

118TH CONGRESS
1ST SESSION

H. R. 5750

To direct the Nuclear Regulatory Commission, the Secretary of Energy, and the Secretary of Agriculture to collaborate to determine the feasibility of creating the Green Nuclear Fertilizer Program, and for other purposes.

IN THE HOUSE OF REPRESENTATIVES

SEPTEMBER 27, 2023

Mr. DONALDS introduced the following bill; which was referred to the Committee on Agriculture, and in addition to the Committee on Energy and Commerce, for a period to be subsequently determined by the Speaker, in each case for consideration of such provisions as fall within the jurisdiction of the committee concerned

A BILL

To direct the Nuclear Regulatory Commission, the Secretary of Energy, and the Secretary of Agriculture to collaborate to determine the feasibility of creating the Green Nuclear Fertilizer Program, and for other purposes.

1 *Be it enacted by the Senate and House of Representa-*
2 *tives of the United States of America in Congress assembled,*

3 **SECTION 1. SHORT TITLE.**

4 This Act may be cited as the “Green Nuclear Fer-
5 tilizer Act”.

1 **SEC. 2. FINDINGS.**

2 Congress finds the following:

3 (1) Green fertilizers, such as those produced by
4 energy generated by an advanced nuclear reactor,
5 are nitrate-based mineral fertilizers with the same
6 chemical and physical composition as fertilizers pro-
7 duced with fossil fuels, but have a lower carbon foot-
8 print.

9 (2) Pink hydrogen is hydrogen that is produced
10 through electrolysis generated by nuclear energy, in-
11 cluding energy generated by advanced nuclear reac-
12 tors.

13 (3) In 2023, approximately 95 percent of the
14 hydrogen produced in the United States came from
15 natural gas through a process called steam methane
16 reforming.

17 (4) Hydrogen is an essential feedstock for am-
18 monia production, which is very energy intensive
19 process, but this process could be augmented with
20 advanced nuclear technology.

21 (5) Ammonia is a commodity chemical used for
22 fertilizers, and is produced through a high-pressure,
23 high-heat catalytic reaction of nitrogen and hydro-
24 gen.

1 (6) The ammonia market is expected to be one
2 of the early deployment opportunities for advanced
3 nuclear reactors through the sale of pink hydrogen.

4 (7) According to the International Renewable
5 Energy Agency, ammonia is the second-most pro-
6 duced chemical in the world by mass.

7 (8) The International Energy Agency estimates
8 ammonia production capacity will need to increase
9 nearly 40 percent by 2050 to account for expected
10 global population and economic growth.

11 (9) According to the U.S. Geological Survey, 88
12 percent of ammonia consumption in the United
13 States is for fertilizer production.

14 (10) In 2021, the United States had 35 active
15 ammonia production plants across 16 States, with
16 60 percent of production capacity located in Lou-
17 isiana, Oklahoma, and Texas.

18 (11) China produces almost a third of the
19 world's ammonia supply, using coal as the primary
20 hydrogen feedstock.

21 **SEC. 3. SENSE OF CONGRESS.**

22 It is the sense of Congress that Congress—

23 (1) understands the potential for the United
24 States to be a global leader in producing pink hydro-

1 gen, zero-emissions ammonia, and green nuclear fer-
2 tilizer;

3 (2) believes the pink hydrogen market for am-
4 monia in fertilizer products could be a considerable
5 early market opportunity to assist with providing as-
6 surance to nuclear supply chain manufacturers while
7 decreasing market risks associated with deploying
8 advanced nuclear reactors;

9 (3) encourages the United States to take advan-
10 tage of this global leadership opportunity, both by
11 assisting with advanced nuclear reactor deployment
12 and providing farmers throughout the United States
13 and rest of the world with green nuclear fertilizer;
14 and

15 (4) recognizes the positive environmental im-
16 pacts that green nuclear fertilizer can have.

17 **SEC. 4. EXAMINATION OF FEASIBILITY OF GREEN NUCLEAR**
18 **FERTILIZER PROGRAM.**

19 The Nuclear Regulatory Commission, the Secretary
20 of Energy, and the Secretary of Agriculture shall collabo-
21 rate to jointly examine—

22 (1) the feasibility of establishing and carrying
23 out a program, to be led by the Secretary of Agri-
24 culture and to be known as the Green Nuclear Fer-
25 tilizer Program, under which the Nuclear Regulatory

1 Commission, the Secretary of Energy, and the Sec-
2 retary of Agriculture would—

3 (A) act as a liaisons between the energy
4 generating industry, the hydrogen production
5 industry, the ammonia production industry, the
6 fertilizer industry, and the agriculture industry;

7 (B) to the extent authorized, ease regu-
8 latory restrictions associated with green nuclear
9 fertilizer, including regulatory restrictions asso-
10 ciated with licensing and deploying advanced
11 nuclear reactors; and

