

118TH CONGRESS  
1ST SESSION

# S. 2931

To amend the Farm Security and Rural Investment Act of 2002 to modify the Rural Energy for America Program, and for other purposes.

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## IN THE SENATE OF THE UNITED STATES

SEPTEMBER 26 (legislative day, SEPTEMBER 22), 2023

Ms. BALDWIN (for herself and Mr. GRASSLEY) introduced the following bill; which was read twice and referred to the Committee on Agriculture, Nutrition, and Forestry

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## A BILL

To amend the Farm Security and Rural Investment Act of 2002 to modify the Rural Energy for America 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 “Protecting Future  
5       Farmland Act of 2023”.

6       **SEC. 2. DEFINITION OF AGRIVOLTAIC SYSTEM FOR USDA**  
7       **PROGRAMS.**

8       (a) IN GENERAL.—The Secretary of Agriculture (re-  
9       ferred to in this section as the “Secretary”) shall incor-

1 porate the definition of the term “agrivoltaic system”  
2 under subsection (b) into all applicable programs of the  
3 Department of Agriculture relating to agrivoltaic systems.

4 (b) DEFINITION OF AGRIVOLTAIC SYSTEM.—

5 (1) IN GENERAL.—Effective beginning on the  
6 date of enactment of this Act and ending on the  
7 date on which the Secretary develops a definition  
8 under paragraph (2), the term “agrivoltaic system”  
9 means a system under which solar energy production  
10 and agricultural production, including crop or ani-  
11 mal production, occurs in an integrated manner on  
12 the same piece of land through the duration of a  
13 solar project.

14 (2) SUBSEQUENT DEFINITION.—

15 (A) IN GENERAL.—Based on the results of  
16 the study conducted under section 6(a), the  
17 Secretary, in consultation with the Secretary of  
18 Energy and farm and conservation groups, shall  
19 develop a definition of the term “agrivoltaic  
20 system” for purposes of the incorporation of  
21 agrivoltaic systems into—

22 (i) Federal agricultural conservation  
23 programs;

1 (ii) Federal agricultural risk manage-  
2 ment programs, including Federal crop in-  
3 surance;

4 (iii) Federal renewable energy pro-  
5 grams;

6 (iv) Federal agricultural procurement  
7 programs;

8 (v) Federal investment tax credits;  
9 and

10 (vi) such other programs as the Sec-  
11 retary determines to be appropriate.

12 (B) CONSIDERATIONS.—In developing the  
13 definition of “agrivoltaic system” under sub-  
14 paragraph (A), the Secretary shall consider—

15 (i) using or modifying the definition  
16 under paragraph (1);

17 (ii) regional needs and variations in  
18 climate, soils, costs, existing infrastructure,  
19 and market access for agrivoltaic system  
20 products;

21 (iii) existing State and local  
22 agrivoltaic system policies and definitions;  
23 and

24 (iv) such other factors as the Sec-  
25 retary determines to be appropriate.

1 **SEC. 3. RURAL ENERGY FOR AMERICA PROGRAM.**

2 Section 9007 of the Farm Security and Rural Invest-  
3 ment Act of 2002 (7 U.S.C. 8107) is amended—

4 (1) in subsection (b)(3)—

5 (A) in subparagraph (D), by striking “and  
6 environmental benefits”;

7 (B) by redesignating subparagraphs (E)  
8 and (F) as subparagraphs (F) and (G), respec-  
9 tively; and

10 (C) by inserting after subparagraph (D)  
11 the following:

12 “(E) the expected environmental benefits  
13 and impacts of the proposed program;”; and

14 (2) in subsection (c)—

15 (A) in paragraph (2)—

16 (i) by redesignating subparagraphs  
17 (A) through (G) as clauses (i) through  
18 (vii), respectively, and indenting appro-  
19 priately;

20 (ii) in the matter preceding clause (i)  
21 (as so redesignated), by striking the para-  
22 graph designation and heading and all that  
23 follows through “In determining” and in-  
24 serting the following:

25 “(2) AWARD SELECTION.—

26 “(A) CONSIDERATIONS.—In determining”;

(iii) in subparagraph (A)(iii) (as so designated), by inserting “and impacts” after “benefits”; and

(iv) by adding at the end the following:

