

# **Energy Act of 2020 Section-by-Section**

## **Title I – Efficiency**

### **Section 1001. Coordination of energy retrofitting assistance for schools.**

Section 1001 streamlines available federal energy efficiency programs and financing to help improve efficiency and lower energy costs for schools.

### **Section 1002. Use of energy and water efficiency measures in Federal buildings.**

Section 1002 amends the National Energy Conservation Policy Act (NECPA) to require the Department of Energy (DOE) to report to the President and Congress on each agency's energy savings performance contracts, including their investment value; their initial guaranteed savings compared to actual energy savings from the previous year; the plan for entering into new contracts in the coming year; and information explaining why any previously submitted plans for contracts were not implemented. The section further amends NECPA to allow agencies to accept, retain, sell, or transfer energy savings and apply the proceeds to fund a performance contract under this title. It excludes contracts for work performed at federal hydropower facilities.

### **Section 1003. Energy efficient data centers.**

Section 1003 requires the development of a metric for data center energy efficiency, and requires the Secretary of Energy, Administrator of the Environmental Protection Agency (EPA), and Director of the Office of Management and Budget (OMB) to maintain a data center energy practitioner program and open data initiative for federally owned and operated data center energy usage.

### **Section 1004. Energy-efficient and energy-saving information technologies.**

Section 1004 requires the OMB Director to collaborate with each federal agency to implement energy-efficient and energy-saving information technologies.

### **Section 1005. Extended Product System Rebate Program.**

Section 1005 directs the Secretary of Energy to establish a rebate program to encourage replacement of energy inefficient electric motors.

### **Section 1006. Energy Efficient Transformer Rebate Program.**

Section 1006 directs the Secretary of Energy to establish a rebate program to encourage replacement of energy inefficient transformers.

### **Section 1007. Smart building acceleration.**

Section 1007 directs the Secretary of Energy to establish a program to implement smart building technology in federal buildings and demonstrate the costs and benefits of smart buildings. The section requires the Secretary of Energy, as a part of the Better Building Challenge, to develop smart building accelerators to demonstrate innovative policies and approaches to accelerate the transition to smart buildings. The section also establishes a research and development (R&D) program focused on building-to-grid integration.

**Section 1008. Modifications to the ceiling fan energy conservation standard.**

Section 1008 amends the Energy Policy and Conservation Act (EPCA) by adding language exempting large-diameter ceiling fans manufactured on or after January 21, 2020 from meeting minimum ceiling fan efficiency requirements as described in the final rule titled “Energy Conservation Program: Energy Conservation Standards for Ceiling Fans.” Establishes that large-diameter ceiling fans shall meet Calculation of the Fan Energy Index in accordance with ANSI/AMCA Standard 208-18.

**Section 1009. Report on electrochromic glass.**

Section 1009 directs the Secretary of Energy to report to Congress on the benefits of electrochromic glass on energy consumption and occupant comfort in buildings.

**Section 1010. Energy and water for sustainability.**

Section 1010 establishes an interagency committee, led by the Secretaries of Energy and the Secretary of the Interior, to coordinate and collaborate on energy-water nexus activities. It also requires the Secretary of Energy to integrate water and energy considerations into DOE’s research, development, and demonstration (RD&D) programs.

**Section 1011. Weatherization Assistance Program.**

Section 1011 reauthorizes the Weatherization Assistance Program (WAP) through fiscal year 2025. Amends EPCA to clarify that renewable energy technologies are included in the definition of weatherization materials, and authorizes DOE to take non-energy benefits, such as health and safety improvements, into account when determining appropriate standards and procedures for WAP. This section further amends EPCA to (1) make technical training grants available to private contractors that provide weatherization assistance, and (2) add a new Section 414D to establish a competitive grant program within WAP for new and innovative weatherization services.

**Section 1012. Federal Energy Management Program.**

Section 1012 amends NECPA to formally establish in law the Federal Energy Management Program (FEMP). This section details FEMP’s directives and the duties of its director.

