

117TH CONGRESS
1ST SESSION

S. 2719

To establish the United States-India Climate and Clean Energy Partnership to facilitate clean energy cooperation with India, to enhance cooperation with India on climate mitigation, resilience, and adaptation, and for other purposes.

IN THE SENATE OF THE UNITED STATES

SEPTEMBER 13, 2021

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

A BILL

To establish the United States-India Climate and Clean Energy Partnership to facilitate clean energy cooperation with India, to enhance cooperation with India on climate mitigation, resilience, and adaptation, 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; TABLE OF CONTENTS.**

4 (a) SHORT TITLE.—This Act may be cited as the
5 “Prioritizing Clean Energy and Climate Cooperation with
6 India Act of 2021”.

1 (b) TABLE OF CONTENTS.—The table of contents for
 2 this Act is as follows:

- Sec. 1. Short title; table of contents.
- Sec. 2. Findings.
- Sec. 3. Definitions.
- Sec. 4. Sense of Congress on climate and clean energy cooperation with India.
- Sec. 5. Statement of policy.
- Sec. 6. Purposes.
- Sec. 7. Establishment of United States-India Climate and Clean Energy Partnership.
- Sec. 8. Strategy for implementation of the United States-India Climate and Clean Energy Partnership.
- Sec. 9. Partnerships for cooperation on research and innovation for clean energy technologies.
- Sec. 10. Initiatives for technical assistance for grid improvement and energy efficiency in India.
- Sec. 11. Initiatives for generation of new renewable energy in India.
- Sec. 12. Report on promotion of State-State clean energy cooperation.
- Sec. 13. United States-India climate change risk reduction and resilience cooperation.

3 **SEC. 2. FINDINGS.**

4 Congress makes the following findings:

5 (1) India is the second most populous country
 6 in the world with a population of approximately
 7 1,334,000,000 people and is the fifth largest econ-
 8 omy in the world with a nominal gross domestic
 9 product of approximately \$2,940,000,000,000.

10 (2) India is among the countries most vulner-
 11 able to climate change, with hundreds of millions of
 12 people susceptible to events exacerbated by climate
 13 change, such as the spread of infectious diseases, sea
 14 level rise and extreme flooding, droughts, storms,
 15 and landslides triggered by extreme weather.

16 (3) India releases approximately 2,500,000,000
 17 tons (carbon dioxide equivalent) of greenhouse gases

1 annually, making it the third largest greenhouse gas
2 emitter after the People's Republic of China and the
3 United States.

4 (4) India is one of the largest energy markets
5 in the world and is projected to be the largest source
6 of global energy demand growth through 2040. In-
7 stalled power capacity in India more than doubled
8 between 2011 and 2021.

9 (5) Per capita energy consumption in India is
10 relatively low among emerging economic powers.

11 (6) Reliable access to power is crucial for the
12 storage of vaccines and antiretroviral and other life-
13 saving medical drugs, as well as for the operation of
14 modern lifesaving medical equipment.

15 (7) Access to power can also provide improved
16 information and communication technologies that
17 can greatly improve health and education outcomes,
18 as well as economic and commercial opportunities.

19 (8) In 2000, only 43 percent of the population
20 of India had access to power. That percentage more
21 than doubled between 2000 and 2020, with approxi-
22 mately 700,000,000 people in India gaining access
23 to electricity during that period.

1 (9) Prime Minister Narendra Modi has
2 prioritized improving citizen access to electricity and
3 electrifying every household in India.

4 (10) The Power for All initiative of the Govern-
5 ment of India aims to provide electricity to all
6 households in India 24 hours a day, 7 days a week.

7 (11) Without action, climate change threatens
8 to push millions more people into poverty. Invest-
9 ments in clean energy offer an opportunity to curb
10 climate change while combatting poverty and in-
11 creasing capacity to respond to the impacts of cli-
12 mate change.

13 (12) As of June 2020, coal makes up the larg-
14 est domestic source of energy supply and electricity
15 generation for India. In October 2020, the Ministry
16 of New and Renewable Energy reported that renew-
17 able energy comprises approximately 12 percent of
18 energy generation in India.

19 (13) India imports 80 percent of its oil needs,
20 and that amount is projected to increase in the com-
21 ing decades due to aging oil fields and a lack of new
22 oil discoveries in India. India is increasing its oil re-
23 fining capacity to maintain supply to meet the rising
24 domestic demand for energy.

1 (14) India is projected to surpass the People's
2 Republic of China in oil consumption by 2030.

3 (15) On September 22, 2020, the People's Re-
4 public of China announced a pledge to achieve net
5 zero carbon emissions by 2060 in its updated Na-
6 tionally Determined Contribution to the Paris Agree-
7 ment, done at Paris December 12, 2015, but given
8 the need to accelerate the reduction of global emis-
9 sions along a 2050 timeline, that pledge is insuffi-
10 cient to avoid an increase of 2 degrees Celsius in the
11 global average temperature.

12 (16) India, in contrast, is demonstrating that
13 climate action is a priority through concrete steps
14 including a climate plan compatible with the goal of
15 limiting global average temperature rise below 2 de-
16 grees Celsius.

