

Summary Impacts of Energy Act 2020 to Federal Sustainability Community

ISWG Update

February 25, 2021



Federal Sustainability Impacts

Top Line Summary Impacts of recent actions

- Energy Act of 2020 (EA 2020) adds water metering and expands investment requirements and expands auditing and reporting requirements
- EA 2020 establishes a Federal Smart Buildings Program
- EA 2020 authorizes FEMP and establishes program goals around **energy and water resilience** and **environmental stewardship**
- EO 14008 directs federal agencies to have a whole of government approach to combat climate change, including through procurement and advancement and integration of electric federal fleets

EA
2020

**Energy Act of
2020**
December 2020

EO
13990

**Protecting Public
Health and the
Environment and
Restoring Science to
Tackle the Climate
Crisis**
January 2021

EO
14008

**Tackling the Climate
Crisis at Home and
Abroad**
January 2021

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Impacts to DOE	Impacts to Federal Agencies
Codifies the Federal Energy Management Program in statute, including highlighting two goals focused on energy and water resilience and environmental stewardship. (Section 1012)	Changes to requirements concerning Energy and Water Evaluations of Covered Facilities, including <ul style="list-style-type: none"> Timing/exemptions, covered facility designations, reporting requirements, implementation of ECMS/WCMs and utilization/status of ESPCs
Updates to guidance concerning water efficiency, facility evaluations/auditing, metering and ECM/WCM implementation (Section 1002)	Federal agencies shall create and implement strategies to maintain, purchase, and use energy saving and energy efficient information technology (Section 1004)
DOE shall establish a Federal Smart Building Program (Section 1007)	Sets minimum production goal of at least 25 GW by 2025 for DOI's authorization of permits for wind, solar, and geothermal projects on Federal land (Section 3104)
Integration of EVs into the electric grid, including "an assessment of the feasibility of adopting technologies developed under the program ... at Department facilities" (Title VIII)	Revokes E.O. 13834 (Efficient Federal Operations), except sections 6, 7, and 11
DOE shall maintain a program to provide certification for energy practitioners that can evaluate federally owned and operated data centers; requires evaluation every 4 years (Section 1003)	Promotes a carbon pollution-free electricity sector no later than 2035
Include geothermal energy within to Federal Renewable Electricity Goal accounting (NOT energy efficiency) (Section 3002)	Promotion of a clean and zero-emission vehicles for Federal, State, local, and Tribal government fleets, including vehicles of the United States Postal Service.
Agencies to include energy saving and energy efficient information technology in EISA reporting and OMB scorecards (Section 1004)	Agencies shall take steps to ensure that, to the extent consistent with applicable law, Federal funding is used to spur innovation, commercialization, and deployment of clean energy technologies and infrastructure
Recognition of O&M savings and allowance of sale of rebates and RECs in ESPCs (Section 1002)	Expand of renewable energy on public lands and the goal of doubling offshore wind by 2030.
Adds responsibility for Facility Energy Managers to consider use of "Energy Management System" and ISO Standard 50001 certification (Section 1002)	Develop and publish agency Climate Action Plans and Data to Improve Adaptation and Increase Resilience. Plans will be made public, and progress against plans will be reported within 120 days and annually. Plans will describe the agency's climate vulnerabilities and describe the agency's plan to use the power of procurement to increase the energy and water efficiency of United States Government installations, buildings, and facilities and ensure they are climate-ready
Review all regulations, orders, guidance documents, policies, and any other similar agency actions between 1/20/17 and 1/20/21. As appropriate, take action to address conflicts in those documents with national objectives.	

Section 1002: Use of energy and water efficiency measures in Federal buildings

42 U.S. Code § 8253 - Energy and Water management requirements

- (b) Energy and Water management requirement for Federal agencies
- (c) Exclusions
- (d) Implementation steps
- (e) Metering of energy and Water use
- (f) Use of energy and water efficiency measures in Federal buildings
- (h) Federal Implementation Strategy for Energy Efficient and Energy-Savings Information Technology
- (i) Federal Energy Management Program

42 U.S. Code § 8258 - Reports

- (b) Reports to the President and Congress

42 U.S. Code § 8259 - Definitions

42 U.S. Code § 8287 - Authority to enter into contracts

42 U.S. Code § 8287a - Payment of costs

42 U.S. Code § 8287c - Definitions

42 U.S. Code § 17112. Energy efficiency for data center buildings

NEW CODE TEXT – EA 2020 SEC. 1007. SMART BUILDING ACCELERATION.

