



# FY2021 APPROPRIATIONS REPORT LANGUAGE CHART

## INTERIOR-ENVIRONMENT (EPA)

FY21 Joint Explanatory Statement	FY 21 House Report	FY 21 Senate Report
<b>ENERGY STAR</b>		
<p>(p. 58) ENERGY STAR.—<b>The agreement rejects the proposed shift to a fee-based funding mechanism and increases ENERGY STAR funding to \$39,000,000.</b> With the increase provided, <b>the Committees encourage the Agency to prioritize work in the areas outlined in House Report 116-448.</b> The Agency is directed to brief the Committees within 90 days of enactment of this Act on what steps the Agency will take to better incorporate stakeholder input into the program.</p>	<p>(p. 89) ENERGY STAR.—<b>The Committee continues to support the ENERGY STAR program and rejects the proposed shift to a fee-based funding mechanism.</b></p> <p>The Committee provides \$42,000,000 for its continued operation. With this <b>increase in funding, the Committee expects the Agency to prioritize the following priority areas: increased technical support, data collection and data analysis in the Portfolio Manager program, particularly with state and local partners, including school systems; increased promotion of the ENERGY STAR Most Efficient program; the ENERGY STAR for tenants program; and increased capacity in the products division.</b></p> <p>The Committee expects the program to accomplish these objectives through increased FTEs and contracted services. Further, <b>the Committee supports the Agency's efforts to reexamine ENERGY STAR guidelines and standard operating procedures to ensure transparency, predictability, and consistency for all stakeholders.</b></p>	<p>(pp. 81-82) Energy Star.—<b>The Committee supports the Department's ongoing role in Energy Star including through Home Performance with Energy Star, as well as establishing and verifying energy conservation standards and test procedures for building appliances and equipment. The Committee directs the Department to continue these activities in their current form and recommends continued robust funding.</b></p> <p>Further, the Committee previously directed the Department in the Energy and Water Development and Related Agencies Appropriations Act, 2018 (Public Law 115-141), to provide to the Committees on Appropriations of both Houses of Congress not later than 90 days after enactment, a report to review the 2009 Memorandum of Understanding related to the Energy Star Program on whether the expected efficiencies for home appliance products have been achieved. The Committee has yet to receive the report and the Department has not provided a sufficient update as to why the report is delayed. Within 30 days of enactment of this act, the Committee directs the Department to provide a briefing to the Committee on the status of the report, and subsequently provide the report.</p> <p>(pp. 85-86) Clean Air.—The Committee provides funding for Clean Air programs equal to the enacted level. The Committee continues to support the EnergySTAR program at the fiscal year 2020 level.</p> <p><b>The Committee does not support the proposed termination of voluntary programs, including Natural GasSTAR, AgSTAR, the Combined Heat and Power Partnership, and other partnership programs where EPA works collaboratively with non-governmental entities to identify beneficial methods</b></p>

		<p><b>to reduce emissions, reduce pollution, or increase efficiency.</b></p> <p>The Committee encourages EPA to inform States of applicable tools, such as output-based regulations, that will encourage fuel efficiency as an air pollution prevention measure and assist states in meeting environmental and energy goals. The Committee funds both program areas related to stratospheric ozone at not less than the fiscal year 2020 enacted level.</p>
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## ENERGY-WATER (EERE)

FY21 Joint Explanatory Statement	FY21 House Report	FY 21 Senate Report
<b>ENERGY STAR</b>		
<p>(p. 63) Energy Star.—<b>The Department is directed to continue ongoing Energy Star activities in their current form.</b></p> <p>The Department is reminded that Public Law 115-141 directed a report to review the 2009 Memorandum of Understanding related to the Energy Star Program on whether the expected efficiencies for home appliance products have been achieved. This report has not been received, and the Department has not provided a sufficient update on why the report is delayed. The Department shall provide a briefing to the Committees on Appropriations of both Houses of Congress not later than 30 days after enactment of this Act on the status of the report and is directed to subsequently provide the report</p>	<p>(p. 100) <i>Energy Star</i>.—<b>The Committee supports the Department’s ongoing role in the Energy Star program in its current structure.</b></p>	<p>(pp. 81-82) Energy Star.—<b>The Committee supports the Department’s ongoing role in Energy Star including through Home Performance with Energy Star, as well as establishing and verifying energy conservation standards and test procedures for building appliances and equipment. The Committee directs the Department to continue these activities in their current form and recommends continued robust funding.</b></p> <p>Further, the Committee previously directed the Department in the Energy and Water Development and Related Agencies Appropriations Act, 2018 (Public Law 115-141), to provide to the Committees on Appropriations of both Houses of Congress not later than 90 days after enactment, a report to review the 2009 Memorandum of Understanding related to the Energy Star Program on whether the expected efficiencies for home appliance products have been achieved. The Committee has yet to receive the report and the Department has not provided a sufficient update as to why the report is delayed. Within 30 days of enactment of this act, the Committee directs the Department to provide a briefing to the Committee on the status of the report, and subsequently provide the report</p>
<b>Advanced Research Projects Agency – Energy (ARPA-E)</b>		
<p>ADVANCED RESEARCH PROJECTS AGENCY-ENERGY</p> <p>The agreement provides \$427,000,000 for the Advanced Research Projects Agency-</p>	<p>(p. 131) ADVANCED RESEARCH PROJECTS AGENCY—ENERGY</p> <p>The Advanced Research Projects Agency—Energy (ARPA-E) supports research aimed at rapidly developing energy</p>	<p>(p. 122) ADVANCED RESEARCH PROJECTS AGENCY–ENERGY</p> <p>The Committee recommends \$430,000,000 for the Advanced Research Projects Agency-Energy [ARPA-E], an</p>