17 (17) India's unconditional emissions target, as
18 outlined in the Intended Nationally Determined Con-
19 tribution of India to the Paris Agreement, aims to
20 reduce emissions intensity of gross domestic product
21 by 33 percent to 35 percent below 2005 levels by
22 2030.

23 (18) In its Intended Nationally Determined
24 Contribution, India has also pledged to increase the
25 share of its installed electricity capacity that comes

1 from non-fossil fuel sources to 40 percent by 2030
2 and create an additional 2,500,000,000 to
3 3,000,000,000 tons of carbon sinks.

4 (19) In 2019, Prime Minister Modi announced
5 an ambitious domestic target of installing 450
6 gigawatts of renewable energy capacity by 2030.

7 (20) India is among the top 5 clean energy pro-
8 ducers globally. Installed electricity capacity from re-
9 newables in India grew by 144 percent from 2014 to
10 2020, and between 2014 and 2019 there was ap-
11 proximately \$42,000,000,000 in investment in the
12 renewable energy sector in India.

13 (21) Numerous global funds, private equity
14 firms, and multilateral finance institutions are con-
15 tinuing to invest billions of dollars in the growing re-
16 newable energy sector in India.

17 (22) India leads the International Solar Alli-
18 ance, a 75-country initiative to which the United
19 States does not yet belong, to mobilize
20 \$1,000,000,000,000 in solar energy investment by
21 2030.

22 (23) Increased ownership of appliances and
23 cooling needs could lead to a doubling or even tri-
24 pling of energy use in India by 2040. One billion air

1 conditioning units are expected to be in use in India
2 by 2050.

3 (24) Under the Kigali Amendment to the Mon-
4 treal Protocol on Substances that Deplete the Ozone
5 Layer, done at Montreal September 16, 1987, India
6 has agreed to freeze its manufacturing and con-
7 sumption of hydrofluorocarbons in 2028.

8 (25) In 2005, the United States and India es-
9 tablished a formal energy cooperation dialogue, the
10 United States-India Energy Dialogue, which in-
11 cluded engagement on clean, low carbon tech-
12 nologies. In 2009, the United States and India ex-
13 panded the United States-India Energy Dialogue to
14 advance clean and sustainable energy development.
15 The expansion in 2009 included the Partnership to
16 Advance Clean Energy initiative focusing on re-
17 search into, deployment of, and access to clean en-
18 ergy.

19 (26) The Partnership to Advance Clean Energy
20 Research element of the Partnership to Advance
21 Clean Energy initiative, commonly referred to as
22 “PACE-R”, consists of research consortia under the
23 Joint Clean Energy Research and Development Cen-
24 ter launched in 2010 by the Department of Energy
25 and the Government of India with support from the

1 private sector. PACE–R has focused on solar power,
2 advanced biofuels, energy efficiency in buildings, and
3 smart grids and energy storage.

4 (27) The Partnership to Advance Clean Energy
5 Deployment element of the Partnership to Advance
6 Clean Energy initiative, commonly referred to as
7 “PACE–D”, funds programs to improve energy effi-
8 ciency, grid connectivity, clean energy finance, and
9 more.

10 (28) The Partnership to Advance Clean Energy
11 Access element of the Partnership to Advance Clean
12 Energy initiative, commonly referred to as
13 “PEACE”, has focused on finance and technology
14 innovation, skills development, and ecosystem
15 strengthening for clean energy.

16 (29) In 2015, the United States and India
17 launched the U.S.-India Clean Energy Finance Task
18 Force, which draws on the finance expertise of the
19 governments and private sectors of both countries to
20 tailor business and finance models to scale India’s
21 clean energy sector.

22 (30) Since 2015, the United States has sup-
23 ported the Partnership for Climate Resilience, which
24 links United States Government climate scientists

1 with their counterparts in India to produce climate
2 data and information to inform local decisionmakers.

3 (31) In 2018, the United States Government
4 established the Asia Enhancing Development and
5 Growth through Energy initiative, commonly re-
6 ferred to as “Asia EDGE”, to support sustainable
7 and secure energy markets throughout the Indo-Pa-
8 cific. Asia EDGE integrates elements of the Part-
9 nership to Advance Clean Energy initiative along
10 with new programs such as the South Asia Group
11 for Energy.

12 (32) In 2018, the governments of India and the
13 United States elevated the energy partnership to the
14 U.S.-India Strategic Energy Partnership to advance
15 energy security, expand energy innovation, and in-
16 crease stakeholder engagement. That partnership in-
17 cluded pillars of cooperation on power and energy ef-
18 ficiency, renewable energy, sustainable growth, and
19 oil and gas. The governments of India and the
20 United States also continued clean energy research
21 and development under the Partnership to Advance
22 Clean Energy Research.

23 (33) In 2021, the United States Government,
24 through the United States Agency for International
25 Development, awarded approximately \$9,200,000 to

1 support the Coalition for Disaster Resilient Infra-
2 structure, which the Government of India launched
3 in September 2019 at the United Nations Climate
4 Action Summit.

