To amend the Energy Act of 2020 to require the Secretary of Energy to establish a program to accelerate the availability of commercially produced high-assay, low-enriched uranium in the United States and to make high-assay, low-enriched uranium produced from Department of Energy inventories available for use in advanced nuclear reactors, and for other purposes.

IN THE SENATE OF THE UNITED STATES

Mr. BARRASSO introduced the following bill; which was read twice and referred to the Committee on  

A BILL

To amend the Energy Act of 2020 to require the Secretary of Energy to establish a program to accelerate the availability of commercially produced high-assay, low-enriched uranium in the United States and to make high-assay, low-enriched uranium produced from Department of Energy inventories available for use in advanced nuclear reactors, 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,
SECTION 1. SHORT TITLE.

This Act may be cited as the “Fueling Our Nuclear Future Act of 2022”.

SEC. 2. SENSE OF CONGRESS.

It is the sense of Congress that—

(1) the Department of Energy (referred to in this section as the “Department”) should prioritize activities to establish a domestic high-assay, low-enriched uranium (referred to in this section as “HALEU”) enrichment capability, consistent with subsection (c) of section 2001 of the Energy Act of 2020 (42 U.S.C. 16281);

(2) domestic HALEU enrichment will not be commercially available at the scale needed in time to meet the needs of advanced nuclear reactor demonstration projects; and

(3) the Department needs to make available HALEU, produced from inventories owned by the Department, for use by advanced nuclear reactors consistent with subsection (d) of section 2001 of the Energy Act of 2020 (42 U.S.C. 16281), until such time as commercial HALEU enrichment capability exists consistent with that subsection.

SEC. 3. HALEU FOR ADVANCED NUCLEAR REACTORS.

Section 2001 of the Energy Act of 2020 (42 U.S.C. 16281) is amended—
(1) in subsection (a)—

(A) in paragraph (2)—

(i) in subparagraph (D)—

(I) in clause (v)(III), by adding "or" after the semicolon at the end;

(II) by striking clause (vi); and

(III) by redesignating clause (vii) as clause (vi);

(ii) in subparagraph (E), by striking "for domestic commercial use" and inserting "to meet the needs of commercial, government, academic, and international entities"; and

(iii) in subparagraph (I), by inserting "nuclear" after "advanced";

(B) in paragraph (5), in the paragraph heading, by striking "HA–LEU" and inserting "HALEU"; and

(C) by redesignating paragraphs (6) and (7) as paragraphs (8) and (6), respectively, and moving the paragraphs so as to appear in numerical order;

(2) in subsection (b)(2)—

(A) in the paragraph heading, by striking "HA–LEU" and inserting "HALEU";
(B) by striking “subsection (a)(1)” each place it appears and inserting “subsection (b)(1)”;

(C) in subparagraph (B)(viii), by striking “subsection (a)(2)(F)” and inserting “subsection (b)(2)(F)”;

(D) in subparagraph (D)(vi), by striking “subsection (a)(2)(A)” and inserting “subsection (b)(2)(A)”;

(3) in subsection (c)—

(A) by redesignating paragraphs (1) through (5) as subparagraphs (A) through (E), respectively, and indenting appropriately; and

(B) in the matter preceding subparagraph (A) (as so redesignated)—

(i) by striking “in this section” and inserting “under this subsection”; and

(ii) by striking “There are” and inserting the following:

“(7) AUTHORIZATION OF APPROPRIATIONS.—

There are”;

(4) in subsection (d)—

(A) in paragraph (4)—

(i) in the paragraph heading, by striking “HIGH-ASSAY LOW-ENRICHED” and in-
serting “HIGH-ASSAY, LOW-ENRICHED”;

and

(ii) by striking “high-assay low-enriched” and inserting “high-assay, low-enriched”;

(B) by redesignating paragraphs (1) through (6) as paragraphs (3), (4), (6), (7), (8), and (9), respectively;

(C) by inserting before paragraph (3) (as so redesignated) the following:

“(1) ADVANCED NUCLEAR REACTOR.—The term ‘advanced nuclear reactor’ has the meaning given the term in section 951(b) of the Energy Policy Act of 2005 (42 U.S.C. 16271(b)).

“(2) ADVANCED NUCLEAR REACTOR ENDUSER.—The term ‘advanced nuclear reactor end-user’ means an entity seeking or receiving HALEU under subsection (d)(1) for use by an advanced nuclear reactor, including—

“(A) the recipient of an award made pursuant to the funding opportunity announcement of the Department numbered DE–FOA–0002271 for Pathway 1, Advanced Reactor Demonstrations; and
“(B) a member of the consortium established under subsection (b)(2)(F).”;

(D) by inserting after paragraph (4) (as so redesignated) the following:

“(5) DEPARTMENT.—The term ‘Department’ means the Department of Energy.”; and

(E) by striking paragraph (6) (as so redesignated) and inserting the following:

