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

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

SEC. 6. GEOTHERMAL HEAT PUMPS AND DIRECT USE.

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

"SEC. 616A. GEOTHERMAL HEAT PUMPS AND DIRECT USE RESEARCH AND DEVELOPMENT.

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

“(1) to improve the components, processes, and systems used for geothermal heat pumps and the direct use of geothermal energy; and

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

“(b) DEFINITIONS.—In this section:

“(1) DIRECT USE OF GEOTHERMAL ENERGY.—The term ‘direct use of geothermal energy’ means geothermal systems that use water directly or through a heat exchanger to provide—"
“(A) heating to buildings, commercial districts, residential communities, and large municipal, or industrial projects; or

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

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

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

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

“(B) an open loop system, which circulates ground or surface water directly into the building and returns the water to the same aquifer or surface water source.

“(c) PROGRAM.—

“(1) IN GENERAL.—The Secretary shall support within the Geothermal Technologies Office a program of research, development, and demonstra-
tion for geothermal heat pumps and the direct use
of geothermal energy.

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

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

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

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

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

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

“(F) heating of districts, neighborhoods,
communities, large commercial or public build-
ings, and industrial and manufacturing facili-
ties;
“(G) the use of water sources at a temperature of less than 150 degrees Celsius for direct use; and

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

“(3) ENVIRONMENTAL IMPACTS.—In carrying out the program, the Secretary shall identify and mitigate potential environmental impacts in accordance with section 614(c).

“(d) GRANTS.—

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

“(2) PRIORITY.—In making grants under this subsection, the Secretary may give priority to proposals that apply to large buildings, commercial districts, and residential communities that are located in economically distressed areas.”.

(b) CONFORMING AMENDMENT.—Section 1(b) of the Energy Independence and Security Act of 2007 (42 U.S.C. 17001 note) is amended in the table of contents
by inserting after the item relating to section 616 the following:

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