5 (34) In 2021, at the Leaders Summit on Cli-
6 mate, the United States and India launched the
7 U.S.-India Climate and Clean Energy Agenda 2030
8 Partnership to mobilize finance toward and accel-
9 erate clean energy deployment, demonstrate and
10 scale innovative clean technologies, and build capac-
11 ity to measure, manage, and adapt to the risks of
12 climate-related impacts. The Partnership has two
13 main tracks, the Strategic Clean Energy Partnership
14 (led by the Department of Energy) and the Climate
15 Action and Finance Mobilization Dialogue (led by
16 the Office of the Special Presidential Envoy for Cli-
17 mate), which build on and subsume previous, afore-
18 mentioned processes.

19 **SEC. 3. DEFINITIONS.**

20 In this Act:

21 (1) ADMINISTRATOR.—The term “Adminis-
22 trator” means the Administrator of the United
23 States Agency for International Development.

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

4 (A) the Committee on Foreign Relations
5 and the Committee on Energy and Natural Re-
6 sources of the Senate; and

7 (B) the Committee on Foreign Affairs and
8 the Committee on Energy and Commerce of the
9 House of Representatives.

10 (3) CLEAN ENERGY TECHNOLOGY.—The term
11 “clean energy technology” means a technology re-
12 lated to the production, use, transmission and dis-
13 tribution, storage, control, or conservation of energy
14 that will contribute to the stabilization of the climate
15 by reducing greenhouse gas emissions or seques-
16 tering or using carbon dioxide and—

17 (A) reduces the need for additional energy
18 supplies by using existing energy supplies with
19 greater efficiency; or

20 (B) increases and diversifies the sources of
21 energy in a manner that will—

22 (i) reduce risk to human health, safe-
23 ty, and welfare and the environment; and

24 (ii) strengthen energy security.

1 (4) SECRETARY.—Except as otherwise specifi-
2 cally provided, the term “Secretary” means the Sec-
3 retary of State.

4 **SEC. 4. SENSE OF CONGRESS ON CLIMATE AND CLEAN EN-**
5 **ERGY COOPERATION WITH INDIA.**

6 It is the sense of Congress that—

7 (1) robust cooperation on the development and
8 deployment of clean energy technologies should be a
9 priority in relations between the United States and
10 India and the top priority in the countries’ energy
11 diplomacy;

12 (2) the collaboration of the United States and
13 India on the development and deployment of clean
14 energy technologies has resulted in innovative new
15 technologies that have helped significantly lower the
16 carbon emissions of the power sector in India;

17 (3) demand for energy in India will increase
18 with the expansion of the economy and middle class
19 of India, and it is in the interest of United States
20 national security and global security for the United
21 States to support India in growing the energy sector
22 of India in environmentally and socially responsible
23 ways that mitigate greenhouse gas emissions and
24 improve the climate and energy security of India;

1 (4) the United States and India should continue
2 collaborating on research and development of new
3 clean energy technologies, as well as deployment of
4 clean energy technologies, so people across India can
5 access power generated from clean energy tech-
6 nologies and to help decarbonize India's entire en-
7 ergy sector;

8 (5) the United States, through the Bureau of
9 Energy Resources of the Department of State, the
10 United States International Development Finance
11 Corporation, the Department of Energy, the Export-
12 Import Bank of the United States, the International
13 Trade Administration, and the United States Agency
14 for International Development, should encourage
15 private sector investment in and financing for the
16 development and deployment of clean energy tech-
17 nologies in India;

18 (6) the United States should support the Power
19 for All initiative created by the Government of India
20 through technical and other forms of assistance;

21 (7) the United States should support the ambi-
22 tious renewable energy generation goals set by the
23 Government of India through technical and other
24 forms of assistance;

1 (8) Mission Innovation, in which India plays a
2 critical leadership role, represents an unmatched op-
3 portunity to make clean energy technologies more af-
4 fordable and accessible by increasing funding for
5 clean energy innovation;

6 (9) the United States should increase its par-
7 ticipation in and contributions to Mission Innova-
8 tion;

9 (10) the International Solar Alliance led by
10 India will play a key role in mobilizing significant
11 international investment in solar energy;

12 (11) the United States should join and con-
13 tribute to the International Solar Alliance led by
14 India;

15 (12) India has implemented several new policies
16 to promote the production and use of electric vehi-
17 cles in India;

18 (13) the United States should promote re-
19 search, development, and private sector cooperation
20 with India on the production of electric vehicles and
21 the planning and execution of an expansive charging
22 station network to support extensive use of electric
23 vehicles;

24 (14) increased demand for refrigeration and air
25 conditioning in India, and the adoption of the Kigali

1 Amendment to the Montreal Protocol, done at Mon-
2 treal September 16, 1987, are driving innovation
3 and investments in next-generation refrigeration
4 equipment and refrigerants in India; and

5 (15) enhanced United States-India bilateral co-
6 operation and engagement on the development of
7 technologies and chemicals that are compliant with
8 the Kigali Amendment are in the interest of United
9 States industry leaders in the refrigeration and
10 chemical coolant industries.