“(6) HALEU.—The term ‘HALEU’ means high-assay, low-enriched uranium.”;

(5) by striking “HA–LEU” each place it appears and inserting “HALEU”;  

(6) by moving paragraph (7) of subsection (c) (as designated by paragraph (3)(B)(ii)) so as to appear after paragraph (6) of subsection (a) (as redesignated by paragraph (1)(C));

(7) by striking subsection (c);

(8) by redesignating subsections (a), (b), and (d) as subsections (b), (g), and (a), respectively, and moving the subsections so as to appear in alphabetical order;

(9) by inserting after subsection (b) (as so redesignated) the following:

“(c) COMMERCIAL HALEU AVAILABILITY.—
“(1) Establishment.—Not later than 30 days after the date of enactment of the Fueling Our Nuclear Future Act of 2022, the Secretary, acting through the Assistant Secretary for Nuclear Energy, shall establish a program (referred to in this subsection as the ‘program’) to accelerate the availability of commercially produced HALEU in the United States in accordance with this subsection.

“(2) Purposes.—The purposes of the program are—

“(A) to provide for the availability of HALEU produced, chemically converted, enriched, chemically deconverted, and suitable for fabrication into final fuel form in the United States;

“(B) to address nuclear fuel supply chain gaps and deficiencies in the United States; and

“(C) to support strategic nuclear fuel supply chain capabilities in the United States.

“(3) Considerations.—In carrying out the program, the Secretary shall consider and, as appropriate, execute—

“(A) options to establish, through a competitive process, a domestic commercial HALEU production capability of not less than
20 metric tons of HALEU per year, with initial availability by—

“(i) December 31, 2027; or
“(ii) the earliest operationally feasible date thereafter;
“(B) options that provide for an array of HALEU—
“(i) enrichment levels;
“(ii) output levels to meet demand;
and
“(iii) fuel forms; and
“(C) options to establish, through a competitive process, a HALEU Bank—
“(i) to replenish, as necessary, Department stockpiles of uranium used in carrying out activities under subsection (d);
“(ii) to continue supplying HALEU to meet the needs of the recipients of an award made pursuant to the funding opportunity announcement of the Department numbered DE–FOA–0002271 for Pathway 1, Advanced Reactor Demonstrations; and
“(iii) to make HALEU available to members of the consortium established under subsection (b)(2)(F), after addressing the needs described in clauses (i) and (ii).

“(4) AUTHORIZATION OF APPROPRIATIONS.—In addition to amounts otherwise made available (other than amounts made available under section 4(b) of the Fueling Our Nuclear Future Act of 2022), there is authorized to be appropriated to the Secretary to carry out this subsection $150,000,000 for each of fiscal years 2023 through 2032.

“(d) HALEU FOR ADVANCED NUCLEAR REACTOR DEMONSTRATION PROJECTS.—

“(1) ACTIVITIES.—On enactment of the Fueling Our Nuclear Future Act of 2022, the Secretary shall immediately accelerate and, as necessary, initiate activities to make available HALEU, produced from inventories owned by the Department, for use by advanced nuclear reactors, with priority given to the awards made pursuant to the funding opportunity announcement of the Department numbered DE–FOA–0002271 for Pathway 1, Advanced Reactor Demonstrations, with additional HALEU to be
made available to members of the consortium established under subsection (b)(2)(F), as available.

“(2) OWNERSHIP.—HALEU made available under this subsection—

“(A) shall remain the property of, and title shall remain with, the Department; and

“(B) shall not be subject to the requirements of section 3112(d)(2) and 3113 of the USEC Privatization Act (42 U.S.C. 2297h–10(d)(2), 2297h–11).

“(3) QUANTITY.—In carrying out activities under this subsection, the Secretary shall make available—

“(A) by September 30, 2024, not less than 3 metric tons of HALEU;

“(B) by December 31, 2025, not less than an additional 8 metric tons of HALEU; and

“(C) by June 30, 2026, not less than an additional 10 metric tons of HALEU.

“(4) FACTORS FOR CONSIDERATION.—In carrying out activities under this subsection, the Secretary shall take into consideration—

“(A) options for providing HALEU from a stockpile of uranium owned by the Department
(including the National Nuclear Security Administration), including—

“(i) fuel that—

“(I) directly meets the needs of advanced nuclear reactor end-users;

but

“(II) has been previously used or fabricated for another purpose;

“(ii) fuel that can meet the needs of advanced nuclear reactor end-users after removing radioactive or other contaminants that resulted from a previous use or fabrication of the fuel for research, development, demonstration, or deployment activities of the Department (including activities of the National Nuclear Security Administration);

“(iii) fuel from a high-enriched uranium stockpile, which can be blended with lower assay uranium to become HALEU to meet the needs of advanced nuclear reactor end-users; and

“(iv) fuel from uranium stockpiles intended for other purposes, but for which uranium could be swapped or replaced in
time in such a manner that would not neg-
atively impact the missions of the Depart-
ment;

“(B) options for providing HALEU from
domestically enriched HALEU procured by the
Department through a competitive process pur-
suant to the HALEU Bank established under
subsection (c)(3)(C); and

“(C) options to replenish, as needed, De-
partment stockpiles of uranium made available
pursuant to subparagraph (A) with domestically
enriched HALEU procured by the Department
through a competitive process pursuant to the
HALEU Bank established under subsection
(c)(3)(C).

