICALLY DISTRESSED AREA.—The
7 term ‘economically distressed area’ means an area
8 described in section 301(a) of the Public Works and
9 Economic Development Act of 1965 (42 U.S.C.
10 3161(a)).

11 “(3) GEOTHERMAL HEAT PUMP.—The term
12 ‘geothermal heat pump’ means a system that pro-
13 vides heating and cooling by exchanging heat from
14 shallow ground or surface water using—

15 “(A) a closed loop system, which transfers
16 heat by way of buried or immersed pipes that
17 contain a mix of water and working fluid; or

18 “(B) an open loop system, which circulates
19 ground or surface water directly into the build-
20 ing and returns the water to the same aquifer
21 or surface water source.

22 “(c) PROGRAM.—

23 “(1) IN GENERAL.—The Secretary shall sup-
24 port within the Geothermal Technologies Office a
25 program of research, development, and demonstra-

1 tion for geothermal heat pumps and the direct use
2 of geothermal energy.

3 “(2) AREAS.—The program under paragraph
4 (1) may include research, development, demonstra-
5 tion, and commercial application of—

6 “(A) geothermal ground loop efficiency im-
7 provements, cost reductions, and improved in-
8 stallation and operations methods;

9 “(B) the use of geothermal energy for
10 building-scale energy storage;

11 “(C) the use of geothermal energy as a
12 grid management resource or seasonal energy
13 storage;

14 “(D) geothermal heat pump efficiency im-
15 provements;

16 “(E) the use of alternative fluids as a heat
17 exchange medium, such as hot water found in
18 mines and mine shafts, graywater, or other
19 fluids that may improve the economics of geo-
20 thermal heat pumps;

21 “(F) heating of districts, neighborhoods,
22 communities, large commercial or public build-
23 ings, and industrial and manufacturing facili-
24 ties;

1 “(G) the use of water sources at a tem-
2 perature of less than 150 degrees Celsius for di-
3 rect use; and

4 “(H) system integration of direct use with
5 geothermal electricity production.

6 “(3) ENVIRONMENTAL IMPACTS.—In carrying
7 out the program, the Secretary shall identify and
8 mitigate potential environmental impacts in accord-
9 ance with section 614(c).

10 “(d) GRANTS.—

11 “(1) IN GENERAL.—The Secretary shall carry
12 out the program established in subsection (c) by
13 making grants available to State, local, and Tribal
14 governments, institutions of higher education, non-
15 profit entities, National Laboratories, utilities, and
16 for-profit companies.

17 “(2) PRIORITY.—In making grants under this
18 subsection, the Secretary may give priority to pro-
19 posals that apply to large buildings, commercial dis-
20 tricts, and residential communities that are located
21 in economically distressed areas.”.

22 (b) CONFORMING AMENDMENT.—Section 1(b) of the
23 Energy Independence and Security Act of 2007 (42
24 U.S.C. 17001 note) is amended in the table of contents

- 1 by inserting after the item relating to section 616 the fol-
- 2 lowing:

“616A. Geothermal heat pumps and direct use research and development.”.