“(B) PRIORITIZATION CONSIDERATIONS FOR TIER 3 PROJECTS.—In selecting projects described in paragraph (4)(D) relating to a solar energy system to receive loan guarantees under this subsection, the Secretary shall give priority to projects for which a plan for soil, water, and vegetation management and conservation, including a plan that includes an agrivoltaic system (as defined in section 2 of the Protecting Future Farmland Act of 2023), has been developed.”;

(B) in paragraph (4)—

(i) in subparagraph (E), by striking “tier I” and inserting “tier 1”; and

(ii) by adding at the end the following:

“(F) COLLECTION OF DATA FOR TIER 3.—The Secretary shall collect data from each application submitted for a project described in subparagraph (D) relating to a solar energy

1 system, which shall include, with respect to the  
2 proposed project in the application—

3 “(i) whether the proposed project in-  
4 volves ground disturbance;

5 “(ii) whether energy generation is pri-  
6 marily for on- or off-farm use;

7 “(iii) the percentage of farmland in  
8 the proposed facility area that is des-  
9 ignated by the Secretary as prime, state-  
10 wide important, or unique farmland (as  
11 those terms are defined in section 657.6 of  
12 title 7, Code of Federal Regulations (or  
13 successor regulations)); and

14 “(iv) whether an agrivoltaic system  
15 (as defined in section 2 of the Protecting  
16 Future Farmland Act of 2023) is  
17 planned.”; and

18 (C) by adding at the end the following:

19 “(5) REPORT.—Not later than 2 years after the  
20 date of enactment of the Protecting Future Farm-  
21 land Act of 2023, the Secretary shall submit to Con-  
22 gress a report on the benefits and impacts of solar  
23 energy development on agricultural land, including—

24 “(A) a description of opportunities to  
25 maximize—

1 “(i) renewable energy deployment and  
2 usage; and

3 “(ii) protection of agricultural land;  
4 and

5 “(B) by evaluating and using data col-  
6 lected under paragraph (4)(F).”.

7 **SEC. 4. BEST PRACTICES GUIDANCE FOR SOLAR ENERGY**  
8 **LAND MANAGEMENT.**

9 (a) IN GENERAL.—Not later than 1 year after the  
10 date of enactment of this Act, the Secretary of Agri-  
11 culture, acting through the Chief of the Natural Resources  
12 Conservation Service (referred to in this section as the  
13 “Secretary”), in collaboration with the Secretary of En-  
14 ergy (including the Solar Energy Technologies Office) and  
15 the national office of the rural development mission area  
16 of the Department of Agriculture, shall—

17 (1) develop both national and regionally rel-  
18 evant guidance on best practices for protection of  
19 soil health and productivity during the siting, con-  
20 struction, operation, and decommissioning of solar  
21 energy systems on agricultural land, which shall in-  
22 clude—

23 (A) guidance for—

24 (i) soil carbon and soil health;

25 (ii) water management;

1 (iii) vegetation management, including  
2 types of plants best suited for pollinators;  
3 and

4 (iv) other practices, as determined ap-  
5 propriate by the Secretary of Agriculture;  
6 and

7 (B) regional considerations for each type  
8 of guidance described in clauses (i) through (iv)  
9 of subparagraph (A); and

10 (2) make the guidance developed under para-  
11 graph (1) publicly available on the website of the  
12 Natural Resources Conservation Service.

13 (b) REVIEW REQUIRED.—The Secretary, acting  
14 through the Chief of the Natural Resources Conservation  
15 Service, in coordination with the Secretary of Energy,  
16 shall—

17 (1) update guidance developed under subsection

18 (a)(1) not less frequently than once every 2 years;

19 and

20 (2) ensure, to the maximum extent practicable,  
21 the completeness and relevance of that guidance.

22 (c) CONSULTATION.—In conducting the review under  
23 subsection (b), the Secretary shall consult with eligible  
24 participants, State technical committees established under  
25 section 1261(a) of the Food Security Act of 1985 (16



1 U.S.C. 3861(a)), crop consultants, cooperative extension  
 2 and land grant universities, nongovernmental organiza-  
 3 tions, industry, and other qualified entities.

4 **SEC. 5. TECHNICAL ASSISTANCE.**

5 (a) TECHNICAL ASSISTANCE UNDER NRCS PRO-  
 6 GRAMS.—In carrying out the conservation programs of the  
 7 Secretary of Agriculture, the Secretary of Agriculture may  
 8 provide technical assistance under those programs to  
 9 farmers growing crops below or in tandem with solar en-  
 10 ergy systems.