<p>Energy.</p>	<p>technologies whose development and commercialization are too risky to attract sufficient private sector investment but are capable of significantly changing the energy sector to address our critical economic, environmental, and energy security challenges. The technology breakthroughs funded by ARPA-E have significant commercial impact and have received billions of dollars in private-sector funding to continue to advance those technologies toward the marketplace. Projects funded by ARPA-E include wide-ranging areas such as production processes for transportation fuel alternatives that can reduce our dependence on imported oil, heating and cooling technologies with exceptionally high energy efficiency, and low-cost electric aviation technologies.</p> <p><b>The Committee again strongly rejects the short-sighted proposal to terminate ARPA-E. Instead, the Committee continues investment in this transformational program and directs the Department to continue to spend funds provided on research and development and program direction.</b></p> <p><b>The Department shall not use any appropriated funds to plan or execute the termination of ARPA-E. The Department is directed to disburse funds appropriated for ARPA-E within a reasonable time period.</b></p>	<p>increase of \$740,744,000 above the budget request. Within available funds, the Committee recommends \$35,000,000 for program direction.</p> <p><b>The Committee continues to definitively reject the short-sighted proposal to terminate ARPA-E, and instead increases investment in this transformational program and directs the Department to continue to spend funds provided on research and development and program direction.</b></p> <p><b>The Department shall not use any appropriated funds to plan, develop, implement, or pursue the termination of ARPA-E. Further, the Department is directed to disburse funds appropriated for ARPA-E on eligible projects within a reasonable time period, consistent with past practices.</b></p>
<p><b>Weatherization and Intergovernmental Program</b></p>		
<p>(pp. 78) Weatherization and Intergovernmental Program.—The agreement provides \$310,000,000 for Weatherization Assistance Grants, \$5,000,000 for Training and Technical Assistance, and \$62,500,000 for the State Energy Program.</p> <p>Within available funds, \$500,000 is provided for technical assistance to continue the Sustainable Wastewater Infrastructure of the Future Accelerator.</p> <p>Within available funds, the agreement provides \$1,000,000 for WAP grant recipients that have previously worked with the Department through the Weatherization Innovation Pilot Program to now implement and demonstrate programs to treat harmful substances, including vermiculite, at the state and regional level.</p>	<p>(pp. 109-110) <i>Weatherization and Intergovernmental Programs.</i>—The Committee rejects the proposed elimination of the Weatherization Assistance Program and provides \$310,000,000.</p> <p><b>The Committee directs the Department to ensure a timely distribution of Weatherization Assistance Program funds. The Committee also encourages the Department to continue its oversight of grantees to ensure that funds are dispersed to weatherization providers in a timely manner.</b></p> <p>The Committee provides \$500,000 for technical assistance to continue the Sustainable Wastewater Infrastructure of the Future Accelerator.</p> <p>The fiscal year 2020 Act directed the Department to provide a briefing on its collaborative efforts with the U.S. Department of Health and Human Services, the U.S. Department of Housing and Urban Development, and the U.S. Department of Veterans Affairs. The Committee is still awaiting this briefing and directs the Department to provide the briefing not later than 30 days after enactment of this Act.</p> <p>The Committee believes that community-scale weatherization</p>	<p>(pp. 98-99) WEATHERIZATION AND INTERGOVERNMENTAL PROGRAM The Committee recommends \$372,500,000 for the Weatherization and Intergovernmental Program. Within this amount, \$310,000,000 is recommended for the Weatherization Assistance Program [WAP], including \$305,000,000 for Weatherization Assistance Grants and \$5,000,000 for Training and Technical Assistance; and \$62,500,000 is recommended for State Energy Program grants.</p> <p>The Committee encourages the Department to work with all relevant stakeholders to identify efficiencies for delivering weatherization services and examine options to streamline policies and procedures when other funding sources are utilized in conjunction with funds from the Department.</p> <p><b>Further, the Committee recognizes the importance of providing Federal funds under the Weatherization and Intergovernmental Program to States and Tribes in a timely manner to avoid any undue delay of services to eligible low-income households, and to encourage local high-impact energy efficiency</b></p>

<p>The agreement provides \$1,500,000 within funds for technical assistance to create a pilot that supports community and neighborhood scale weatherization, including the feasibility of integrating renewable and alternative energy infrastructure, and reiterates House direction on this matter and regarding a report.</p> <p>The Department is encouraged to work with all relevant stakeholders to identify efficiencies for delivering weatherization services and examine options to streamline policies and procedures when other funding sources are used, such as Low-Income Home Energy Assistance Program (LIHEAP) funds in conjunction with funds from the Department.</p> <p><b>Further, a top priority shall be to provide federal funds in a timely manner to avoid any undue delay of services to eligible low-income households, and to encourage local high-impact energy efficiency and renewable energy initiatives and energy emergency preparedness. Similarly, it is important for states to provide funding to local weatherization implementers as quickly as appropriate, and for the local providers to implement projects as quickly as possible.</b></p> <p>The Department's continued participation in the interagency working group on Healthy Homes and Energy is appreciated, and the Department is encouraged to further coordinate with the Office of Lead Hazard Control and Healthy Homes on energy-related housing projects. The Department is directed to track the occurrence of window replacements, which supports the reduction of lead-based paint hazards in homes.</p>	<p>efforts could focus on individual homes or units as part of a broader, innovative “neighborhood” approach to weatherization. The fiscal year 2020 Act directed the Department to provide a report that analyzes the feasibility of community-scale weatherization efforts and the Committee looks forward to a timely receipt of this report.</p> <p>The recommendation provides \$1,500,000 within funds for technical assistance to create a pilot that supports community and neighborhood scale weatherization, including the feasibility of integrating renewable and alternative energy infrastructure. These funds shall be made available to grantees that present targeted and innovative use of these funds to model methods for weatherization integration with various other programs including but not limited to the HOME Investment Partnership Program, Low-Income Home Energy Assistance Program, and programs at the U.S. Department of Veterans Affairs. The Department shall regularly brief the Committee on progress to implement this pilot project, beginning not later than 90 days after enactment of this Act.</p> <p>The Committee recognizes that lead exposure is exacerbated by outdated windows and windowpanes and understands that the Department has made progress in replacing leaded windows. The Committee encourages the Department to include benefits from eliminated lead exposure in the calculation of the savings-to-investment ratio. The Department is also encouraged to allow program funds to be used to replace leaded windows with EnergyStar rated windows.</p> <p><b>The Committee rejects the proposed elimination of the State Energy Program</b> and provides \$65,000,000.</p>	<p><b>and renewable energy initiatives and energy emergency preparedness. Therefore, the full amount of the funds recommended for WAP and the State Energy Program shall be obligated to States, Tribes, and other direct grantees not later than 60 days after enactment of this act.</b></p> <p>Similarly, in order for WAP to function effectively, it is important for States to provide funding to local weatherization implementers as quickly as appropriate, and for the local providers to implement projects as quickly as possible.</p> <p>Within available funds, the Committee recommends \$1,000,000 for WAP grant recipients that have previously worked with the Department via the Weatherization Innovation Pilot Program to now implement and demonstrate programs to treat harmful substances, including vermiculite, at the State and regional level.</p> <p>The Committee supports WAP’s continued participation in the interagency working group on Healthy Homes and Energy with the Department of Housing and Urban Development. The Department is encouraged to further coordinate with the Office of Lead Hazard Control and Healthy Homes on energy-related housing projects. The Committee directs the Department to begin tracking the occurrence of window replacements, which supports the reduction of lead-based paint hazards in homes.</p>
<b>Research &amp; Development</b>		
(p. 60) RESEARCH AND DEVELOPMENT POLICY	(p. 93) <i>Research and Development Policy.</i> — <b>The budget request again proposes to focus the Department solely on early-</b>	(p. 76) DIRECTION ON RESEARCH AND DEVELOPMENT ACTIVITIES <b>The Department’s budget request</b>