11 **SEC. 5. STATEMENT OF POLICY.**

12 It is the policy of the United States to increase en-
13 gagement and cooperation with the Government of India,
14 the Indian diaspora community in the United States, and
15 the private sector and civil society in both the United
16 States and India in a concerted effort—

17 (1) to support the ambitious goals of India—

18 (A) to expand renewable energy production
19 and the optimal integration of renewable energy
20 into a flexible, resilient electrical grid in India;
21 and

22 (B) to provide reliable and affordable ac-
23 cess to electricity for all communities;

1 (2) to help improve the energy security of India
2 and decrease the dependence of India on imported
3 fossil fuels;

4 (3) to foster innovation through academic and
5 research partnerships and mutually beneficial ar-
6 rangements relating to technology transfers and pro-
7 tection of intellectual property;

8 (4) to facilitate United States private sector in-
9 vestment in projects to expand power transmission
10 and distribution capacity, energy storage, and terri-
11 torial coverage in India to increase the number of
12 people, households, and communities with access to
13 power;

14 (5) to provide technical assistance and advice as
15 appropriate, and solely at the request and with the
16 consent of the relevant national and local authorities
17 and stakeholders, on—

18 (A) reforms of power production, delivery,
19 and pricing;

20 (B) reducing aggregate technical and com-
21 mercial energy losses in India's energy trans-
22 mission and distribution systems;

23 (C) regulatory reforms; and

24 (D) long-term, market-based power genera-
25 tion and distribution;

- 1 (6) to support efforts to lower India’s green-
2 house gas emissions and increase adaptive capacity
3 by promoting United States private investment in—
- 4 (A) renewable energy production;
5 (B) electric vehicle technology;
6 (C) energy efficiency in appliances, build-
7 ings, and the industrial sector;
8 (D) technologies to decarbonize the indus-
9 trial and transport sectors in which emissions
10 are hard to abate;
11 (E) technologies and infrastructure modi-
12 fications to improve the efficiency and resilience
13 of existing electricity generation units; and
14 (F) electricity transmission and distribu-
15 tion projects to improve—
- 16 (i) the affordability of electricity;
17 (ii) grid reliability, efficiency, flexi-
18 bility, digitalization, and resilience to cli-
19 mate impacts;
20 (iii) the number of citizens and house-
21 holds with access to electricity;
22 (iv) rural electrification; and
23 (v) electric vehicle charging infra-
24 structure; and

1 (7) to strengthen India’s resilience capacities
2 that ensure people, households, communities, institu-
3 tions, and systems can assess, anticipate, reduce,
4 adapt to, respond to, and recover from shocks and
5 stresses associated with the effects of climate
6 change.

7 **SEC. 6. PURPOSES.**

8 The purposes of this Act are—

9 (1) to advance cooperation between the United
10 States and India on, and private sector engagement
11 and investment in, the development and deployment
12 of clean energy technologies, and improvement in the
13 planning, reliability, flexibility, and resilience of In-
14 dia’s electrical grid to integrate increasing use of re-
15 newable energy;

16 (2) to improve research collaborations that de-
17 velop and deploy innovative clean energy tech-
18 nologies in India;

19 (3) to enhance citizen access to electricity
20 across India; and

21 (4) to build capacity to measure, manage, and
22 adapt to the risks of climate-related impacts.

1 **SEC. 7. ESTABLISHMENT OF UNITED STATES-INDIA CLI-**
2 **MATE AND CLEAN ENERGY PARTNERSHIP.**

3 (a) IN GENERAL.—The purposes described in section
4 6 shall be advanced through the development and execu-
5 tion of bilateral initiatives under an initiative to be known
6 as the “United States-India Climate and Clean Energy
7 Agenda 2030 Partnership” (in this Act referred to as the
8 “United States-India Climate and Clean Energy Partner-
9 ship”).

10 (b) FUNCTIONS.—The United States-India Climate
11 and Clean Energy Partnership shall serve as—

12 (1) the primary forum for cooperation between
13 the United States and India on clean energy tech-
14 nologies; and

15 (2) the mechanism through which such coopera-
16 tion is funded.

17 **SEC. 8. STRATEGY FOR IMPLEMENTATION OF THE UNITED**
18 **STATES-INDIA CLIMATE AND CLEAN ENERGY**
19 **PARTNERSHIP.**

20 (a) IN GENERAL.—Not later than 120 days after the
21 date of the enactment of this Act, the Secretary, in con-
22 sultation with the Administrator and the Secretary of En-
23 ergy, shall submit to the appropriate congressional com-
24 mittees a comprehensive, integrated, multi-year strategy
25 for implementing the United States-India Climate and
26 Clean Energy Partnership.

1 (b) FLEXIBILITY AND RESPONSIVENESS.—The strat-
2 egy required by subsection (a) shall maintain sufficient
3 flexibility and responsiveness to technological innovation
4 with respect to climate and clean energy in India.