**Section 1013. CHP Technical Assistance Partnership Program.**

Section 1013 amends EPCA to re-designate DOE’s Clean Energy Application Centers as the Combined Heat and Power (CHP) Technical Assistance Partnership Program (Program). The Program is required to include the 10 current regional CHP Technical Assistance Partnerships, any others the Secretary of Energy establishes, and any supporting activities under the Technical Partnership Program of the Advanced Manufacturing Office. The Program must encourage deployment of CHP, waste heat to power, and efficient district energy by providing education, outreach, and project-specific support to building and industrial professionals through assessments and advisory activities.

**Section 1014. Smart energy water efficiency pilot program.**

Section 1014 authorizes a new Smart Energy and Water Efficiency Pilot Program. This pilot program provides grants to water authorities that provide water, wastewater, or water reuse services for demonstrating advanced and innovative technology-based solutions.

## **Title II – Nuclear**

### **Section 2001. Advanced Nuclear Fuel Availability.**

Section 2001 requires the Secretary of Energy to establish a program to support the availability of high-assay low-enriched uranium (HA-LEU) for civilian domestic research, development, demonstration, and commercial use. Requires the Nuclear Regulatory Commission (NRC) to submit to Congress a report that identifies updates to regulations, certifications, and other regulatory policies that the Commission determines are necessary in order for HA-LEU to be commercially available. This section also requires the Secretary of Energy to submit a report on the new program, including schedule and cost estimates, and a report on advanced fuel material availability to detail nuclear material inventories at DOE other than those containing the uranium-235 isotope.

### **Section 2002. Amendments to definitions in Energy Policy Act of 2005.**

Section 2002 amends the Energy Policy Act of 2005 (EPACT05) to update the definition of “advanced nuclear reactor.”

### **Section 2003. Nuclear energy research, development, demonstration, and commercial application programs.**

Section 2003 reauthorizes DOE’s nuclear energy research, development, demonstration, and commercial application (RDD&CA) activities, including advanced fuel, R&D for advanced reactors, used fuel technologies, and integration of nuclear energy systems for both existing plants and advanced nuclear concepts. This section also authorizes an advanced reactor demonstration program, funding for the versatile test reactor, educational programs, as well as an international coordination effort.

### **Section 2004. High-performance computation collaborative research program.**

Section 2004 amends EPACT05 to ensure coordination with other DOE programs and industry to avoid the duplication of high-performance computing activities.

### **Section 2005. Nuclear energy budget plan.**

Section 2005 amends EPACT05 to include a biennial budget plan update which shall be reported to relevant Congressional committees.

### **Section 2006. Organization and administration of programs.**

Section 2006 instructs the Secretary of Energy to coordinate cross-cutting programs among other relevant Federal agencies and national laboratories, collaborate with specific entities on programs, disseminate results of projects as practicable, create an education and outreach program to promote public understanding of the benefits of nuclear energy, and establish a nuclear energy technical assistance program. It also requires the Nuclear Energy Advisory Committee to perform an annual review of all programs.

### **Section 2007. Extension and expansion of limitations on importation of uranium from Russian Federation.**

Section 2007 extends and expands limitations on importing uranium from Russia.

**Section 2008. Fusion energy research.**

Section 2008 authorizes a program for fusion energy R&D to assist in the establishment of a competitive fusion power industry. It also continues U.S. participation in the International Thermonuclear Experimental Reactor (ITER) fusion collaboration and requires a report to Congress on project schedule.

**Title III – Renewable Energy and Storage**

**Subtitle A – Renewable Energy Research and Development**

**Section 3001. Water power research and development.**

Section 3001 reauthorizes DOE's marine energy and hydropower RDD&CA activities, including the National Marine Energy Centers and research on reducing potential environmental impact and pumped storage hydropower technologies.

**Section 3002. Advanced geothermal innovation leadership.**

Section 3002 reauthorizes DOE's geothermal energy RDD&CA program, including enhanced geothermal research, additional geothermal demonstration projects, including one specifically in the eastern United States, research for heat pumps and direct use, and expansion of the DOE's Frontier Observations for Research in Geothermal Energy (FORGE) program. It also establishes a program to utilize DOE's computing and modeling capabilities to understand geothermal resources, expands the definition of renewable energy to include thermal energy, and directs the U.S. Geological Survey (USGS) to update its geothermal resource assessments.