11 (b) PRIVATE GRAZING LAND CONSERVATION ASSIST-  
 12 ANCE.—Section 1240M(c)(1) of the Food Security Act of  
 13 1985 (16 U.S.C. 3839bb(c)(1)) is amended—

14 (1) in subparagraph (H), by striking “and” at  
 15 the end;

16 (2) in subparagraph (I), by striking the period  
 17 at the end and inserting “; and”; and

18 (3) by adding at the end the following:

19 “(J) supporting planning, management,  
 20 and coordination of grazing in agrivoltaic sys-  
 21 tems (as defined in section 2 of the Protecting  
 22 Future Farmland Act of 2023).”.

23 **SEC. 6. STUDY ON AGRIVOLTAIC SYSTEMS.**

24 (a) IN GENERAL.—The Secretary of Agriculture (re-  
 25 ferred to in this section as the “Secretary”), in coordina-

tion with the Secretary of Energy and relevant experts,  
shall conduct a study on agrivoltaic systems that shall in-  
clude—

(1) a review of the current research and gaps  
in research relating to the regional compatibility of  
different species of livestock with different  
agrivoltaic system designs, including—

(A) the optimal height of and distance be-  
tween solar panels for—

(i) livestock grazing; and

(ii) shade for livestock;

(B) manure management considerations;

(C) fencing requirements;

(D) other animal handling considerations;

and

(E) the incorporation of apiculture;

(2) an assessment of animal breeding research  
needs with respect to beneficial and compatible char-  
acteristics and behaviors of different species of graz-  
ing animals in agrivoltaic systems;

(3) a review of the current research and gaps  
in research relating to the regional compatibility of  
different crop types with different agrivoltaic system  
designs, including—

1 (A) the optimal height of and distance be-  
2 tween solar panels for—

3 (i) plant shading; and

4 (ii) farm equipment use;

5 (B) the impact on crop yield; and

6 (C) market opportunities to sell crops at a  
7 premium price;

8 (4) an assessment of plant breeding research  
9 needs with respect to beneficial and compatible char-  
10 acteristics of different crops, including specialty and  
11 perennial crops, in agrivoltaic systems;

12 (5) a risk-benefit analysis of agrivoltaic systems  
13 in different regions of the United States, including  
14 a comparison between the total greenhouse gas im-  
15 pact of agrivoltaic systems and solar energy systems  
16 that displace agricultural production;

17 (6) an assessment of the economic scalability of  
18 agrivoltaic systems across different agricultural land  
19 types, production systems, and regional markets;

20 (7) an assessment of the types of agricultural  
21 land best suited and worst suited for agrivoltaic sys-  
22 tems;

23 (8) an assessment of how to best develop  
24 agrivoltaic systems on a national and local scale con-  
25 sistent with—

1 (A) maintaining or increasing agricultural  
2 production;

3 (B) increasing agricultural resilience;

4 (C) retaining prime farmland;

5 (D) increasing economic opportunities in  
6 farming and rural communities;

7 (E) reducing nonfarmer ownership of  
8 farmland; and

9 (F) enhancing biodiversity;

10 (9) an assessment of the unique risk manage-  
11 ment and crop insurance needs of agrivoltaic sys-  
12 tems;

13 (10) an assessment of how Federal procurement  
14 of agricultural products could help build a market  
15 for agricultural products from farms with agrivoltaic  
16 systems; and

17 (11) an assessment of appropriate modifications  
18 to better incorporate agrivoltaic systems into exist-  
19 ing—

20 (A) Federal agricultural conservation pro-  
21 grams;

22 (B) Federal agricultural risk management  
23 programs, including Federal crop insurance;

24 (C) Federal renewable energy programs;

1 (D) Federal agricultural procurement pro-  
2 grams; and

3 (E) Federal investment tax credits.

4 (b) 5-YEAR PLAN.—Based on the study under sub-  
5 section (a), the Secretary shall develop a 5-year plan for  
6 using the research, extension, outreach, conservation, and  
7 renewable energy activities of the Department of Agri-  
8 culture to better support agrivoltaic systems that do not  
9 displace agricultural production.

10 (c) REPORT.—Not later than 3 years after the date  
11 of enactment of this Act, the Secretary shall submit to  
12 the Committee on Agriculture of the House of Representa-  
13 tives and the Committee on Agriculture, Nutrition, and  
14 Forestry of the Senate a report containing the results of  
15 the study conducted under subsection (a).

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