- (b) FEDERAL SMART BUILDING PROGRAM.
- (d) BETTER BUILDING CHALLENGE

42 U.S. Code § 15852 - Federal purchase requirement

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Section 1002: Use of energy and water efficiency measures in Federal buildings

This section amends the National Energy Conservation Policy Act (42 U.S.C. 8258(b))

- Water is added throughout, so descriptions now read “energy and/or water” rather than “energy”
 - Energy Performance Requirement (Btu/Gross Square Foot reduction goal) unchanged; 30% reduction vs. 2003 in 2015
 - Energy and water conservation measures that are life-cycle cost effective must be installed in owned Federal buildings, beginning no later than **October 1, 2022**.
 - Report non-compliance to Congress every two years, beginning **January 1, 2022**
- Updates to metering guidance
 - The statute has been updated throughout to introduce a water metering requirement alongside the existing energy metering requirement. Agencies are now required to implement energy and water metering in all Federal buildings by **October 1, 2022**.
 - DOE is directed to update the Metering Guidance not later than 180 days after the enactment to reflect the new water metering requirement.
 - Agencies are required to submit five-year metering plans not later than 180 days after the issuance of the updated Metering Guidance.
 - The Metering Best Practices report is to be updated with information on water metering best practices.
- Energy managers at federal facilities are now tasked with reducing both energy and water usage
 - Energy management systems (EnMS) – energy managers shall consider “the use of a system to manage energy and water use at the facility”
 - Applicability of certification in accordance with ISO 50001 standards
- Implementation of energy and water conservation measures
 - Energy managers shall implement life-cycle cost effective energy and water saving measures within 2 years of the completion of evaluations “Each Federal agency shall use performance contracting to address **at least 50 percent of the measures** identified under subparagraph 19 (A)(i).”
 - Requires annual reporting on the status of ESPCs and UESCs including investment values, energy quantity, forecasts/divergences.
- Allows agency to apply the proceeds of the sale or transfer of any energy and water incentive, rebate, grid services revenue, or credit (including a renewable energy certificate) to fund ESPC

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Section 1002: Use of energy and water efficiency measures in Federal buildings

- Impact of insertion of “and water” or “or water” after “energy” throughout existing code:
 - Metering requirements and covered facility requirements
 - Exclusion criteria for Energy Performance Requirement (Btu/GSF reduction goal); this is peculiar since there is no water performance requirement. 180 days to update guidance:

(A) ~~An agency~~ The head of each agency may exclude, from the energy or water performance requirement for a fiscal year established under subsection (a) and the energy or water management requirement established under subsection (b), any Federal building or collection of Federal buildings, if the head of the agency finds that—

- (i) compliance with those requirements would be impracticable;
- (ii) the agency has completed and submitted all federally required energy and water management reports,
- (iii) the agency has achieved compliance with the energy and water efficiency requirements of this chapter, the Energy Policy Act of 1992, Executive orders, and other Federal law; and
- (iv) the agency has implemented all practicable, life cycle cost-effective projects with respect to the Federal building or collection of Federal buildings to be excluded.

(B) A finding of impracticability under subparagraph (A)(i) shall be based on—

- (i) the energy or water intensiveness of activities carried out in the Federal building or collection of Federal buildings; or
- (ii) the fact that the Federal building or collection of Federal buildings is used in the performance of a national security function.

NOTE: Benchmarking language is unchanged (“and/or water” not inserted)

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Section 1002: Impacts to Definitions and Evaluation requirements

Impacts to the Commissioning and the Auditing requirements as well as definition of covered facilities Sections

- Adds **definition** of the term ‘ongoing commissioning’ meaning “an ongoing process of commissioning using monitored data, the primary goal of which is to ensure continuous optimum performance of a facility”
- Covered facility designations must constitute at least 75 percent of facility energy or water use at each agency and responsibilities of covered facility energy managers
 - Agencies already report annual water consumption for their covered facilities, see prototype CTS report (next slide) to show covered facilities percentage of total water consumption
 - Agencies can meet covered facility requirement threshold with 75% of either energy or water use
- Revised requirements for Energy and Water Evaluations of Covered Facilities
 - Resets timeframe for completing evaluations, not less frequently than once every 4 years
 - Provide exceptions for evaluations if criteria are met (see subsequent slide)
- Implementation of Identified ECMs in Covered Facilities
 - Two years after the date of completion of each evaluation, each energy manager shall implement all life-cycle cost effective ECMs (individually or bundled)
 - Each Federal agency shall use performance contracting to address at least 50 percent of the measures identified (Guidance to determine criteria: 50% of implementation cost, counting of measures problematic)

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Section 1002: Criteria for Excusal from Comprehensive Evaluations of Covered Facilities