5 (c) ELEMENTS.—The strategy required by subsection
6 (a) shall include—

7 (1) a general description, developed in collabo-
8 ration with the Government of India and local and
9 regional authorities in India, of the goals and ongoing
10 efforts in India—

11 (A) to increase power production;

12 (B) to build and maintain climate resilient
13 electrical transmission and distribution infrastruc-
14 ture;

15 (C) to expand electrical transmission and
16 distribution infrastructure in order to provide
17 equitable household and community access to
18 electricity;

19 (D) to implement regulatory reform, re-
20 gional interoperability, and transparent and ac-
21 countable governance and oversight;

22 (E) to strengthen the reliability and re-
23 gional interoperability of the electrical grid; and

24 (F) for electricity service providers—

1 (i) to provide affordable and reliable
2 power;

3 (ii) to reduce technical and nontech-
4 nical losses;

5 (iii) to collect fees for services; and

6 (iv) to expand service to underserved
7 communities;

8 (G) to advance energy efficiency in appli-
9 ances, buildings, and the industrial sector; and

10 (H) to advance decarbonization across the
11 energy sector of India, including in transport
12 and heavy industry;

13 (2) an assessment of how the initiatives in-
14 cluded in the United States-India Climate and Clean
15 Energy Partnership will support achievement of the
16 clean energy and expanded energy access goals of
17 India, including—

18 (A) an analysis of—

19 (i) the flexibility and carrying capacity
20 of India's electrical grid to better integrate
21 renewable energy generation; and

22 (ii) the state of distributed renewable
23 energy in India;

24 (B) a description of market barriers to the
25 deployment of clean energy technologies, includ-

1 ing distributed renewable energy technologies
2 both on- and off-grid in India;

3 (C) an analysis of the efficacy of efforts by
4 the Department of State, the Office of the
5 United States Trade Representative, the United
6 States International Development Finance Cor-
7 poration, and the United States Agency for
8 International Development to facilitate the fi-
9 nancing of the deployment, importation, dis-
10 tribution, sale, leasing, or marketing of clean
11 energy technologies in India; and

12 (D) a description of how bolstering distrib-
13 uted renewable energy can enhance the overall
14 effort to increase power access in India;

15 (3) a description of programs or initiatives in
16 existence as of the date of the submittal of the strat-
17 egy that—

18 (A) meet the requirements for initiatives
19 under sections 9 through 11; and

20 (B) can be integrated into the United
21 States-India Climate and Clean Energy Part-
22 nership;

23 (4) a list of programs in existence as of the
24 date of the submittal of the strategy that will be in-

1 tegrated into the United States-India Climate and
2 Clean Energy Partnership;

3 (5) recommendations on the establishment of
4 any new programs to meet the requirements for ini-
5 tiatives under sections 9 through 11; and

6 (6) a plan describing which parts of the United
7 States Government shall serve as the lead for which
8 components of the United States-India Climate and
9 Clean Energy Partnership.

10 **SEC. 9. PARTNERSHIPS FOR COOPERATION ON RESEARCH**
11 **AND INNOVATION FOR CLEAN ENERGY TECH-**
12 **NOLOGIES.**

13 (a) PURPOSE.—The purpose of this section is—

14 (1) to promote and accelerate the pace of inno-
15 vation and deployment of clean energy technologies;

16 (2) to expand community and household access
17 to power in India; and

18 (3) to facilitate demonstration projects of new,
19 innovative clean energy technologies.

20 (b) RESEARCH AND DEVELOPMENT PARTNER-
21 SHIPS.—

22 (1) IN GENERAL.—The Secretary, in coordina-
23 tion with the Administrator and the Secretary of
24 Energy, and with the cooperation of the Government
25 of India, shall promote partnerships between United

1 States clean energy centers of excellence designated
2 under paragraph (4) and partner entities in India
3 described in paragraph (5) on research, develop-
4 ment, demonstration, and commercial application of
5 clean energy technologies.

6 (2) EXCHANGES; SHARING.—The partnerships
7 described in paragraph (1) shall include—

8 (A) exchanges between United States clean
9 energy centers of excellence designated under
10 paragraph (4) and partner entities in India de-
11 scribed in paragraph (5); and

12 (B) lawful sharing of intellectual property
13 between the United States and India, including
14 between private sector entities in the two coun-
15 tries, with respect to—

16 (i) clean energy technology, including
17 carbon capture technologies;

18 (ii) air conditioning technology; and

19 (iii) refrigeration systems technology.

20 (3) FUNCTIONS.—United States clean energy
21 centers of excellence designated under paragraph
22 (4), in collaboration with partner entities in India
23 described in paragraph (5), shall be responsible
24 for—

1 (A) assessing different potential techno-
2 logical, development, policy, and technical solu-
3 tions to address capacity constraints affecting
4 the development and deployment of existing and
5 emerging energy technology in India, consistent
6 with the lawful sharing of intellectual property
7 described in paragraph (2)(B);

8 (B) facilitating engagements between en-
9 ergy authorities in India and private sector
10 clean energy technology suppliers and project
11 developers that could provide solutions to en-
12 ergy capacity challenges;

13 (C) ensuring that local stakeholders and
14 host communities in India where energy
15 projects supported by partnerships under this
16 section are being developed are adequately en-
17 gaged and given due consideration in the devel-
18 opment of such projects;

19 (D) arranging for the appropriate and law-
20 ful sharing of prototyping, technology transfer
21 activities, and production facilities for clean en-
22 ergy technologies, including assistance to clean
23 energy technology start-up ventures;

(E) promoting job training opportunities in the deployment and operation of clean energy technologies and energy transmission; and

(F) performing such other duties as determined by the Secretary in coordination with the Secretary of Energy.