“(5) LIMITATION.—The Secretary shall not
barter or otherwise sell or transfer uranium in any
form in exchange for services relating to—

“(A) the final disposition of radioactive
waste from uranium that is the subject of a
contract for sale, resale, transfer, or lease under
this subsection; or

“(B) environmental cleanup activities.

“(6) AUTHORIZATION OF APPROPRIATIONS.—In
addition to amounts otherwise made available (other
than amounts made available under section 4(b) of
the Fueling Our Nuclear Future Act of 2022), there
is authorized to be appropriated to the Secretary to
carry out this subsection $200,000,000 for each of
fiscal years 2023 through 2027.

“(7) SUNSET.—The authority of the Secretary
to carry out activities under this subsection shall ter-
minate on the date on which the HALEU needs of
advanced nuclear reactor end-users can be fully met
by commercial HALEU suppliers in the United
States, as mutually agreed to by the Secretary and
advanced nuclear reactor end-users.

“(e) COST RECOVERY.—

“(1) IN GENERAL.—In carrying out activities
under subsections (c) and (d), the Secretary shall
ensure that any HALEU acquired, provided, or
made available under those subsections for advanced
nuclear reactor end-users is subject to cost recovery
in accordance with subsection (b)(2)(G).

“(2) AVAILABILITY OF CERTAIN FUNDS.—Not-
withstanding section 3302 of title 31, United States
Code, revenues received from the sale or transfer of
fuel feed material and other activities related to
making HALEU available pursuant to this section—
“(A) shall be available to the Department for carrying out the purposes of this section, to reduce the need for further appropriations for those purposes; and

“(B) shall remain available until expended.

“(f) EXCLUSION.—In carrying out activities under this section, the Secretary shall not make available, or provide funding for, uranium that is recovered, downblended, produced, chemically converted, enriched, chemically deconverted, or fabricated by an entity that—

“(1) is owned or controlled by the Government of the Russian Federation or the Government of the People’s Republic of China; or

“(2) is organized under the laws of, or otherwise subject to the jurisdiction of, the Russian Federation or the People’s Republic of China.”; and

(10) by adding at the end the following:

“(h) BRIEFING.—Not later than 90 days after the date of enactment of the Fueling Our Nuclear Future Act of 2022, the Secretary shall provide a briefing to the Committee on Energy and Natural Resources of the Senate and the Committee on Energy and Commerce of the House of Representatives that—

“(1) summarizes the reports required by subsection (g);
“(2) summarizes the planning of the Department for the storage and disposal of waste products resulting from the production and use of HALEU; and

“(3) summarizes the ability of uranium suppliers to provide uranium for advanced nuclear reactor fuel, including—

“(A) uranium that has been produced prior to the date of enactment of the Fueling Our Nuclear Future Act of 2022;

“(B) the sufficiency of existing uranium production to meet the needs described in this section;

“(C) an assessment of the countries from which the United States currently imports uranium, including the form and annual quantity;

“(D) the impact of increased reliance on domestic uranium production, conversion, and enrichment to sustain the continued operation of existing nuclear reactors; and

“(E) the need for increased domestic uranium production to meet the needs described this section.”.
SEC. 4. TRANSFER OF FUNDS FROM THE UNITED STATES ENRICHMENT CORPORATION FUND.

(a) DEFINITIONS.—In this section:


(2) SECRETARY.—The term “Secretary” means the Secretary of Energy.

(b) AUTHORIZATION OF TRANSFER OF AMOUNTS.—

(1) IN GENERAL.—All amounts in the Fund as of the date of enactment of this Act are authorized to be transferred and merged with the amounts authorized to be appropriated to the Secretary to carry out subsections (c) and (d) of section 2001 of the Energy Act of 2020 (42 U.S.C. 16281).

(2) ALLOCATION.—Of the amounts authorized to be transferred under paragraph (1)—

(A) 50 percent is authorized to be appropriated to carry out subsection (c) of that section; and
(B) 50 percent is authorized to be appropriated to carry out subsection (d) of that section.

(3) APPLICATION.—Any amounts made available to the Secretary under subparagraph (A) or (B) of paragraph (2)—

(A) shall be considered to be part of the amounts authorized to be appropriated to the Secretary under subsection (c)(4) or (d)(6), respectively, of section 2001 of the Energy Act of 2020 (42 U.S.C. 16281); and

(B) shall remain available until expended.

(e) TERMINATION OF FUND.—The Fund shall terminate on completion of the transfer under subsection (b)(1).