<p>The Department is directed to maintain a diverse portfolio of early-, mid-, and late-stage research, development, and market transformation activities in each applied energy research and development program office. The Department is further directed to fully execute the funds appropriated in a timely manner and to keep the Committees on Appropriations of both Houses of Congress apprised of progress in implementing funded programs, projects, and activities.</p>	<p>stage research and development activities at the expense of medium- and later-stage research and development, including deployment, demonstration, and other approaches to spur innovation. The Committee rejects this short-sighted and limited approach, which will ensure that technology advancements will remain in early-stage form and are unlikely to integrate the results of this early-stage research into the nation’s energy system. While early-stage research and development has an appropriate place in a balanced research portfolio the Committee strongly believes that a focus on only early-stage activities will forego the nation’s scientific capabilities in medium- and later-stage research and development and will not fully realize the technological advancements that can and should happen as a result of the Department’s applied energy activities.</p> <p><b>The Committee provides robust funding to support a comprehensive, balanced approach that also includes medium- and later-stage research, development, deployment, and demonstration activities. The Committee directs the Department to follow this comprehensive approach in each applied energy research and development program office and expend funding in an expeditious manner, to include the timely issuance of funding opportunity announcements and awards of funds.</b></p> <p>To capitalize on the research infrastructure and expertise at universities across the country, the Committee encourages the Department to increase opportunities for universities to compete for funding within the Department’s portfolio of research.</p> <p>(p. 98) <i>Research and Development Policy</i>.—<b>The Department is reminded that the research and development (R&amp;D) policy contained in the front matter of Title III of this report specifically applies to each program within EERE. The Department shall provide the Committee with the specific breakdowns for R&amp;D stages for both funds that are allocated according to this report and any funds that are not allocated by this report for each program.</b></p>	<p>proposes to focus on early-stage research and development activities at the expense of later-stage research and development, field validation, deployment, demonstration, consumer education and technical assistance. The Committee believes that such a limited approach will not successfully integrate the results of early-stage research and development into the U.S. energy system, and thus will not adequately deliver innovative advanced energy technologies, practices, and information to American consumers and companies.</p> <p><b>The Committee directs the Department to support a comprehensive strategy that includes early-, mid-, and later-stage research, development and market transformation activities in each applied energy research and development program office. The Department is further directed to fully execute the funds appropriated in a timely manner and to keep the Committee apprised of progress on implementing funding programs, projects, and activities.</b></p>
<p><b>Building Technologies Office</b></p>		
<p>(pp. 76-77) Building Technologies.—The agreement provides \$40,000,000 for Residential Buildings Integration, \$50,000,000 for Commercial Buildings Integration, \$140,000,000 for Building Energy R&amp;D, also known as Emerging Technologies, and <b>not less than</b></p>	<p>(p. 108) Building Technologies.—The recommendation provides \$285,000,000 for Building Technologies. The Committee directs the Department to maintain existing transactive control research efforts and provides not less than \$30,000,000 <b>for building-grid integration research and development consistent with a transactive energy system</b> and, in coordination with the Office of Electricity transactive energy systems program, integration of</p>	<p>(pp. 96-98) BUILDING TECHNOLOGIES The Committee recommends \$295,000,000 for Building Technologies. Within available funds, the Committee recommends \$50,000,000 for the Commercial Building Integration program <b>for core research and development of more cost-effective integration techniques and</b></p>

<p><b>\$55,000,000 for Equipment and Building Standards. Within funds for Equipment and Building Standards, not less than \$10,000,000 is provided for Building Energy Codes.</b></p> <p><b>The Department is missing legal deadlines for over 25 energy efficiency standards mandated by Congress. The Department is directed to finalize these standards as soon as practicable and report to the Committees on Appropriations of both Houses of Congress not later than 30 days after the enactment of this Act on the status of each of these standards and any funding or staffing barriers to finalizing these standards.</b></p> <p>The agreement directs the Department to <b>maintain existing transactive control research efforts and provides not less than \$30,000,000 for building-grid integration research and development consistent with a transactive energy system and in coordination with the Office of Electricity transactive energy systems program, integration of renewable energy assets, such as photovoltaics, associated hardware and software development, and the establishment of a living-learning laboratory that integrates education for training of new and current professionals.</b></p> <p>Within available funds, \$8,000,000 is provided to continue promoting regional demonstrations of new, utility-led, residential Connected Communities advancing smart grid systems. <b>Further, within funds available for Building Energy R&amp;D, the agreement provides not less than \$18,000,000 for heating, ventilation, and air conditioning and refrigeration R&amp;D, including sourced heat pumps, water heaters, and boilers.</b></p>	<p>renewable energy assets, such as photovoltaics, associated hardware and software development, and the establishment of a living-learning laboratory that integrates education for training of new and current professionals.</p> <p>The Committee includes not less than \$50,000,000 for Commercial Buildings Integration, not less than \$40,000,000 for Residential Buildings Integration, not less than \$140,000,000 for Building Energy Research and Development, and \$25,000,000 for solid-state lighting. If the Secretary finds solid-state lighting technology eligible for the twenty-first century lamp prize, specified under section 655 of the Energy Independence and Security Act of 2007, \$5,000,000 is provided in addition to funds recommended for lighting research and development.</p> <p><b>The Committee includes not less than \$55,000,000 for Equipment and Buildings Standards, of which not less than \$10,000,000 is for Building Energy Codes.</b></p> <p>The Committee supports continued innovative housing research that encourages the design, construction, and retrofitting of energy efficient, fire hardened, and resilient residential homes and commercial buildings, and the Committee encourages the Building America Program to prioritize funding for resiliency solutions that also meet the energy code and reach codes.</p> <p>The Committee encourages collaborative efforts between the Building America Program and the national laboratories, industry, community-based organizations, and local communities that are making notable progress in developing construction techniques and identifying building materials to actively mitigate fire risk. The Committee supports novel research and development technologies to impact commercial buildings by developing, building, and evaluating wood-based construction technologies, including offsite manufactured wood-based wall systems for embodied resiliency, energy content, operating energy efficiency, wall moisture profiles, and structural connector durability.</p>	<p><b>technologies that could help the transition toward deep retrofits.</b></p> <p><b>In addition, the Committee encourages the Department to increase engagement with private sector stakeholders to develop market-transforming policies and investments in commercial building retrofits.</b></p> <p>Within available funds, the Committee recommends \$40,000,000 <b>for the Residential Building Integration program. The Committee encourages funding to be concentrated on industry teams to facilitate research, demonstrate and test new systems, and facilitate widespread deployment and dissemination of information and best practices through direct engagement with builders, the construction trades, equipment manufacturers, smart grid technology and systems suppliers, integrators, and State and local governments.</b></p> <p><b>Further, the Committee recommends funding to facilitate whole-house energy efficiency retrofits (including outreach, engagement and training to private sector contractors), including continuing efforts to advance smart home technology.</b></p> <p>The Committee supports innovative housing research to encourage the design, construction and retrofitting of energy efficient, fire hardened and resilient residential homes and commercial buildings, and encourages the Building America Program to prioritize funding for wildfire/resiliency solutions that also meet the energy code and reach codes.</p> <p>The Committee encourages collaborative efforts between the Building America Program with the national laboratories, private industry, university-based wildfire researchers, community-based organizations and local communities that are making notable progress in developing construction techniques and identifying building materials to actively mitigate fire risk in areas susceptible to catastrophic wildland fire, including the wildland urban interface.</p> <p><b>The Committee supports continued efforts to address property rating and valuation in commercial</b></p>
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Within funds for Building Energy R&D, the agreement provides \$14,000,000 for Building Envelope and \$5,300,000 for Building Energy Modeling.

**The Department is encouraged to include field evaluation efforts in these programs. Further, the Department is encouraged to focus R&D efforts to address whole building energy performance and cost issues for air source heat pumps to inform efforts to advance electrification without compromising building energy performance.** Within available funds, \$25,000,000 is provided for solid-state lighting.

If the Secretary finds solid-state lighting technology eligible for the Twenty-First Century Lamp prize, specified under section 655 of the Energy Independence and Security Act of 2007, \$5,000,000 shall be made available to fund the prize or additional projects for solid-state lighting research and development.

