117TH CONGRESS
1ST SESSION

S. _____

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

_____

_____ introduced the following bill; which was read twice and referred to the Committee on _____

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.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled,

SECTION 1. SHORT TITLE; TABLE OF CONTENTS.

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

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

SEC. 2. FINDINGS.

Congress makes the following findings:

(1) India is the second most populous country in the world with a population of approximately 1,334,000,000 people and is the fifth largest economy in the world with a nominal gross domestic product of approximately $2,940,000,000,000.

(2) India is among the countries most vulnerable to climate change, with hundreds of millions of people susceptible to events exacerbated by climate change, such as the spread of infectious diseases, sea level rise and extreme flooding, droughts, storms, and landslides triggered by extreme weather.

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

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

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

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

(6) Reliable access to power is crucial for the storage of vaccines and antiretroviral and other lifesaving medical drugs, as well as for the operation of modern lifesaving medical equipment.

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

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

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

(10) The Power for All initiative of the Government of India aims to provide electricity to all households in India 24 hours a day, 7 days a week.

(11) Without action, climate change threatens to push millions more people into poverty. Investments in clean energy offer an opportunity to curb climate change while combatting poverty and increasing capacity to respond to the impacts of climate change.

(12) As of June 2020, coal makes up the largest domestic source of energy supply and electricity generation for India. In October 2020, the Ministry of New and Renewable Energy reported that renewable energy comprises approximately 12 percent of energy generation in India.

(13) India imports 80 percent of its oil needs, and that amount is projected to increase in the coming decades due to aging oil fields and a lack of new oil discoveries in India. India is increasing its oil refining capacity to maintain supply to meet the rising domestic demand for energy.

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

(15) On September 22, 2020, the People's Republic of China announced a pledge to achieve net zero carbon emissions by 2060 in its updated Nationally Determined Contribution to the Paris Agreement, done at Paris December 12, 2015, but given the need to accelerate the reduction of global emissions along a 2050 timeline, that pledge is insufficient to avoid an increase of 2 degrees Celsius in the global average temperature.

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

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

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

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

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

(20) India is among the top 5 clean energy producers globally. Installed electricity capacity from renewables in India grew by 144 percent from 2014 to 2020, and between 2014 and 2019 there was approximately $42,000,000,000 in investment in the renewable energy sector in India.

(21) Numerous global funds, private equity firms, and multilateral finance institutions are continuing to invest billions of dollars in the growing renewable energy sector in India.

(22) India leads the International Solar Alliance, a 75-country initiative to which the United States does not yet belong, to mobilize $1,000,000,000,000 in solar energy investment by 2030.

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

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

(24) Under the Kigali Amendment to the Montreal Protocol on Substances that Deplete the Ozone Layer, done at Montreal September 16, 1987, India has agreed to freeze its manufacturing and consumption of hydrofluorocarbons in 2028.

(25) In 2005, the United States and India established a formal energy cooperation dialogue, the United States-India Energy Dialogue, which included engagement on clean, low carbon technologies. In 2009, the United States and India expanded the United States-India Energy Dialogue to advance clean and sustainable energy development. The expansion in 2009 included the Partnership to Advance Clean Energy initiative focusing on research into, deployment of, and access to clean energy.

(26) The Partnership to Advance Clean Energy Research element of the Partnership to Advance Clean Energy initiative, commonly referred to as ''PACE–R'', consists of research consortia under the Joint Clean Energy Research and Development Center launched in 2010 by the Department of Energy and the Government of India with support from the

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

(27) The Partnership to Advance Clean Energy Deployment element of the Partnership to Advance Clean Energy initiative, commonly referred to as ''PACE–D'', funds programs to improve energy efficiency, grid connectivity, clean energy finance, and more.

(28) The Partnership to Advance Clean Energy Access element of the Partnership to Advance Clean Energy initiative, commonly referred to as ''PEACE'', has focused on finance and technology innovation, skills development, and ecosystem strengthening for clean energy.

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

(30) Since 2015, the United States has supported the Partnership for Climate Resilience, which links United States Government climate scientists

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

(31) In 2018, the United States Government established the Asia Enhancing Development and Growth through Energy initiative, commonly referred to as ''Asia EDGE'', to support sustainable and secure energy markets throughout the Indo-Pacific. Asia EDGE integrates elements of the Partnership to Advance Clean Energy initiative along with new programs such as the South Asia Group for Energy.