**Section 3003. Wind energy research and development.**

Section 3003 reauthorizes DOE's wind energy RDD&CA program, including research on onshore, offshore, and distributed wind energy systems, advanced manufacturing, grid integration, and wind system recycling, amongst other subject areas. It also establishes a wind technician training grant program.

**Section 3004. Solar energy research and development.**

Section 3004 reauthorizes DOE's solar energy RDD&CA program, including research on photovoltaic, heating and cooling, and concentrating solar energy systems, grid integration, and photovoltaic recycling, among other subject areas. It also establishes an advanced solar manufacturing initiative to enhance domestic manufacturing capabilities.

**Section 3005. Hydroelectric production incentives and efficiency improvements.**

Section 3005 extends the incentives for hydroelectric production and efficiency authorized in EPACT 2005 through fiscal year 2036 and expands support to include small hydropower facilities in areas with inadequate electric service.

**Section 3006. Conforming amendments.**

Section 3006 makes conforming amendments to the existing code pursuant to the contents of Sections 3001, 3003, and 3004.

## **Subtitle B – Natural Resources Provisions**

### **Section 3101. Definitions.**

Section 3101 defines key terms in the subtitle, including “covered land,” “Federal land,” “land use plan,” and “eligible project” (for the purposes of this subtitle, a wind, solar, or geothermal project).

### **Section 3102. Program to improve eligible project permit coordination.**

Section 3102 requires the Secretary of the Interior to establish a program to improve interagency cooperation for solar, wind, and geothermal permits on Federal land.

### **Section 3103. Increasing economic certainty.**

Section 3103 provides flexibility for the Secretary of the Interior to ensure solar, wind, and geothermal projects are cost competitive on Federal land.

### **Section 3104. National goal for renewable energy production on Federal land.**

Section 3104 requires the Secretary of the Interior to set national goals for wind, solar, and geothermal energy production on Federal land no later than September 1, 2022. The Secretary shall seek to permit at least 25 gigawatts (GW) of electricity from wind, solar, and geothermal projects by 2025.

**Section 3105. Facilitation of coproduction of geothermal energy on oil and gas leases.** Section 3105 allows noncompetitive leasing for geothermal energy on Federal lands if it will be coproduced from an existing oil or gas well.

### **Section 3106. Savings clause.**

Section 3106 states that nothing in the subtitle shall change responsibilities of the Secretaries of the Interior or Agriculture to manage public lands under the principles of multiple use and sustained yield in accordance with the Federal Land Policy and Management Act and the Forest and Rangeland Renewable Resources Planning Act.

## **Subtitle C – Energy Storage**

### **Section 3201. Better energy storage technology.**

Section 3201 establishes an RD&D program to advance energy storage technologies and directs the Secretary of Energy to carry out energy storage demonstration projects, as well as a competitive pilot project grant program. It also establishes a joint long-term demonstration initiative with the Secretary of Defense. This section further establishes an energy storage materials recycling R&D program.

### **Section 3202. Energy storage technology and microgrid assistance program.**

Section 3202 establishes an energy storage and microgrid grant and technical assistance program at DOE for rural electric cooperatives and public utilities to assist with designing and demonstrating energy storage and microgrid projects that use energy from renewable energy sources.

## **Title IV – Carbon Management**

### **Section 4001. Fossil energy.**

Section 4001 amends EFACT05 to include additional objectives for fossil energy programs.

### **Section 4002. Establishment of carbon capture technology program.**

Section 4002 directs the Secretary of Energy to conduct RDD&CA activities for carbon capture technologies. It also authorizes and encourages support for large-scale pilot projects. This section includes carbon capture research facilities. Includes a first-of-a-kind through third-of-a-kind commercial-scale carbon capture technology demonstration program to show substantial improvements in the efficiency, effectiveness, costs, and environmental performance of carbon capture technologies for power, industrial, and other commercial applications.