Within available funds, \$5,000,000 is provided for novel earlier-stage research, development, and demonstration of technologies to advance energy efficient, high-rise Cross-Laminated Timber (CLT) in building systems. The Department is directed to support university research in partnership with national labs, for developing, building, and evaluating CLTT wall systems for embodied energy content, operating energy efficiency, wall moisture profiles, structural connector durability, and health monitoring systems. Within available funds, the agreement provides \$10,000,000 for a competitive solicitation focused on the development and integration of energy efficient building techniques and technologies suitable for environments with extremely high or low temperatures. Priority shall be given to applicants with prior

The Committee notes that natural gas plays an important role in meeting the energy needs of U.S. homes and commercial buildings. The Committee encourages the Department to continue to explore research and development that can advance future natural gas systems and appliances to meet consumer demand for high efficiency and environmentally friendly products. The Department is encouraged to continue research, development, and market transformation programs related to the direct use of natural gas and propane gas in residential applications, including gas heat pumps with power generation and water heating, on-site combined heat and power, and on-site micro-combined heat and power to include integration with renewables.

The Committee supports the Department's continued work on thermal and electric heat pumps but remains concerned that further research is needed to test and evaluate these technologies in the field. The Department is directed to provide the Committee not later than 90 days after enactment of this Act a briefing regarding the status of these efforts and the potential need for a consortium.

**and residential buildings as a way to improve the transparency of energy utilization in buildings for persons and companies buying or leasing property.**

The Committee recommends not less than \$153,000,000 for the Emerging Technologies subprogram.

The Committee appreciates the Department's efforts to expand field validation and testing of transactive energy systems technologies to continue moving this technology toward commercialization.

The Department is encouraged to prioritize understanding of regional differences in energy systems and their impact on adoption of transactive energy technologies. The Committee recommends not less than \$30,000,000 **for building-grid integration research and development consistent with a transactive energy system** and in coordination with the Office of Electricity transactive energy systems program. Within available funds, \$8,000,000 is recommended to continue promoting regional demonstrations of new, utility-led, residential Connected Communities advancing smart grid systems.

Further, within available funds for Emerging Technologies, the Committee recommends not less than \$18,000,000 **for Heating, Ventilation, and Air Conditioning and Refrigeration Research and Development, including air sourced heat pumps, water heaters, and boilers.**

**Further, the Department is encouraged to focus research and development efforts to address whole building energy performance and cost issues for air source heat pumps to inform efforts to advance electrification without compromising building energy performance.**

The Committee also recommends \$14,000,000 for Building Envelope and \$5,300,000 for Building Energy Modeling. The Committee encourages the Department to include field evaluation efforts in these programs. Within available funds for Emerging Technologies, the Committee recommends \$30,000,000 for research, development, demonstration, field evaluation, and commercial application activities related to advanced solid-state lighting technology development. If the Secretary finds solid-state lighting technology eligible for

experience serving low-income residents living in extreme environments.

**The agreement provides \$5,000,000 to continue to demonstrate the use office storage technology to enable load-shifting to offset electrical grid capacity peaks at lower costs than electrochemical storage at public-use buildings such as state office buildings, hospitals, and schools. The agreement supports continued innovative housing research that encourages the design, construction, and retrofitting of energy efficient, fire resistant, and resilient residential homes and commercial buildings, and encourages the Building America Program to prioritize funding for resiliency solutions that also meet the energy code and reach codes.**

The Department is encouraged to collaborate with national laboratories, industry, other agencies, community-based organizations, and local communities that are making notable progress in developing construction techniques, building materials, and building assemblies to address risks presented by wildfires.

The Department is encouraged to continue to explore research and development that can advance future natural gas and propane gas systems and appliances to meet consumer demand for high efficiency and environmentally friendly products. The agreement recommends continued research, development, and market transformation programs on energy efficiency efforts related to the direct use of natural gas and propane gas in residential applications, including gas heat pump heating with power generation and water heating, on-site combined heat and power, and gas appliance venting, and on site (micro) combined heat and power to include integration with renewables.

the Twenty-First Century Lamp prize, specified under section 655 of the Energy Independence and Security Act of 2007 (Public Law 110–140), \$5,000,000 shall be made available to fund the prize or additional projects for solid-state lighting research and development.

The Committee notes that natural gas and propane gas play an important role in meeting the energy needs of U.S. homes and commercial buildings. The Committee encourages the Department to continue to explore research and development that can advance future natural gas and propane gas systems and appliances to meet consumer demand for high efficiency and environmentally friendly products. The Committee recommends continued research, development, and market transformation programs on energy efficiency efforts related to the direct use of natural gas and propane gas in residential applications, including gas heat pump heating with power generation and water heating, on-site combined heat and power, and gas appliance venting, and on site (micro) combined heat and power to include integration with renewables.

Thermally-driven heat pumps [THPs] offer the next generation of space conditioning and/or water heating for low-load buildings and have the potential to reduce greenhouse gas emissions by 40 percent or greater from a condensing gas efficiency baseline. Further work is needed to test and evaluate these technologies in the field.

The Committee encourages the Department to establish a Thermal Heat Pump Consortium, led by a non-profit, to integrate and deploy new THP technologies in a joint industry partnership. Within available funds, the Committee recommends \$5,000,000 for novel earlier-stage research, development, and demonstration of technologies to advance energy efficient, high-rise Cross-Laminated Timber [CLT] building systems.

The Committee directs the Department to support university research, in partnership with national labs, for developing, building, and evaluating CLT wall systems for embodied energy content, operating energy efficiency, wall moisture profiles, structural connector durability, and health monitoring sensors.