(32) In 2018, the Governments of India and the United States elevated the energy partnership to the U.S.-India Strategic Energy Partnership to advance energy security, expand energy innovation, and increase stakeholder engagement. That partnership included pillars of cooperation on power and energy efficiency, renewable energy, sustainable growth, and oil and gas. The Governments of India and the United States also continued clean energy research and development under the Partnership to Advance Clean Energy Research.

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

support the Coalition for Disaster Resilient Infrastructure, which the Government of India launched in September 2019 at the United Nations Climate Action Summit.

(34) In 2021, at the Leaders Summit on Climate, the United States and India launched the U.S.-India Climate and Clean Energy Agenda 2030 Partnership to mobilize finance toward and accelerate clean energy deployment, demonstrate and scale innovative clean technologies, and build capacity to measure, manage, and adapt to the risks of climate-related impacts. The Partnership has two main tracks, the Strategic Clean Energy Partnership (led by the Department of Energy) and the Climate Action and Finance Mobilization Dialogue (led by the Office of the Special Presidential Envoy for Climate), which build on and subsume previous, aforementioned processes.

SEC. 3. DEFINITIONS.

In this Act:

(1) ADMINISTRATOR.—The term ''Administrator'' means the Administrator of the United States Agency for International Development.

(2) APPROPRIATE CONGRESSIONAL COMMITTEES.—The term ''appropriate congressional committees'' means—

(A) the Committee on Foreign Relations and the Committee on Energy and Natural Resources of the Senate; and

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

(3) CLEAN ENERGY TECHNOLOGY.—The term ''clean energy technology'' means a technology related to the production, use, transmission and distribution, storage, control, or conservation of energy that will contribute to the stabilization of the climate by reducing greenhouse gas emissions or sequestering or using carbon dioxide and—

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

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

(i) reduce risk to human health, safety, and welfare and the environment; and

(ii) strengthen energy security.

(4) SECRETARY.—Except as otherwise specifically provided, the term ''Secretary'' means the Secretary of State.

SEC. 4. SENSE OF CONGRESS ON CLIMATE AND CLEAN ENERGY COOPERATION WITH INDIA.

It is the sense of Congress that—

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

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

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

(4) the United States and India should continue collaborating on research and development of new clean energy technologies, as well as deployment of clean energy technologies, so people across India can access power generated from clean energy technologies and to help decarbonize India's entire energy sector;

(5) the United States, through the Bureau of Energy Resources of the Department of State, the United States International Development Finance Corporation, the Department of Energy, the Export-Import Bank of the United States, the International Trade Administration, and the United States Agency for International Development, should encourage private sector investment in and financing for the development and deployment of clean energy technologies in India;

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

(7) the United States should support the ambitious renewable energy generation goals set by the Government of India through technical and other forms of assistance;

(8) Mission Innovation, in which India plays a critical leadership role, represents an unmatched opportunity to make clean energy technologies more affordable and accessible by increasing funding for clean energy innovation;

(9) the United States should increase its participation in and contributions to Mission Innovation;

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

(11) the United States should join and contribute to the International Solar Alliance led by India;

(12) India has implemented several new policies to promote the production and use of electric vehicles in India;

(13) the United States should promote research, development, and private sector cooperation with India on the production of electric vehicles and the planning and execution of an expansive charging station network to support extensive use of electric vehicles;

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

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

(15) enhanced United States-India bilateral cooperation and engagement on the development of technologies and chemicals that are compliant with the Kigali Amendment are in the interest of United States industry leaders in the refrigeration and chemical coolant industries.

SEC. 5. STATEMENT OF POLICY.

It is the policy of the United States to increase engagement and cooperation with the Government of India, the Indian diaspora community in the United States, and the private sector and civil society in both the United States and India in a concerted effort—

(1) to support the ambitious goals of India—

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

(B) to provide reliable and affordable access to electricity for all communities;

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

(3) to foster innovation through academic and research partnerships and mutually beneficial arrangements relating to technology transfers and protection of intellectual property;

(4) to facilitate United States private sector investment in projects to expand power transmission and distribution capacity, energy storage, and territorial coverage in India to increase the number of people, households, and communities with access to power;

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

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

(B) reducing aggregate technical and commercial energy losses in India's energy transmission and distribution systems;

(C) regulatory reforms; and

(D) long-term, market-based power generation and distribution;