12 (C) act as a single source of contact for
13 stakeholders interested in producing, pur-
14 chasing, or selling green nuclear fertilizer such
15 that stakeholders could contact and receive nec-
16 essary information on green nuclear fertilizer,
17 including safety information, information about
18 the environmental benefits of green nuclear fer-
19 tilizer, and other information;

20 (2) if establishing and carrying the Green Nu-
21 clear Fertilizer Program is determined to be feasible
22 under paragraph (1)—

23 (A) what the goals of the Green Nuclear
24 Fertilizer Program should be;

1 (B) who will have access to the Green Fer-
2 tilizer Program in both the nuclear industry
3 and the agriculture industry, including ad-
4 vanced nuclear reactor developers, electric utili-
5 ties, farmers, and fertilizer producers; and

6 (C) how the Green Nuclear Fertilizer Pro-
7 gram could provide resources or other assist-
8 ance in establishing industry agreements for
9 green nuclear fertilizer, including power pur-
10 chase agreements, offtake agreements, or other
11 contractual arrangements for green nuclear fer-
12 tilizer;

13 (3) the economic impacts, both domestically and
14 internationally, of producing and using green nu-
15 clear fertilizers compared to fertilizers that are not
16 produced with zero-emissions ammonia;

17 (4) the health impacts associated with using
18 green nuclear fertilizer, and a comparison of such
19 health impacts to the health impacts of using fer-
20 tilizers that are not produced with zero-emissions
21 ammonia;

22 (5) whether there is any impact on crops and
23 overall yield associated with using green nuclear fer-
24 tilizer;

1 (6) regulatory changes needed to ease the way
2 and prepare for the creation, sale, and procurement
3 of green nuclear fertilizer; and

4 (7) issues relating to infrastructure for the pro-
5 duction of green nuclear fertilizer, including—

6 (A) whether use of advanced nuclear reac-
7 tors to produce pink hydrogen would impact ex-
8 isting fertilizer production infrastructure;

9 (B) how advanced nuclear reactors could
10 be used with existing infrastructure, including
11 currently operational, retiring, and retired in-
12 frastructure, to produce pink hydrogen;

13 (C) challenges associated with retrofitting
14 existing infrastructure to deploy advanced nu-
15 clear reactors to be used for variable purposes,
16 such as providing electricity to the electric grid
17 and hydrogen production, based on necessity;
18 and

19 (D) challenges associated with constructing
20 new pink hydrogen production facilities that are
21 powered by an advanced nuclear reactor.

22 **SEC. 5. REPORT TO CONGRESS.**

23 Not later than 365 days after the date of enactment
24 of this Act, the Nuclear Regulatory Commission, the Sec-
25 retary of Energy, and the Secretary of Agriculture shall

1 jointly submit to the appropriate congressional committees
2 a report on the examination conducted under section 4,
3 including—

4 (1) a determination on whether the establish-
5 ment of the Green Nuclear Fertilizer Program is
6 feasible and—

7 (A) if it is determined to be feasible, a
8 plan to develop the Program, and a description
9 of steps for Congress to take to make the Pro-
10 gram successful; and

11 (B) if it is determined not to be feasible,
12 a description of why it is not feasible, and pos-
13 sible solutions to make the Program feasible;
14 and

15 (2) an analysis of how such a Program would—

16 (A) increase market demand for the de-
17 ployment of advanced nuclear reactors in the
18 United States; and

19 (B) benefit the agriculture industry.

20 **SEC. 6. DEFINITIONS.**

21 In this Act:

22 (1) **ADVANCE NUCLEAR REACTOR.**—The term
23 “advanced nuclear reactor” has the meaning given
24 the term in section 3(1) of the Nuclear Energy In-

1 novation and Modernization Act (42 U.S.C. 2215
2 note).

3 (2) APPROPRIATE CONGRESSIONAL COMMIT-
4 TEES.—The term “appropriate congressional com-
5 mittees” means—

6 (A) the Committee on Energy and Com-
7 merce and the Committee on Agriculture of the
8 House of Representatives; and

9 (B) the Committee on Environment and
10 Public Works, the Committee on Energy and
11 Natural Resources, and the Committee on Agri-
12 culture, Nutrition, and Forestry of the Senate.

13 (3) GREEN NUCLEAR FERTILIZER.—The term
14 “green nuclear fertilizer” means fertilizer that is
15 produced with zero-emissions ammonia.

16 (4) PINK HYDROGEN.—

17 (A) IN GENERAL.—The term “pink hydro-
18 gen” means hydrogen that is produced through
19 electrolysis generated by nuclear energy.

20 (B) EXCLUSION.—The term “pink hydro-
21 gen” does not include thermal hydrogen.

22 (5) ZERO-EMISSIONS AMMONIA.—The term
23 “zero-emissions ammonia” means ammonia that is
24 produced with pink hydrogen and nitrogen.

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