### **Section 4003. Carbon storage validation and testing.**

Section 4003 directs the Secretary of Energy to establish an RD&D program for carbon storage, a large-scale carbon sequestration demonstration program, and an integrated storage program.

### **Section 4004. Carbon utilization program.**

Section 4004 establishes a DOE RD&D program for carbon utilization. This section authorizes research to identify and evaluate novel uses for carbon, and includes a program to demonstrate applications of carbon utilization for a variety of sectors. Includes a national Carbon Utilization Research Center for early-stage R&D activities.

### **Section 4005. High efficiency turbines.**

Section 4005 establishes a DOE RD&D program to improve the efficiency of various types of gas turbines used in power generation and aviation.

### **Section 4006. National energy technology laboratory reforms.**

Section 4006 provides the Director of the National Energy Technology Laboratory (NETL) special hiring authority to allow more effective recruiting of highly-talented individuals for certain positions. It also delegates the Director additional human resources authority to meet research needs. This section extends to NETL authority for laboratory-directed R&D.

### **Section 4007. Study on Blue Hydrogen Technology.**

Section 4007 requires the Secretary of Energy to conduct a study on the benefits of blue hydrogen technology and how that technology can further enhance the deployment and adoption of carbon capture and storage.

### **Section 4008. Produced water research and development.**

Section 4008 authorizes the Secretary of Energy to carry out an R&D program for technologies to reduce the environmental impact of produced water and opportunities to reprocess produced water at natural gas or oil development sites.

## **Title V – Carbon Removal**

### **Section 5001. Carbon removal.**

Section 5001 establishes an RD&D program to examine the methods, technologies, and strategies to remove carbon dioxide from the atmosphere at a large scale. It also requires the Secretary of Energy to award prizes to pre-commercial and commercial direct air capture projects for qualified facilities that capture carbon dioxide directly from the ambient air. Authorizes Direct Air Capture Test Centers.

### **Section 5002. Carbon dioxide removal task force and report.**

Section 5002 directs the Secretary of Energy to prepare a report identifying tools the Federal Government can use to advance deployment of carbon dioxide removal projects. It also establishes a Carbon Dioxide Removal Task Force to advise the Secretary of Energy on matters pertaining to carbon dioxide removal, identify barriers to the advancement of carbon dioxide removal projects, and tools for advancing and deploying such projects.

## **Title VI – Industrial and Manufacturing Technologies**

### **Section 6001. Purpose.**

Section 6001 outlines the purposes of the title, which are to encourage the development and evaluation of technologies that increase the technological and economic competitiveness of U.S. industry and manufacturing and decrease the emissions of non-power industrial sectors.

### **Section 6002. Coordination of research and development of energy efficient technologies for industry.**

Section 6002 updates the American Energy Manufacturing Technical Corrections Act to ensure references in the Act reflect the current organization of DOE.

### **Section 6003. Industrial emissions reduction technology development program.**

Section 6003 establishes a cross-cutting RDD&CA program to further development and commercialization of economic and competitive technologies that reduce emissions from non-power industrial sectors. The program focuses on several areas, including reducing emissions from production processes for iron, steel, aluminum, cement, and chemical production, as well as from high temperature heat generation. The program also encourages leveraging smart manufacturing and sustainable manufacturing; increasing energy efficiency; using alternative materials and developing net-zero emissions fuels. It further focuses on reducing emissions from shipping, aviation, and long-distance transportation; using industrial carbon capture; and harnessing high-performance computing to develop technologies in these focus areas.

### **Section 6004. Industrial Technology Innovation Advisory Committee.**

Section 6004 authorizes a Federal Advisory Committee composed of members from relevant federal agencies, labor groups, academia, national labs, nonprofit organizations, State government, and industry. The advisory committee is directed to work with the Secretary of Energy to develop missions and goals of the program established in Section 6003, as well as to develop a strategic plan on how to achieve those goals.