(6) to support efforts to lower India's greenhouse gas emissions and increase adaptive capacity by promoting United States private investment in—

(A) renewable energy production;

(B) electric vehicle technology;

(C) energy efficiency in appliances, buildings, and the industrial sector;

(D) technologies to decarbonize the industrial and transport sectors in which emissions are hard to abate;

(E) technologies and infrastructure modifications to improve the efficiency and resilience of existing electricity generation units; and

(F) electricity transmission and distribution projects to improve—

(i) the affordability of electricity;

(ii) grid reliability, efficiency, flexibility, digitalization, and resilience to climate impacts;

(iii) the number of citizens and households with access to electricity;

(iv) rural electrification; and

(v) electric vehicle charging infrastructure; and

(7) to strengthen India's resilience capacities that ensure people, households, communities, institutions, and systems can assess, anticipate, reduce, adapt to, respond to, and recover from shocks and stresses associated with the effects of climate change.

SEC. 6. PURPOSES.

The purposes of this Act are—

(1) to advance cooperation between the United States and India on, and private sector engagement and investment in, the development and deployment of clean energy technologies, and improvement in the planning, reliability, flexibility, and resilience of India's electrical grid to integrate increasing use of renewable energy;

(2) to improve research collaborations that develop and deploy innovative clean energy technologies in India;

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

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

SEC. 7. ESTABLISHMENT OF UNITED STATES-INDIA CLIMATE AND CLEAN ENERGY PARTNERSHIP.

(a) IN GENERAL.—The purposes described in section 6 shall be advanced through the development and execution of bilateral initiatives under an initiative to be known as the ''United States-India Climate and Clean Energy Agenda 2030 Partnership'' (in this Act referred to as the ''United States-India Climate and Clean Energy Partnership'').

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

(1) the primary forum for cooperation between the United States and India on clean energy technologies; and

(2) the mechanism through which such cooperation is funded.

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

(a) IN GENERAL.—Not later than 120 days after the date of the enactment of this Act, the Secretary, in consultation with the Administrator and the Secretary of Energy, shall submit to the appropriate congressional committees a comprehensive, integrated, multi-year strategy for implementing the United States-India Climate and Clean Energy Partnership.

(b) FLEXIBILITY AND RESPONSIVENESS.—The strategy required by subsection (a) shall maintain sufficient flexibility and responsiveness to technological innovation with respect to climate and clean energy in India.

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

(1) a general description, developed in collaboration with the Government of India and local and regional authorities in India, of the goals and ongoing efforts in India—

(A) to increase power production;

(B) to build and maintain climate resilient electrical transmission and distribution infrastructure;

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

(D) to implement regulatory reform, regional interoperability, and transparent and accountable governance and oversight;

(E) to strengthen the reliability and regional interoperability of the electrical grid; and

(F) for electricity service providers—

(i) to provide affordable and reliable power;

(ii) to reduce technical and nontechnical losses;

(iii) to collect fees for services; and

(iv) to expand service to underserved communities;

(G) to advance energy efficiency in appliances, buildings, and the industrial sector; and

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

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

(A) an analysis of—

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

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

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

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

(C) an analysis of the efficacy of efforts by the Department of State, the Office of the United States Trade Representative, the United States International Development Finance Corporation, and the United States Agency for International Development to facilitate the financing of the deployment, importation, distribution, sale, leasing, or marketing of clean energy technologies in India; and

(D) a description of how bolstering distributed renewable energy can enhance the overall effort to increase power access in India;

(3) a description of programs or initiatives in existence as of the date of the submittal of the strategy that—

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

(B) can be integrated into the United States-India Climate and Clean Energy Partnership;

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

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

(5) recommendations on the establishment of any new programs to meet the requirements for initiatives under sections 9 through 11; and

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

SEC. 9. PARTNERSHIPS FOR COOPERATION ON RESEARCH AND INNOVATION FOR CLEAN ENERGY TECHNOLOGIES.

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

(1) to promote and accelerate the pace of innovation and deployment of clean energy technologies;

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

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

(b) RESEARCH AND DEVELOPMENT PARTNERSHIPS.—

(1) IN GENERAL.—The Secretary, in coordination with the Administrator and the Secretary of Energy, and with the cooperation of the Government of India, shall promote partnerships between United

States clean energy centers of excellence designated under paragraph (4) and partner entities in India described in paragraph (5) on research, development, demonstration, and commercial application of clean energy technologies.