<p>Thermally driven heat pumps [THPs] offer the next generation of space conditioning and/or water heating for low-load buildings and have the potential to reduce greenhouse gas emissions by 40 percent or greater from a condensing gas efficiency baseline. Further work is needed to test and evaluate these technologies in the field. The Department is encouraged to establish a Thermal Heat Pump Consortium, led by a non-profit, to integrate and deploy new THP technologies in a joint industry partnership. The Department is directed to provide a briefing to the Committees on Appropriations of both Houses of Congress not later than 90 days after the enactment of this Act regarding the potential need for a consortium.</p>		<p>Within available funds, the Committee recommends \$10,000,000 for a competitive solicitation focused on the development and integration of energy efficient building techniques and technologies suitable for environments with extremely high or low temperatures. Priority shall be given to those with prior experience serving low-income residents living in extreme environments.</p> <p>The Committee recommends \$52,000,000 <b>for Equipment and Buildings Standards.</b> The Committee recommends \$7,000,000 <b>for the Building Energy Codes Program to provide technical assistance to States and municipal governments and to organizations that develop model codes and standards to improve building resilience as well as efficiency.</b></p> <p><b>The Committee notes that the Department is missing legal deadlines for over 25 energy efficiency standards mandated by Congress. The Committee directs the Department to finalize these standards as soon as practicable, and report to the Committee within 30 days of enactment of this act on the status of each of these standards, and any funding or staffing barriers to finalizing these standards.</b></p> <p>Within available funds, the Committee recommends \$5,000,000 to continue to demonstrate the use of ice storage technology to enable load-shifting to offset electrical grid capacity peaks at lower costs than electrochemical storage at public-use buildings such as State office buildings, hospitals, and schools.</p>
<b>Advanced Manufacturing Office</b>		
<p>(pp. 73-76) Advanced Manufacturing.—The agreement provides \$25,000,000 for the Energy-Water Desalination Hub, \$25,000,000 for the Critical Materials Institute, and \$25,000,000 for the Manufacturing Demonstration Facility (MDF) and the Carbon Fiber Technology Facility. Within available funds for MDF, \$5,000,000 is provided for the development of processes for hybrid materials solutions with prescribed microstructural and mechanical properties to enable precise property profiles for born qualified and certified components. Funding is necessary to improve and increase activities at all</p>	<p>(p. 106) Advanced Manufacturing.—The recommendation provides \$395,000,000 for Advanced Manufacturing. The Committee provides not less than \$5,000,000 for improvements in the steel industry; \$25,000,000 for the Critical Materials Institute; \$25,000,000 for the Energy-Water Desalination Hub; and \$25,000,000 for the Manufacturing Demonstration Facility (MDF) and the Carbon Fiber Test Facility. Within available funds for the MDF, up to \$5,000,000 is for the development of processes for hybrid materials solutions with prescribed microstructural and mechanical properties to enable born qualified and certified components. The Committee supports the Department’s ongoing efforts with the MDF to work on bio-based composites, bio-derived materials, and nano/micro-cellulose research to further capabilities for large scale additive manufacturing.</p>	<p>(pp. 93-96) ADVANCED MANUFACTURING The Committee recommends \$395,000,000 for Advanced Manufacturing. The Committee recommends \$25,000,000 for operation of the Manufacturing Demonstration Facility and the Carbon Fiber Technology Facility. Within available funds for the Manufacturing Demonstration Facility, \$5,000,000 is recommended for the development of processes for hybrid materials solutions with prescribed microstructural and mechanical properties to enable precise property profiles for born qualified and certified components. The Committee supports additive manufacturing technologies for wind energy applications. Within the amounts recommended, \$4,000,000 is to support additive manufacturing work on large wind blades that will allow for rapid prototyping, tooling, fabrication,</p>

<p>levels of the critical materials supply chain, including technologies for mining and metallurgy.</p> <p>Furthermore, water and energy are critical resources that are inextricably linked, and that understanding the interdependencies and vulnerabilities is increasingly critical for the Department's mission.</p> <p>The Committee provides \$28,000,000 for the Clean Energy Manufacturing Innovation Institutes (CEMI). Within available funds, the agreement provides \$14,000,000 for the final year of funding for the recently awarded Cybersecurity in Energy Efficient Manufacturing Institute. Furthermore, within available funds, \$14,000,000 is provided to create one new institute. CEMIs are integral to the growth and security of the Nation's manufacturing base and the REMADE Institute, specifically its five distinct research areas. However, the agreement objects to the Department's attempts to change originally agreed upon and awarded areas of CEMI focus. The Department shall not require a CEMI, like REMADE, to spend appropriated funds without a specific timeframe that does not best support ongoing research and development. To that end, of amounts previously appropriated, not more than \$15,000,000 of awarded funds in the fourth round of solicitations shall be committed to the Plastics Innovation Challenge. The Department is directed to provide a briefing to the Committees on Appropriations of both Houses of Congress not later than 60 days after the enactment of this Act on its efforts to support ongoing projects at CEMIs.</p> <p>The agreement provides not less than \$5,000,000 for improvements in the steel industry. The agreement provides \$20,000,000 for process-informed science, design, and engineering materials and devices in harsh environments, including</p>	<p>The Committee provides \$14,000,000 for the Clean Energy Manufacturing Innovation Institutes. The Department is directed to brief the Committee not later than 60 days after enactment of this Act on the status of the Institute for Cybersecurity in Energy Efficient Manufacturing.</p> <p>The Committee provides \$20,000,000 for process-informed science, design, and engineering of materials and devices in harsh environments, including nuclear environments, and \$10,000,000 for dynamic catalyst science coupled with data analytics.</p> <p>Within available funds for the Industrial Technical Assistance program, the Committee recommends \$12,000,000 to provide ongoing <b>support for the Combined Heat and Power (CHP) Technical Assistance Partnerships (TAP) and related CHP Technical Partnership activities, including</b> \$5,000,000 for TAPs and \$7,000,000 for <b>related CHP activities, including research and development opportunities</b>. The Committee recommends \$12,000,000 to <b>expand the technical assistance provided by the Industrial Assessment Centers</b>.</p> <p><b>The Committee recognizes the great potential for energy savings in water and wastewater treatment systems, which are among the country's largest industrial electricity users. The Committee appreciates the Department's work on technical assistance in this area, and the recommendation provides \$5,000,000 for technical assistance for water and wastewater treatment.</b> In addition, the Committee provides \$20,000,000 for research and development on technologies to achieve energy efficiency at water and wastewater treatment plants, including the deployment of alternative energy sources and the use of biosolids or algae treatment.</p> <p>The Committee recognizes the need to retain American competitiveness in building the vehicles of the future and to rebuild the domestic automobile industry. Therefore, the Committee recommends \$10,000,000 for the development of advanced tooling for lightweight automotive components to lead the transition to electric vehicle and mobility solutions to meet the national urgency for market adoption. This funding shall also support activities to carry out industry outreach to identify and report on the breadth of need and potential applicants for such grants.</p> <p>Within available funds, the Committee provides not less than \$10,000,000 for continued work on battery manufacturing</p>	<p>and testing; \$7,000,000 is for additive manufacturing of wind turbine components; and \$18,000,000 is for advanced wind turbine blade manufacturing research, including additive composite tip technology, automation, and sustainability. The Committee recognizes the importance of developing recyclable wind turbine blades and directs the Department to support research and development in innovative approaches to enable manufacturing of wind turbine blades with novel thermoplastic resin systems to create brand new reversible and recyclable thermoplastic resins for future use in blade manufacturing. Within available funds, the Committee recommends \$5,000,000 for development of thermoplastic resin systems research for wind turbine manufacturing. The Committee recognizes the Department's expertise in developing materials and processes for very high temperature applications. Silicon carbide ceramic matrix composites are a proven, capable material for high temperature applications. The Committee recommends \$5,000,000 to continue to develop and industrialize a low-cost polymer infiltration process for the fabrication of silicon carbide components. The Committee encourages the Department to leverage best practices from large-scale, high-rate commercial composite aero-structure manufacturing. To remain globally competitive, the Committee recognizes the U.S. aerospace industry must continually increase efficiencies to meet increasing production rate demands and the Committee recognizes the Department's success in partnering with industry to solve its most challenging problems, including the development and deployment of artificial intelligence and machine learning. Within available funds, the Committee recommends not less than \$5,000,000 to apply the Office of Science's leadership computing facility expertise in machine learning to increase efficiencies in largescale, high-rate aerostructures manufacturing.</p> <p>Within available funds, the Committee recommends not less than \$10,000,000 to support research, development, and demonstration projects to advance the development and commercialization of direct air capture technologies. The program is directed to continue collaboration with the Office of Science and the Office of Fossil Energy in this area. The Committee recognizes the important role large-area additive manufacturing can play in helping to advance the deployment of building, transportation, and</p>
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nuclear environments, and \$10,000,000 for dynamic catalyst science coupled with data analytics.