(4) UNITED STATES CLEAN ENERGY CENTERS OF EXCELLENCE.—

(A) DESIGNATION.—

(i) IN GENERAL.—The Secretary, in consultation with the Secretary of Energy, shall designate not more than 10 eligible entities to be United States clean energy centers of excellence.

(ii) LIMITATION.—Not more than $\frac{1}{3}$ of the total number of eligible entities designated under clause (i) may be National Laboratories.

(B) ELIGIBLE ENTITIES.—For purposes of this section, an “eligible entity” is—

(i) an institution of higher education;

or

(ii) a National Laboratory.

(C) APPLICATIONS BY INSTITUTIONS OF HIGHER EDUCATION.—An institution of higher

1 education seeking designation as a United
2 States clean energy center of excellence under
3 this paragraph shall submit an application to
4 the Secretary containing, at a minimum, the
5 following:

6 (i) A description of all entities within
7 the institution that would comprise the
8 United States clean energy center of excel-
9 lence (in this subparagraph referred to as
10 “component entities”).

11 (ii) Any appropriate information on
12 the qualifications of individuals in key
13 management positions in the institution
14 and the component entities.

15 (iii) A full description of the govern-
16 ance structure and management processes
17 of the institution and the component enti-
18 ties, including a conflict of interest policy.

19 (iv) A description of the policies and
20 procedures of the institution and the com-
21 ponent entities for managing new intellec-
22 tual property created by a partnership
23 under this section.

1 (v) A description of how the institu-
 2 tion would carry out the functions de-
 3 scribed in paragraph (3).

4 (vi) Recommendations on—

5 (I) the scope of work for the ini-
 6 tial year of activities of the institution
 7 under the United States-India Climate
 8 and Clean Energy Partnership; and

9 (II) focuses for future program-
 10 ming.

11 (D) SELECTION PROCESS.—The Secretary,
 12 in coordination with the Secretary of Energy,
 13 shall select eligible entities for designation as
 14 United States clean energy centers of excellence
 15 under this paragraph through an open and
 16 competitive process.

17 (E) SELECTION CRITERIA.—The Secretary,
 18 in coordination with the Secretary of Energy,
 19 shall establish criteria for selecting United
 20 States clean energy centers of excellence based
 21 on—

22 (i) an evaluation of—

23 (I) the strength of the govern-
 24 ance structure of an eligible entity
 25 and the entities within the eligible en-

1 tity that would comprise the United
 2 States clean energy center of excel-
 3 lence;

4 (II) the expertise and experience
 5 of key research management and aca-
 6 demic personnel of an eligible entity;

7 (III) the demonstrated knowledge
 8 of an eligible entity with respect to—

9 (aa) energy markets in
 10 India;

11 (bb) regulatory frameworks
 12 and energy policies in India;

13 (cc) power service providers
 14 in India;

15 (dd) applied energy tech-
 16 nologies in India; and

17 (ee) energy challenges, in-
 18 cluding capacity constraints, in
 19 India; and

20 (IV) the capability of an eligible
 21 entity to conduct regional energy mar-
 22 ket analyses and assessments of the
 23 practicality of applying various clean
 24 energy technologies to address various
 25 energy challenges in India;

1 (ii) commitments of co-funding from
2 non-Federal sources;

3 (iii) the capability of an eligible entity
4 to attract matching funds from both non-
5 Federal and nongovernmental sources for
6 follow-on investments in widespread appli-
7 cation of successful projects; and

8 (iv) the capability and experience of
9 an eligible entity in managing technology
10 transfer programs.

11 (F) SELECTION PRIORITY.—The Secretary,
12 in coordination with the Secretary of Energy,
13 shall select eligible entities for designation as
14 United States clean energy centers of excellence
15 under this paragraph in a manner that rep-
16 resents the geographic diversity of the United
17 States.

18 (5) PARTNER INSTITUTIONS IN INDIA.—

19 (A) IN GENERAL.—The Secretary, in con-
20 sultation with the Secretary of Energy, and in
21 collaboration with the appropriate ministries of
22 the Government of India, shall support the es-
23 tablishment of partnerships between United
24 States clean energy centers of excellence des-

1 ignated under paragraph (4) and partner enti-
2 ties in India.

3 (B) ELIGIBILITY AND SELECTION.—The
4 Secretary shall encourage the Government of
5 India to select partner entities described in sub-
6 paragraph (A) for participation in partnerships
7 under this section based on criteria similar to
8 the criteria for eligibility and selection of
9 United States clean energy centers of excellence
10 described in paragraph (4).