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

(A) exchanges between United States clean energy centers of excellence designated under paragraph (4) and partner entities in India described in paragraph (5); and

(B) lawful sharing of intellectual property between the United States and India, including between private sector entities in the two countries, with respect to—

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

(ii) air conditioning technology; and

(iii) refrigeration systems technology.

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

(A) assessing different potential technological, development, policy, and technical solutions to address capacity constraints affecting the development and deployment of existing and emerging energy technology in India, consistent with the lawful sharing of intellectual property described in paragraph (2)(B);

(B) facilitating engagements between energy authorities in India and private sector clean energy technology suppliers and project developers that could provide solutions to energy capacity challenges;

(C) ensuring that local stakeholders and host communities in India where energy projects supported by partnerships under this section are being developed are adequately engaged and given due consideration in the development of such projects;

(D) arranging for the appropriate and lawful sharing of prototyping, technology transfer activities, and production facilities for clean energy technologies, including assistance to clean 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 ⅓ 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

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

(i) A description of all entities within the institution that would comprise the United States clean energy center of excellence (in this subparagraph referred to as ''component entities'').

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

(iii) A full description of the governance structure and management processes of the institution and the component entities, including a conflict of interest policy.

(iv) A description of the policies and procedures of the institution and the component entities for managing new intellectual property created by a partnership under this section.

(v) A description of how the institution would carry out the functions described in paragraph (3).

(vi) Recommendations on—

(I) the scope of work for the initial year of activities of the institution under the United States-India Climate and Clean Energy Partnership; and

(II) focuses for future programming.

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

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

(i) an evaluation of—

(I) the strength of the governance structure of an eligible entity and the entities within the eligible en-

tity that would comprise the United States clean energy center of excellence;

(II) the expertise and experience of key research management and academic personnel of an eligible entity;

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

(aa) energy markets in India;

(bb) regulatory frameworks and energy policies in India;

(cc) power service providers in India;

(dd) applied energy technologies in India; and

(ee) energy challenges, including capacity constraints, in India; and

(IV) the capability of an eligible entity to conduct regional energy market analyses and assessments of the practicality of applying various clean energy technologies to address various energy challenges in India;

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

(iii) the capability of an eligible entity to attract matching funds from both non-Federal and nongovernmental sources for follow-on investments in widespread application of successful projects; and

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

(F) SELECTION PRIORITY.—The Secretary, in coordination with the Secretary of Energy, shall select eligible entities for designation as United States clean energy centers of excellence under this paragraph in a manner that represents the geographic diversity of the United States.

(5) PARTNER INSTITUTIONS IN INDIA.—

(A) IN GENERAL.—The Secretary, in consultation with the Secretary of Energy, and in collaboration with the appropriate ministries of the Government of India, shall support the establishment of partnerships between United States clean energy centers of excellence des-

ignated under paragraph (4) and partner entities in India.

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

(C) PAIRING.—The Secretary, in consultation with the Secretary of Energy, and in collaboration with the relevant ministries of the Government of India, shall pair selected United States clean energy centers of excellence designated under paragraph (4) and partner entities in India according to the strength and similarities of the respective applications.

(6) PRIVATE SECTOR INVOLVEMENT.—United States clean energy centers of excellence participating in partnerships under this section are encouraged to, in collaboration with their respective partner entities in India under paragraph (5)—

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

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

(c) DEFINITIONS.—In this section:

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

(2) NATIONAL LABORATORY.—The term ''National Laboratory'' has the meaning given that term in section 2 of the Energy Policy Act of 2005 (42 U.S.C. 15801).

(d) AUTHORIZATION OF APPROPRIATIONS.—

(1) IN GENERAL.—There is authorized to be appropriated $50,000,000 for each of fiscal years 2022 through 2026 for the Joint Clean Energy Research and Development Center established by the Department of Energy and the Government of India.

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

(e) UNITED STATES-INDIA CLIMATE AND CLEAN ENERGY PARTNERSHIP.—All initiatives established or continued under the authorities of this section shall be part

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

SEC. 10. INITIATIVES FOR TECHNICAL ASSISTANCE FOR GRID IMPROVEMENT AND ENERGY EFFICIENCY IN INDIA.

(a) IN GENERAL.—The Secretary, in consultation with the Administrator and the Secretary of Energy, and with the cooperation of the Government of India and regional authorities within India, shall support initiatives, including new initiatives and initiatives in existence as of the date of the enactment of this Act, as appropriate, to provide technical assistance and expertise on electrical grid and energy efficiency improvements in India for the following purposes:

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

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

(3) Increasing the optimal integration of renewable energy into the electrical grid.