**The agreement provides \$45,000,000 for Industrial Technical Assistance. Within this amount, the agreement provides \$12,000,000 for Combined Heat and Power (CHP) Technical Assistance Partnerships (TAPs), including \$5,000,000 for the TAPs and \$7,000,000 for CHP activities; \$12,000,000 for 32 Industrial Assessment Centers (IACs); and \$5,000,000 for wastewater treatment technical assistance. The Department is encouraged to expand on the technical assistance provided by the IACs to address these needs, including by equipping the directors of the IACs with the training and tools necessary to provide technical assistance on energy savings to these facilities.**

**The agreement provides \$20,000,000 for research and development on technologies to achieve energy efficiency of water and wastewater treatment plants as provided in the House report.** Within available funds, \$10,000,000 is provided for the development of advanced tooling for lightweight automotive components to lead the transition to electric vehicle and mobility solutions to meet the national urgency for market adoption. This funding shall also support activities to carry out industry outreach to identify and report on the breadth of need and potential applicants for such grants. Within available funds, the agreement provides not less than \$10,000,000 for continued work on battery manufacturing research and development that includes strong end user participation. The agreement provides up to \$10,000,000 for the issuance of a competitive solicitation for university or industry-led teams to improve the efficiency of industrial drying

research and development that includes strong end user participation.

The Committee notes that drying processes consume approximately 10 percent of the process energy used in the manufacturing sector. The recommendation provides up to \$10,000,000 for the issuance of a competitive solicitation for university- or industry-led teams to improve the efficiency of industrial drying processes and foster new and innovative drying technologies.

The Committee encourages the Department to support improving steel industry competitiveness by integrating advanced 3D computer simulation and visualization, augmented reality and virtual reality, machine learning, and similar technologies for both research and workforce development, as well as collaboration with academic institutions and the steel industry.

The Committee directs the Department to provide to the Committee not later than 60 days after enactment of this Act a briefing on the status of its decarbonization roadmaps in key technology areas to guide research and development at the Department to achieve significant, economical greenhouse gas emission reductions by 2050, including energy efficiency, process electrification, industrial electrification technologies, and carbon capture.

The Committee encourages research and development on carbon capture, utilization, and storage with an emphasis on reuse utilization within industry processes and materials, low-carbon fuels, transformative technology that will allow deep industrial decarbonization, materials efficiency and circular economy, carbon intensity definitions and labeling across key product groups, and the steel industry.

The Committee recognizes the growing need for the use of more sustainable chemistry in consumer and commercial products, which can create significant value as an economic opportunity for U.S. manufacturing. The Committee provides up to \$5,000,000 for efforts related to sustainable chemistry. The Department is directed to provide to the Committee not later than 90 days after enactment of this Act a report exploring how incorporating sustainable chemistry in consumer and commercial manufacturing processes fits within its research and development portfolio and can benefit these processes.

clean energy technologies. The Committee directs the Department to further foster the partnership between the national laboratories, universities, and industry to use bio-based thermoplastics composites, such as micro- and nano-cellulosic materials, and large-area 3-D printing to overcome challenges to the cost and deployment of building, transportation, and energy technologies. In addition, the Committee recommends \$20,000,000 to continue the development of additive manufacturing involving nano-cellulosic feedstock materials made from forest products to overcome challenges to the cost and deployment of building, transportation, and energy technologies, and encourages the Department to leverage expertise and capabilities for large-scale additive manufacturing through partnerships between universities and the Manufacturing Demonstration Facility.

**The Committee recognizes water and energy are critical resources that are inextricably linked, and that understanding the interdependencies and vulnerabilities is increasingly critical for the Department's mission.**

The Committee recommends \$25,000,000 for the fifth year of research and development efforts to lower the cost and energy intensity of technologies to provide clean, safe water through the Energy-Water Desalination Hub. **The Committee recommends \$42,000,000 to support the Clean Energy Manufacturing Institute [CEMI] program. Within available funds, the Committee recommends \$14,000,000 for the final year of funding for the recently awarded Cybersecurity in Energy Efficient Manufacturing Institute.**

Furthermore, within available funds, \$28,000,000 is provided to create two new institutes. The Committee supports the work of the CEMIs as integral to the growth and security of the Nation's manufacturing base.

Further, the Committee strongly supports the REMADE Institute, specifically its five distinct research areas. However, the Committee objects to the Department's attempts to change originally agreed-upon and awarded areas of CEMI focus. The Department shall not require a CEMI, like REMADE, to spend appropriated funds within a specific timeframe that does not best support ongoing research and development. To that end, of amounts

<p>processes and foster new and innovative drying technologies.</p> <p>The agreement provides \$4,000,000 for additive manufacturing work on large wind blades that will allow for rapid prototyping, tooling, fabrication, and testing. Further, \$7,000,000 is provided for additive manufacturing of wind turbine components and \$18,000,000 is provided for advanced wind turbine blade manufacturing research including additive composite tip technology, automation, and sustainability. Within available funds, the agreement provides \$5,000,000 for the development of thermoplastic resin systems research for wind turbine manufacturing.</p> <p>The agreement provides \$5,000,000 to continue to develop and industrialize a low-cost polymer infiltration process for the fabrication of silicon carbide components. The agreement recognizes the Department's expertise in developing materials and processes for very high temperature applications. Silicon carbide ceramic matrix composites are a proven, capable material for high temperature applications.</p> <p>The agreement provides not less than \$5,000,000 to apply the Office of Science's leadership computing facility expertise in machine learning to increase efficiencies in large scale, high rate, aerostructures manufacturing. The Department is encouraged to leverage best practices from large-scale, high-rate commercial composite aerostructure manufacturing. Within available funds, the Committee recommends not less than \$10,000,000 to support research, development, and demonstration projects to advance the development and commercialization of direct air capture technologies. The program is directed to continue collaboration with the Office of Science and the Office of Fossil Energy in this area.</p>	<p>The Committee supports the Department's continued work on the development of aluminum alloy and provides \$5,000,000 for this effort.</p> <p>The Committee supports the Department's efforts to develop the next generation of energy and manufacturing entrepreneurs through the Lab-Embedded Partnership Programs. The Department is directed to brief the Committee not later than 90 days after enactment of this Act on the status of existing programs and the potential for establishing additional programs at national laboratories or DOE sites.</p> <p>The Committee recognizes the important contributions made by the clean energy manufacturing institutes. The Committee notes that the fiscal year 2020 National Defense Authorization Act allows the renewal of such institutes and encourages the Department to consider funding renewals for institutes as appropriate.</p> <p>The Committee supports continued efforts at the Lithium Research Center to convert lithium chloride to lithium hydroxide.</p>	<p>previously appropriated, \$35,000,000 shall be spent on projects awarded in the fourth round of solicitations, of which not more than \$15,000,000 shall be committed to the Plastics Innovation Challenge, and \$10,000,000 for a fifth solicitation. The Department is directed to provide a briefing to the Committee on its efforts to support ongoing projects at CEMIs within 60 days of enactment of this act. The Committee recommends \$25,000,000 to continue the Critical Materials Institute. The Committee supports funding necessary to improve and increase activities at all levels of the critical materials supply chain, including technologies for mining and metallurgy.</p> <p>The Committee directs the Department to produce a report on the opportunities for technological development in the production of advanced Si-C anode materials for Li-ion batteries and how the Department would promote integration of a domestic supply chain. The Department is directed to report to the Committee within 90 days of enactment of this act. The Committee recognizes that progress is occurring at the demonstration level of extracting lithium from geothermal brine to create lithium chloride, but further research and development is needed to convert the extracted lithium chloride into lithium hydroxide, one of the final components of lithium-ion batteries. The Committee recommends \$5,000,000 to continue technology development to convert lithium chloride from geothermal brine into lithium hydroxide that will inform the design of a commercial-scale facility that will both extract lithium from geothermal brine and convert the lithium in geothermal brine into the lithium hydroxide. The Committee reminds the Department that biomass is a viable energy source for district energy and directs the Department to take that into consideration in its funding opportunity announcements. Therefore, within available funds, the Committee recommends \$10,000,000 for district heating, within which the Department shall make grants to support capital construction costs of demonstration projects that deploy community district heating projects in association with a biomass-fueled municipal generating station.</p> <p>The Committee recommends \$45,000,000 <b>for the Industrial Technical Assistance program</b>. Within this amount, the Committee recommends \$12,000,000 to provide ongoing support <b>for the Combined Heat and</b></p>
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The agreement provides \$5,000,000 for continued work on the development of aluminum alloy. The Department is directed to further foster the partnership between the national laboratories universities, and industry to use bio-based thermoplastics composites, such as micro-and nano-cellulosic materials, and large-area 3-D printing to overcome challenges to the cost and deployment of building, transportation, and energy technologies.