**Section 6005. Technical assistance program to implement industrial emissions reduction.**

Section 6005 authorizes a program to provide technical assistance to eligible entities to promote commercial application of technologies that reduce emissions from the sectors identified in Section 6003.

**Section 6006. Development of national smart manufacturing plan.**

Section 6006 requires the Secretary of Energy, in consultation with the National Academies, to develop a national plan for smart manufacturing technology development and deployment to improve domestic manufacturing sector productivity and efficiency.

**Title VII – Critical Minerals**

**Section 7001. Rare earth elements.**

Section 7001 requires the Secretary of Energy to carry out an R&D program to develop advanced separation technologies for the extraction and recovery of rare earth elements (REEs) and other critical materials from coal and coal byproducts, as well as mitigate any potential environmental and public health impacts of such activities. It also directs the Secretary of Energy to provide a report to Congress that evaluates the development of advanced separation technologies for the extraction and recovery of REEs and other critical materials from coal and coal byproducts.

**Section 7002. Mineral security.**

Section 7002 promotes a secure and robust critical minerals supply chain by (1) requiring the executive branch designate a list of critical minerals and update that list every three years; (2) requiring USGS to conduct domestic resource assessments of critical minerals and to make that information publicly available; (3) requiring the Department of the Interior and Department of Agriculture to publish critical mineral Federal Register notices within 45 days of being finalized; (4) directing the Secretary of Energy to conduct an RDD&CA program on the development of alternatives to, recycling of, and efficient production and use of critical materials (which may be carried out by DOE's Critical Materials Energy Innovation Hub); (5) directing the Secretary of Energy and the Director of the Energy Information Administration to develop analytical and forecasting tools to evaluate critical minerals markets; (6) requiring the Secretary of Labor and the Director of the National Science Foundation to develop curriculum and a program for institutions of higher education to build a strong critical minerals workforce; and (7) reauthorizing the National Geological and Geophysical Data Preservation Program through fiscal year 2029.

**Section 7003. Monitoring mineral investments under Belt and Road Initiative of People's Republic of China.**

Section 7003 requires the Director of National Intelligence to study and submit to Congress a report of investments in minerals by the People's Republic of China. It further directs the Director to make recommendations to the Secretary of the Interior when designating minerals as critical per the designation criteria in Section 7002.



## **Title VIII – Grid Modernization**

### **Section 8001. Smart grid regional demonstration initiative.**

Section 8001 reauthorizes the smart grid demonstration program in the Energy Independence and Security Act of 2007, and adds the commercial application of distribution automation technologies to the goals of the program.

### **Section 8002. Smart grid modeling, visualization, architecture, and controls.**

Section 8002 authorizes an RDD&CA program on: modeling emerging technologies for secure and reliable design of the grid, as well as technologies to improve sensing, monitoring, and visualization of the grid. It also authorizes RDD&CA on development of grid architectures for a modern grid; operation and controls of the grid; interoperability of emerging technologies with existing electric grid infrastructure; and underground transmission and distribution lines.

### **Section 8003. Integrated energy systems.**

Section 8003 authorizes an RD&D program to develop cost-effective integrated energy systems for a variety of purposes and incorporating a variety of technologies, including nuclear energy, renewable energy, storage, and carbon capture. The section directs the Secretary of Energy to submit a 10-year strategic plan on integrated energy systems.

### **Section 8004. Grid integration research and development.**

Section 8004 authorizes DOE RD&D activities on integrating renewable energy and electric vehicles onto the electric grid.

### **Section 8005. Advisory committee.**

Section 8005 directs the Secretary of Energy to designate an existing advisory committee to assist with identifying R&D needs, assessing progress on R&D activities, and updating technology roadmaps for the activities authorized in Sections 8001 and 8002.

### **Section 8006. Coordination of efforts.**

Section 8006 directs the Secretary of Energy to coordinate with relevant entities on the activities authorized in the amendments made in this title, including electric utilities, transmission organizations, State, Tribal, and local governments, and the national labs, among other entities.

### **Section 8007. Technology demonstration on the distribution grid.**

Section 8007 requires the Secretary of Energy to establish a grant program to carry out projects related to modernization of the electric grid, including for distribution system technologies.