11 (C) PAIRING.—The Secretary, in consulta-
12 tion with the Secretary of Energy, and in col-
13 laboration with the relevant ministries of the
14 Government of India, shall pair selected United
15 States clean energy centers of excellence des-
16 ignated under paragraph (4) and partner enti-
17 ties in India according to the strength and simi-
18 larities of the respective applications.

19 (6) PRIVATE SECTOR INVOLVEMENT.—United
20 States clean energy centers of excellence partici-
21 pating in partnerships under this section are encour-
22 aged to, in collaboration with their respective part-
23 ner entities in India under paragraph (5)—

24 (A) collaborate with private sector energy
25 and technology companies; and

1 (B) identify private sector entities that will
 2 contribute resources to the initiatives and
 3 projects developed through partnerships under
 4 this section.

5 (c) DEFINITIONS.—In this section:

6 (1) INSTITUTION OF HIGHER EDUCATION.—The
 7 term “institution of higher education” has the
 8 meaning given that term in section 101(a) of the
 9 Higher Education Act of 1965 (20 U.S.C. 1001(a)).

10 (2) NATIONAL LABORATORY.—The term “Na-
 11 tional Laboratory” has the meaning given that term
 12 in section 2 of the Energy Policy Act of 2005 (42
 13 U.S.C. 15801).

14 (d) AUTHORIZATION OF APPROPRIATIONS.—

15 (1) IN GENERAL.—There is authorized to be
 16 appropriated \$50,000,000 for each of fiscal years
 17 2022 through 2026 for the Joint Clean Energy Re-
 18 search and Development Center established by the
 19 Department of Energy and the Government of India.

20 (2) USE OF FUNDS.—Amounts authorized to be
 21 appropriated under paragraph (1) may be used only
 22 for clean energy projects.

23 (e) UNITED STATES-INDIA CLIMATE AND CLEAN EN-
 24 ERGY PARTNERSHIP.—All initiatives established or con-
 25 tinued under the authorities of this section shall be part

1 of the United States-India Climate and Clean Energy
2 Partnership.

3 **SEC. 10. INITIATIVES FOR TECHNICAL ASSISTANCE FOR**
4 **GRID IMPROVEMENT AND ENERGY EFFI-**
5 **CIENCY IN INDIA.**

6 (a) IN GENERAL.—The Secretary, in consultation
7 with the Administrator and the Secretary of Energy, and
8 with the cooperation of the Government of India and re-
9 gional authorities within India, shall support initiatives,
10 including new initiatives and initiatives in existence as of
11 the date of the enactment of this Act, as appropriate, to
12 provide technical assistance and expertise on electrical
13 grid and energy efficiency improvements in India for the
14 following purposes:

15 (1) Expanding and improving the reliability,
16 flexibility, and resilience of the electrical grid to
17 reach all regions and populations.

18 (2) Developing microgrids or distributed energy
19 resources in areas in which connection to the larger
20 electrical grid is challenging.

21 (3) Increasing the optimal integration of renew-
22 able energy into the electrical grid.

23 (4) Enhancing the interconnectivity of electrical
24 grids across States of India.

1 (5) Boosting the energy storage capacity of the
2 electrical grid.

3 (6) Developing standards for clean energy tech-
4 nologies, smart buildings, and data centers.

5 (7) Increasing deployment of smart meters and
6 other energy efficiency technology.

7 (8) Increasing the energy efficiency of build-
8 ings, appliances, and the industrial sector.

9 (9) Improving pollution controls and the effi-
10 ciency of fossil fuel electric generating units.

11 (b) AUTHORIZATION OF APPROPRIATIONS.—There
12 are authorized to be appropriated such sums as may be
13 necessary to carry out this section.

14 (c) UNITED STATES-INDIA CLIMATE AND CLEAN EN-
15 ERGY PARTNERSHIP.—All initiatives established or con-
16 tinued under the authorities of this section shall be part
17 of the United States-India Climate and Clean Energy
18 Partnership.

19 **SEC. 11. INITIATIVES FOR GENERATION OF NEW RENEW-**
20 **ABLE ENERGY IN INDIA.**

21 (a) IN GENERAL.—The Secretary, in coordination
22 with the Administrator and the Secretary of Energy, and
23 with the approval of the Government of India, shall sup-
24 port initiatives, including new initiatives and initiatives in
25 existence as of the date of the enactment of this Act, as

1 appropriate, to develop new renewable energy generation
2 capacity in India.

3 (b) SELECTION OF INITIATIVES.—In selecting initia-
4 tives to support under subsection (a), the Secretary, in
5 consultation with the Secretary of Energy, and in coordi-
6 nation with the Administrator, shall take into account the
7 priorities of the Government of India, including such gov-
8 ernment’s target of installing 450 gigawatts of renewable
9 energy capacity by 2030 and related goals established by
10 the Intended Nationally Determined Contribution of India
11 to the Paris Agreement, done at Paris December 12,
12 2015.

13 (c) AUTHORIZATION OF APPROPRIATIONS.—There
14 are authorized to be appropriated such sums as may be
15 necessary to carry out this section.

16 (d) UNITED STATES-INDIA CLIMATE AND CLEAN
17 ENERGY PARTNERSHIP.—All initiatives established or
18 continued under the authorities of this section shall be
19 part of the United States-India Climate and Clean Energy
20 Partnership.