The agreement provides \$20,000,000 to continue the development of additive manufacturing involving nano-cellulosic feedstock materials made from forest products to overcome challenges to the cost and deployment of building, transportation, and energy technologies, and encourages the Department to leverage expertise and capabilities for large-scale additive manufacturing through partnerships between universities and the MDF.

The agreement provides \$10,000,000 for district heating, within which the Department shall make grants to support capital construction costs of demonstration projects that deploy community district energy projects in association with a renewably fueled municipal generating station. The Department is reminded that biomass is a viable energy source for district energy and directs the Department to take that into consideration in its funding opportunity announcements

The agreement provides \$5,000,000 to continue technology development to convert lithium chloride from geothermal brine into lithium hydroxide that will inform the design of a commercial-scale facility that will both extract lithium from geothermal brine and convert the lithium in geothermal brine into the lithium hydroxide.

Within available funds, the agreement

**Power [CHP] Technical Assistance Partnerships [TAPs] and related CHP Technical Partnership activities at the Department, including \$5,000,000 for the TAPs and \$7,000,000 for related CHP activities; \$12,000,000 for 32 Industrial Assessment Centers [IACs]; and \$3,000,000 for wastewater treatment technical assistance.**

The Committee encourages the Department to expand on the technical assistance provided by the IACs to address these needs, including by equipping the Directors of the IACs with the training and tools necessary to provide technical assistance on energy savings to these facilities. Within the funds provided for the IACs, the Department is encouraged to provide funding for applied technical assistance and the purchase of innovative technology developed through federally funded research, with an emphasis on technical demonstration of innovative water treatment at a greater than residential scale. Within available funds, the Committee recommends up to \$10,000,000 to continue the development of alternatives to fossil-fuel based process heating technologies for use in manufacturing, including technologies that could be used to reduce emissions from industrial drying processes.

The Committee recognizes the importance of smart manufacturing technologies, which can enhance energy savings and improve the global competitiveness of American manufacturers. The Committee notes that it is still awaiting the national smart manufacturing plan directed in the Energy and Water Development and Related Agencies Appropriations Act, 2019 (Public Law 115–244), and directs the Department to provide this plan to the Committee within 60 days of enactment of this act.

The Committee recognizes that meeting growing global demands for the use of more sustainable chemistry in consumer and commercial products has the potential to create significant economic opportunities for U.S. manufacturing that can be enhanced by ensuring that sustainability factors are considered in new chemicals development. Within available funds, the Committee recommends \$5,000,000 for activities to support chemistry research and development incorporating criteria of commercial need, energy efficiency and human

<p>provides \$10,000,000 to continue the development of alternatives to fossil fuel-based process heating technologies for use in manufacturing, including technologies that could be used to reduce emissions from industrial drying processes. The agreement recognizes that meeting growing global demands for the use of more sustainable chemistry in consumer and commercial products has the potential to create significant economic opportunities for U.S. manufacturing that can be enhanced by ensuring that sustainability factors are considered in new chemicals development.</p> <p>Within available funds, \$5,000,000 is provided for activities to support chemistry research and development. The Department is directed to provide to the Committees on Appropriations of both Houses of Congress not later than 90 days after the enactment of this Act a report exploring how incorporating sustainable chemistry in consumer and commercial manufacturing processes fits within its research and development portfolio.</p> <p>The Department is directed to produce a report on the opportunities for technological development in the production of advanced Si-C anode materials for Li-on batteries and how the Department would promote integration of a domestic supply chain. The Department is directed to provide this report to the Committees on Appropriations of both Houses of Congress within 90 days after the enactment of this Act. The Department has not produced the national smart manufacturing plan directed in Public Law 115-244 and is directed to provide this plan to the Committees on Appropriations of both Houses of congress not later than 60 days after the enactment of this Act</p>		<p>health and environmental effects considerations for chemicals and chemical production processes.</p>
<b>Energy Information Administration</b>		
<p>(pp. 93-94) ENERGY INFORMATION ADMINISTRATION The agreement provides \$126,800,000 for the Energy</p>	<p>(pp. 121-122) The Energy Information Administration is a quasi-independent agency within the Department of Energy established to provide timely, objective, and accurate energy-related</p>	<p>(pp. 114-115) The Committee recommends \$126,800,000 for the Energy Information Administration [EIA], a decrease of \$1,910,000 from the budget request.</p>

Information Administration. **The agreement recognizes the importance of building energy information and the opportunity for better data collection presented by new technologies.**

The Department is encouraged to continue important data collection, analysis, and reporting activities on energy use and consumption, including the Commercial Buildings Energy Consumption Survey and the Residential Buildings Energy Consumption Survey.

**The Department is encouraged to upgrade the Commercial Buildings Energy Consumption Surveys to a real-time data collection system with rapid reporting of results, without compromising statistical validity or data security.**

The Department is also encouraged to collect additional data on light-emitting diode bulbs, commercial building codes, and electric transmission.

The Department is directed to submit to the Committees on Appropriations of both Houses of Congress not later than 180 days after enactment of this Act a report on how the Energy Information Agency can supply increased data regarding the electricity consumption and emissions for retail electricity suppliers, and for city, within city limits, served by an electric utility. The report shall also include the potential costs and benefits associated with the collection and dissemination of such data, and identification of major suppliers and cities where collection and dissemination of such data could be completed at a reduced level of effort and cost.

The Department is directed to provide to the Committees on Appropriations of both Houses of Congress not later than 180 days

information to the Congress, the executive branch, state governments, industry, and the public.

The Committee encourages the Department to continue important data collection, analysis, and reporting activities on energy use and consumption, including the Commercial Buildings Energy Consumption Survey and the Residential Buildings Energy Consumption Survey.

The Committee also encourages additional data collection on light-emitting diode bulbs, commercial building codes, and electric transmission.