### **Section 8008. Voluntary model pathways.**

Section 8008 requires the Secretary of Energy to initiate development of voluntary model pathways for modernizing the electric grid through a collaborative public-private effort that produces illustrative policy pathways for states, regions, and regulators, and facilitates the modernization of the grid and associated communications networks.

**Section 8009. Performance metrics for electricity infrastructure providers.**

Section 8009 directs the Secretary of Energy, in consultation with the steering committee, to submit a report to Congress that includes an evaluation of grid performance and a description of the costs and benefits identified in grid modeling and visualization work.

**Section 8010. Voluntary State, regional, and local electricity distribution planning.**

Section 8010 directs the Secretary of Energy to provide, on the request of a state, regional organization, or electric utility, assistance to develop electricity distribution plans by conducting resource assessments and analysis of further demand and distribution requirements, and developing open source tools for state, regional, and local planning and operations.

**Section 8011. Micro-grid and integrated micro-grid systems program.**

Section 8011 directs the Secretary of Energy to establish a program to promote development of integrated micro-grid systems for isolated communities and micro-grid systems to increase critical infrastructure resiliency. It also authorizes micro-grid demonstration grants for isolated communities, rural electric cooperatives, and municipalities.

**Section 8012. Technical amendments; authorization of appropriations.**

Section 8012 makes technical amendments to existing statutes and authorizes appropriations to carry out Sections 8001 through 8011 of this title.

**Section 8013. Indian energy.**

Section 8013 amends section 2601(2) of the Energy Policy Act of 1992 to include any land occupied by a majority of residents who are members of Alaskan Native Tribes in the definition of Indian Land. The section also allows the Secretary of Energy to reduce any required cost share for energy projects funded through the Office of Indian Energy.

**Section 8014. Report on electricity access and reliability.**

Section 8014 requires the Secretary of Energy to assess electricity access and reliability by Tribal communities and to produce a report based on the findings of the assessment. The Secretary of Energy must consult with Tribal governments in the design and conduct of the study and consult with the North American Electric Reliability Council (NERC) and FERC in conducting the study.

**Section 8015. Net metering study and evaluation.**

Section 8015 directs the Secretary of Energy to enter into an agreement with the National Academies to conduct an evaluation of the current challenges associated with net metering and report on new and alternative technologies to improve net metering.

**Title IX – Department of Energy Innovation**

**Section 9001. Office of technology transitions.**

Section 9001 establishes an Office of Technology Transitions, the mission of which is to improve the commercial impact of the research investments of DOE and to focus on commercializing technologies that advance the missions of DOE, including reducing greenhouse

gas emissions and other pollutants. It requires the Secretary of Energy to appoint a Chief Commercialization Officer to serve as the head of the Office and as the principal advisor on all matters relating to DOE technology transfer. The section also authorizes the Secretary of Energy to carry out additional technology transfer programs, including supporting regional energy innovation and clean energy incubators, providing small business vouchers, and assisting entrepreneurial fellowships, among other activities.

**Section 9002. Lab partnering service pilot program.**

Section 9002 establishes a Lab Partnering Service Pilot Program at DOE to provide services that encourage and support partnerships between the national laboratories and public and private sector entities. The Secretary of Energy is directed to support the development of metrics to determine the effectiveness of the pilot program.

**Section 9003. Technology commercialization fund.**

Section 9003 reauthorizes the Technology Commercialization Fund (Fund) at DOE and mandates cost-share in accordance with Section 988 of EPACT05, clarifies requirements for evaluating and selecting applications for funding, and requires an annual report on the projects that the Secretary of Energy has funded each year. The section also requires a report on means to improve the administration of the Fund.

**Section 9004. Streamlining prize competitions.**

Section 9004 requires the Secretary of Energy to issue Department-wide guidance on the design, development, and implementation of prize competitions, and provide training and prize competition design support, among other activities.