21 **SEC. 12. REPORT ON PROMOTION OF STATE-STATE CLEAN**
22 **ENERGY COOPERATION.**

23 (a) IN GENERAL.—Not later than 180 days after the
24 date of the enactment of this Act, the Secretary, in coordi-
25 nation with the Administrator and the Secretary of En-

1 ergy, shall submit to the appropriate congressional com-
 2 mittees a report on the prospects for cooperation between
 3 States of the United States and States of India on clean
 4 energy.

5 (b) ELEMENTS.—The report required by subsection
 6 (a) shall include—

7 (1) an assessment of which areas have the most
 8 potential for cooperation between States of the
 9 United States and States of India on clean energy
 10 technologies, including with respect to—

11 (A) integrating clean energy into State
 12 electrical grids;

13 (B) improving the efficiency of State elec-
 14 trical grids;

15 (C) increasing the resiliency of State elec-
 16 trical grids, especially against cyber attacks;

17 (D) improving power transmission and dis-
 18 tribution within States;

19 (E) enabling expanded use of electric vehi-
 20 cles;

21 (F) increasing energy efficiency of build-
 22 ings and methods of transportation; and

23 (G) demonstration projects of new clean
 24 energy technologies, including in industrial sec-
 25 tors that are hard to decarbonize;

1 (2) an analysis of potential opportunities for co-
2 operation between States of the United States and
3 States of India on the development and deployment
4 of clean energy resources through—

5 (A) Federal Government programs in ex-
6 istence as of the date of the submittal of the re-
7 port that provide financial support, technical
8 assistance, or other support for subnational co-
9 operation; or

10 (B) any Federal Government forums in ex-
11 istence as of such date to promote subnational
12 communication; and

13 (3) recommendations for steps the Federal Gov-
14 ernment, with the cooperation of the Government of
15 India, can take to promote cooperation between
16 States of the United States and States of India on
17 clean energy, which shall include recommendations
18 on—

19 (A) which programs or forums in existence
20 as of the date of the submittal of the report
21 should be used to promote such cooperation;

22 (B) new programs or forums that could be
23 created to promote such cooperation, and
24 whether the creation of those programs requires
25 additional authorities;

1 (C) what agencies or offices within the
 2 Federal Government should lead the implemen-
 3 tation of each recommended program or forum;

4 (D) what additional funding would be
 5 needed to implement each recommended pro-
 6 gram or forum; and

7 (E) what role the United States mission to
 8 India should play in promoting such coopera-
 9 tion.

10 **SEC. 13. UNITED STATES-INDIA CLIMATE CHANGE RISK RE-**
 11 **DUCTION AND RESILIENCE COOPERATION.**

12 (a) IN GENERAL.—The Administrator, under the di-
 13 rection of the Secretary, shall work cooperatively with the
 14 Government of India on integrating scientifically sup-
 15 ported climate change risk reduction and building resil-
 16 ience capacities in India.

17 (b) PRIORITY.—Advancing the risk reduction and re-
 18 silience capacities described in subsection (a) shall be a
 19 priority for United States diplomatic, security, and devel-
 20 opment programs within the United States mission to
 21 India.

22 (c) SUPPORT.—The Administrator, under the direc-
 23 tion of the Secretary, and in coordination with other agen-
 24 cies with direct international development programs and
 25 investments, shall support efforts—

1 (1) to bolster resilience capacities to the effects
 2 of climate change in India by supporting efforts in
 3 India to help ensure that climate risk assessments
 4 and security planning in India adequately evaluate
 5 and account for risks and vulnerabilities associated
 6 with the effects of climate change using best-avail-
 7 able climate change data, forecasts, tools, and infor-
 8 mation;

9 (2) to use shared knowledge, data, forecasts,
 10 tools, information, frameworks, and lessons learned
 11 in incorporating climate change resilience program-
 12 ming, planning, projects, investments, and related
 13 funding decisions; and

14 (3) to work with civil society and local leaders,
 15 as appropriate—

16 (A) to identify risks associated with the ef-
 17 fects of climate change in India; and

18 (B) to encourage and support efforts in
 19 India to enhance resilience to the effects of cli-
 20 mate change.

21 (d) DEFINITIONS.—In this section:

22 (1) AGENCIES WITH DIRECT INTERNATIONAL
 23 DEVELOPMENT PROGRAMS AND INVESTMENTS.—The
 24 term “agencies with direct international development
 25 programs and investments” includes—

- 1 (A) the Department of State;
- 2 (B) the Department of Agriculture;
- 3 (C) the Department of the Interior;
- 4 (D) the United States Agency for Inter-
- 5 national Development;
- 6 (E) the Millennium Challenge Corporation;
- 7 (F) the United States International Devel-
- 8 opment Finance Corporation; and
- 9 (G) the Trade and Development Agency.

10 (2) RESILIENCE.—The term “resilience” means
11 the ability of an individual, household, community,
12 country, or region to withstand, adapt to, and quick-
13 ly recover from shocks and stresses associated with
14 the effects of climate change.