The Department is directed to submit to the Committee not later than 180 days after enactment of this Act a report on how the Energy Information Agency can supply increased data regarding the electricity consumption and emissions for retail electricity suppliers, and for city, within city limits, served by an electric utility. The report shall also include the potential costs and benefits associated with the collection and dissemination of such data, and identification of major suppliers and cities where collection and dissemination of such data could be completed at a reduced level of effort and cost.

**The Committee recognizes the importance of building energy information and the opportunity for better data collection presented by new technologies. The Department is encouraged to upgrade the Commercial Buildings Energy Consumption Surveys to a real-time data collection system with rapid reporting of results, without compromising statistical validity or data security.**

The Committee directs EIA to provide a report to the Committees on Appropriations of Houses of Congress not later than 180 days after enactment of this act outlining resources necessary to further develop National Energy Modeling System capabilities to be able to simulate deep decarbonization scenarios, including economy-wide net-zero emissions policies.

Within available funds, the Committee directs the Department to evaluate including requirements within agreements with state energy offices and state regulatory agencies to gather data on the delivered generation resource mix and emissions rates for every load-serving entity as defined in 16 U.S.C. §824q(2).

The Department is directed to provide to the Committee not later than 90 days after enactment of this act an evaluation to include estimated cost, schedule, and overall feasibility of collecting and analyzing the data described above on an annual basis.

<p>after enactment of this Act a report outlining resources necessary to further develop National Energy Modeling System capabilities to be able to simulate deep decarbonization scenarios, including economy-wide net-zero emissions policies.</p> <p>The Department is encouraged to work with stakeholders to explore gathering reasonably accurate data on the delivered generation resource mix and emissions rates for every load-serving entity as defined in 16 U.S.C. §824q(2).</p> <p>The Department is directed to provide to the Committees on Appropriations of both Houses of Congress not later than 90 days after enactment of this Act a recommendation to amend its data collection efforts and reflect progress as part of an annual report.</p>		
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**Federal Energy Management Program**

<p>(p. 78) Federal Energy Management Program.—<b>The agreement provides \$2,000,000 for the Performance-Based Contract National Resource Collaborative Initiative and reiterates House direction regarding a report. The agreement provides \$11,000,000 for the Assisting Federal Facilities with Energy Conservation Technologies program.</b></p>	<p>(p. 109) Federal Energy Management Program.—The recommendation provides \$40,000,000 for the Federal Energy Management Program. Within available funds, \$2,000,000 is for the <b>Performance Based Contract National Resource Collaborative Initiative to provide expertise to state and local governments to facilitate the expansion of performance-based contracts nation-wide.</b></p> <p><b>The Committee awaits the report directed in the fiscal year 2020 Act that outlines the types of technical and financial expertise the Department is suited to provide and includes an analysis of the available infrastructure work that can be accomplished through performance-based contracts over a 10-year period and the resources necessary to achieve this goal.</b> The Department is directed to provide this report not later than 30 days after enactment of this Act.</p> <p>The recommendation provides \$11,000,000 for the Department to <b>continue its work through the Assisting Federal Facilities with Energy Conservation Technologies (AFFECT) program.</b></p>	<p>(p. 98) FEDERAL ENERGY MANAGEMENT PROGRAM The Committee recommends \$40,000,000 for the Federal Energy Management Program. Within available funds, <b>\$11,000,000 is recommended for the Assisting Federal Facilities with Energy Conservation Technologies program</b> and \$28,000,000 for base funds. Within available funds, <b>\$2,000,000 is recommended for the Performance Based Contract National Resource Collaborative Initiative.</b> <b>The Committee looks forward to receiving the report previously directed in the Energy and Water Development and Related Agencies Appropriations Act, 2020 (Public Law 116–94), regarding the expansion of performance-based contracts nationwide.</b></p>
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**Workforce Development**

<p>(p. 59) WORKFORCE DEVELOPMENT AND DIVERSITY Workforce Development.—The</p>	<p>(pp. 92-93) <i>Workforce Development</i>.—The Committee recognizes the need to ensure that our nation has a ready, capable workforce</p>	<p>(p. 81) Workforce Development.—The development of a skilled workforce is critical to the successful deployment</p>
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<p>agreement reiterates House direction regarding a reporting requirement. Workplace Diversity.—The agreement reiterates House direction regarding reporting requirements.</p>	<p>both for today and the next generation to meet changing energy demands and safeguard our national nuclear security. The Department has a long history in and unique opportunity of training and supporting the science, technology, engineering, and mathematics workforce.</p> <p>The fiscal year 2020 Act directed the Department to provide a report that includes an inventory of workforce development and readiness programs supported throughout the Department. The inventory was required to include current programs, past programs over the past 10 years, and recommendations for the Department to improve or expand its workforce development efforts. The report was required to include specific recommendations addressing workforce readiness to meet the Department’s nuclear security missions. The Committee is still awaiting this report and directs the Department to provide this report not later than 30 days after enactment of this Act.</p> <p>The Department is encouraged to support pre-apprenticeship and apprenticeship programs focused on technical skills needed for positions at the national laboratories.</p> <p><i>Workplace Diversity.</i>—The Committee recognizes the importance of workplace diversity at the Department and its national laboratories. The Committee encourages the Department to continue to develop and broaden partnerships with minority serving institutions, including Hispanic Serving Institutions, Historically Black Colleges and Universities, Asian and Pacific Islander Serving Institutions, Predominantly Black Institutions, Tribal Colleges and Universities, and other Minority Serving Institutions.</p> <p>The Committee understands that each national laboratory develops its own recruitment and retainment strategies and provides those plans to the Department for review. The fiscal year 2020 Act directed the Department to comprehensively evaluate these plans and provide a report to the Committee detailing efforts to recruit and retain diverse talent from the institutions mentioned above. Further, the fiscal year 2020 Act directed the Department to provide to the Committee a report on its internal programs that support research and development opportunities from the institutions mentioned above. The Committee is still awaiting these reports and directs the Department to provide these reports not later than 30 days after enactment of this Act.</p> <p>p. 98: <i>Clean Energy Workforce.</i>—The Committee believes a skilled workforce is critical to the successful transition to a clean energy</p>	<p>and long-term sustainability of energy efficient and renewable energy technologies.</p> <p><b>The Committee encourages funding within EERE programs to be allocated to training and workforce development programs that assist and support workers in trades and activities required for the continued growth of the U.S. energy efficiency and clean energy sectors, with an emphasis on training programs focused on building retrofit and construction industries.</b></p> <p><b>Furthermore, the Committee encourages the Department to work with two-year, public community, and technical colleges for job training programs that lead to an industry-recognized credential in the energy workforce.</b></p>
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	<p>economy and long-term sustainability of energy efficient and renewable energy technologies. <b>The Committee encourages the Department to continue to work with two-year, community and technical colleges, labor, and non-governmental and industry consortia to pursue job training programs, including programs related to building retrofits and the construction industry and programs focused on displaced fossil fuel workers that lead to an industry-recognized credential in the energy workforce.</b></p>	
<p><b>Department Staffing</b></p>		
	<p>(p. 110) Program Direction.—The recommendation provides \$165,000,000 for Program Direction. <b>The Committee acknowledges that the Department is taking steps to hire staff and encourages an aggressive strategy to ensure that EERE is appropriately staffed to carry out and oversee the funds provided by the Committee.</b> The Committee expects continued, regular updates on its progress, beginning not later than 45 days after enactment of this Act.</p>	