**Section 9005. Milestone-based demonstration projects.**

Section 9005 authorizes the Secretary of Energy to carry out milestone-based demonstration projects that require specific technical and financial milestones to be met in order for a participant to receive funding from DOE, with cost-share requirements in accordance with Section 988 of EPACT05.

**Section 9006. Other transaction authority extension.**

Section 9006 extends authorization of the Other Transaction Authority granted under subsection 646(g)(10) of the Department of Energy Organization Act by 10 years. It also provides that the provisions of Section 602 of the Public Works and Economic Development Act of 1965 shall apply with respect to construction, alteration, or repair work of projects funded by grants or contracts authorized under Sections 3001, 3003, 3004, 5001, 8007, and the amendments made by such sections.

**Section 9007. Technology transfer reports and evaluation.**

Section 9007 requires the Secretary of Energy to submit annual reports on the implementation of Sections 9001-9005 of this Title and to submit an evaluation every three years on the extent to which these programs are achieving success on relevant short-term and long-term metrics. The section also requires the Secretary of Energy to work with the National Academies to issue a report on any programmatic gaps that exist to the commercial application of technologies developed at the national laboratories.

**Section 9008. Veterans’ health initiative.**

Section 9008 requires the Secretary of Energy to carry out a research program in artificial intelligence and high-performance computing focused on developing tools to solve big data challenges associated with veterans’ health care. It also authorizes the Secretary of Energy to develop tools to apply to big data challenges across federal agencies to leverage DOE capabilities to solve complex problems through a competitive, merit-reviewed process.

**Section 9009. Sustainable Transportation Research and Development.**

Section 9009 reauthorizes DOE’s RDD&CA activities within the Offices of Hydrogen and Fuel Cell Technologies, Vehicle Technologies, and Bioenergy Technologies for FY 2021 through 2023.

**Section 9010. Loan program office title XVII reform.**

Section 9010 amends Title XVII of EPACT05 to defer collection of fees and other expenses from applicants until financial closing, expand project eligibility. It also adds provisions on analysis by the Secretary of the Treasury, application status, outreach, coordination, and reports to Congress. The section authorizes funding from FY 2021-2025 for administrative and other expenses, and additional funding for administrative expenses not otherwise covered by fees collected from project applicants.

**Section 9011. Established Program to Stimulate Competitive Research.**

Section 9011 directs the Secretary of Energy to carry out a program to broaden support and provide grants for science and engineering research in applied energy, environmental management, and basic science.

**Title X – ARPA-E Amendments**

**Section 10001. ARPA–E amendments.**

Section 10001 amends the America COMPETES Act (42 U.S.C. 16538(b)) to authorize ARPA-E to support projects addressing nuclear waste clean-up and management, and to improve the resilience, reliability, and security of our energy infrastructure, in addition to its existing missions. It also adds an annual reporting requirement on ARPA-E’s scale-up, demonstration, and coordination activities.

**Title XI – Other Matters**

**Section 11001. Low-Dose Radiation Research.**

Section 11001 requires the Secretary of Energy to carry out a research program on low dose and low dose rate radiation to enhance the understanding of the effects of such radiation and inform subsequent risk assessment and management.

**Section 11002. Authorization.**

Section 11002 amends section 112(a)(1)(B) of the Uranium Mill Tailings Radiation Control Act of 1978 to authorize the operation of the Cheney disposal cell through September 30, 2031.

**Section 11003. Sense of Congress.**

Section 11003 expresses the Sense of Congress that in order to maintain U.S. leadership in science and technology while lowering emissions, DOE must prioritize funding for fundamental research, and research and development infrastructure.

**Section 11004. Addressing insufficient compensation of employees and other personnel of the Federal Energy Regulatory Commission.**

Section 11004 authorizes the Chairman of the Commission, under certain conditions and subject to limitations, to compensate persons with scientific, technological, engineering, and mathematical skills as may be required.

**Section 11005. Report on the authority of the Secretary of Energy to implement flexible compensation models.**

Section 11005 requires the Secretary of Energy to submit a report to Congress on the hiring authority made available to the Secretary of Energy by the Office of Personnel Management.