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

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

(6) Developing standards for clean energy technologies, smart buildings, and data centers.

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

(8) Increasing the energy efficiency of buildings, appliances, and the industrial sector.

(9) Improving pollution controls and the efficiency of fossil fuel electric generating units.

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

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

SEC. 11. INITIATIVES FOR GENERATION OF NEW RENEWABLE ENERGY IN INDIA.

(a) IN GENERAL.—The Secretary, in coordination with the Administrator and the Secretary of Energy, and with the approval of the Government of India, shall support initiatives, including new initiatives and initiatives in existence as of the date of the enactment of this Act, as

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

(b) SELECTION OF INITIATIVES.—In selecting initiatives to support under subsection (a), the Secretary, in consultation with the Secretary of Energy, and in coordination with the Administrator, shall take into account the priorities of the Government of India, including such Government's target of installing 450 gigawatts of renewable energy capacity by 2030 and related goals established by the Intended Nationally Determined Contribution of India to the Paris Agreement, done at Paris December 12, 2015.

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

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

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

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

ergy, shall submit to the appropriate congressional committees a report on the prospects for cooperation between States of the United States and States of India on clean energy.

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

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

(A) integrating clean energy into State electrical grids;

(B) improving the efficiency of State electrical grids;

(C) increasing the resiliency of State electrical grids, especially against cyber attacks;

(D) improving power transmission and distribution within States;

(E) enabling expanded use of electric vehicles;

(F) increasing energy efficiency of buildings and methods of transportation; and

(G) demonstration projects of new clean energy technologies, including in industrial sectors that are hard to decarbonize;

(2) an analysis of potential opportunities for cooperation between States of the United States and States of India on the development and deployment of clean energy resources through—

(A) Federal Government programs in existence as of the date of the submittal of the report that provide financial support, technical assistance, or other support for subnational cooperation; or

(B) any Federal Government forums in existence as of such date to promote subnational communication; and

(3) recommendations for steps the Federal Government, with the cooperation of the Government of India, can take to promote cooperation between States of the United States and States of India on clean energy, which shall include recommendations on—

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

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

(C) what agencies or offices within the Federal Government should lead the implementation of each recommended program or forum;

(D) what additional funding would be needed to implement each recommended program or forum; and

(E) what role the United States mission to India should play in promoting such cooperation.

SEC. 13. UNITED STATES-INDIA CLIMATE CHANGE RISK REDUCTION AND RESILIENCE COOPERATION.

(a) IN GENERAL.—The Administrator, under the direction of the Secretary, shall work cooperatively with the Government of India on integrating scientifically supported climate change risk reduction and building resilience capacities in India.

(b) PRIORITY.—Advancing the risk reduction and resilience capacities described in subsection (a) shall be a priority for United States diplomatic, security, and development programs within the United States mission to India.

(c) SUPPORT.—The Administrator, under the direction of the Secretary, and in coordination with other agencies with direct international development programs and investments, shall support efforts—

(1) to bolster resilience capacities to the effects of climate change in India by supporting efforts in India to help ensure that climate risk assessments and security planning in India adequately evaluate and account for risks and vulnerabilities associated with the effects of climate change using best-available climate change data, forecasts, tools, and information;

(2) to use shared knowledge, data, forecasts, tools, information, frameworks, and lessons learned in incorporating climate change resilience programming, planning, projects, investments, and related funding decisions; and

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

(A) to identify risks associated with the effects of climate change in India; and

(B) to encourage and support efforts in India to enhance resilience to the effects of climate change.

(d) DEFINITIONS.—In this section:

(1) AGENCIES WITH DIRECT INTERNATIONAL DEVELOPMENT PROGRAMS AND INVESTMENTS.—The term ''agencies with direct international development programs and investments'' includes—

(A) the Department of State;

(B) the Department of Agriculture;

(C) the Department of the Interior;

(D) the United States Agency for International Development;

(E) the Millennium Challenge Corporation;

(F) the United States International Development Finance Corporation; and

(G) the Trade and Development Agency.

(2) RESILIENCE.—The term ''resilience'' means the ability of an individual, household, community, country, or region to withstand, adapt to, and quickly recover from shocks and stresses associated with the effects of climate change.