Evaluation and recommissioning or retrocommissioning shall not be required if facility:

- (i) has had a comprehensive energy and water evaluation during the preceding 8-year period;
- (ii)
 - (I) has been commissioned, recommissioned, or retrocommissioned during the preceding 10-year period; or
 - (II) is under ongoing commissioning, recommissioning, or retrocommissioning;
- (iii) has not had a major change in function or use since the previous evaluation and recommissioning or retrocommissioning;
- (iv) has been benchmarked with public disclosure under paragraph (8) during the preceding calendar year; and
- (v)
 - (I) based on the benchmarking described in clause (iv), has achieved at a facility level the most recent cumulative energy savings target under subsection (a) compared to the earlier of—
 - (aa) the date of the most recent evaluation; or
 - (bb) the date—
 - (AA) of the most recent commissioning, recommissioning, or retrocommissioning; or
 - (BB) on which ongoing commissioning began; or
 - (II) has a long-term contract in place guaranteeing energy savings at least as great as the energy savings target under subclause (I).

30% Reduction per 42 U.S. Code § 8253(a)

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Section 1003: Energy efficient data centers

This section amends Section 453 of the Energy Independence and Security Act of 2007 (42 U.S.C. 17112).

- Directs the Secretary of Energy and the EPA Administrator to assess the “adequacy of the specifications, measurements, best practices, and benchmarks described in subsection (b) for use by the Federal Energy Management Program, the Energy Star Program, and other efficiency programs”
- DOE and OMB shall maintain a program that provides certification for energy practitioners that are qualified to evaluate energy usage and efficiency opportunities at federally owned and operated data centers
- Federal agencies should consider having their data centers evaluated every 4 years
- DOE and OMB along with key stakeholders shall establish an open data initiative for federally owned and operated data centers

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Section 1004: Energy-efficient and energy-saving information technologies

This section amends Section 543 of the National Energy Conservation Policy Act (42 U.S.C. 8253)

- Within 1 year of the enactment of the EA 2020, federal agencies shall develop an implementation strategy for the maintenance, purchase, and use of energy saving and energy efficient information technologies (in coordination with DOE, OMB, and EPA).
- Within 180 days of the enactment of EA 2020, OMB in consultation with DOE shall establish performance goals for evaluating the efforts of federal agencies in achieving the above
- The Chief Information Officers Council shall develop best practices for attaining these performance goals, including utilizing ESPCs and UESCs
- Each agency should describe the efforts and results from the measures described above in their EISA reports, and beginning October 1, 2022, OMB shall include this in their annual report and scorecard

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Section 1007: Smart building acceleration

This section establishes and describes a Federal Smart Building Program, including a definition of smart buildings. FEMP is called out for providing guidelines for evaluation and potentially expanding agency achievement awards.

- DOE shall, in consultation with GSA, establish a program known as the “Federal Smart Building Program”
 - Work with key federal agencies, including at least one building from each (Army, Navy, Air Force, DOE, Interior, VA, GSA)
 - Using FEMP guidelines related to whole-building evaluation and M&V, Secretary shall evaluate costs and benefits of buildings in program (including items such as performance for building occupants and environmental impact)
 - Awards: Secretary may expand awards made under **FEMP** and **Better Buildings Challenge** to recognize specific agency achievements in accelerating the adoption of smart building technologies
 - Secretary must submit a report on this initiative to Congress every 2 years until 3 reports have been submitted
- Survey Private Sector Smart Buildings
 - DOE Secretary shall conduct a survey of privately owned smart buildings, including commercial buildings, laboratory facilities, hospitals, multifamily residential buildings, and buildings owned by nonprofit organizations and institutions of higher education
 - Using FEMP guidelines related to whole-building evaluation and M&V, evaluate costs and benefits of the buildings
- Better Buildings Challenge
 - As a part of BBC, Secretary – in consultation with major private sector property owners, shall develop smart building accelerators to demonstrate innovative policies and approaches that will accelerate transition to smart buildings in the public, institutional, and commercial building sectors

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Section 1010: Energy and water for sustainability

This section directs DOE and DOI to jointly establish a committee and an office focused on the energy-water nexus.

- Includes the definition of the “energy-water nexus”
 - The term “energy-water nexus” means the links between—
 - (i) the water needed to produce fuels, electricity, and other forms of energy; and
 - (ii) the energy needed to transport, reclaim, and treat water and wastewater.
- DOE and DOI Secretaries shall establish an Interagency Nexus of Energy and Water Sustainability (NEWS) RD&D Coordination Committee and NEWS Office jointly managed by DOE and DOI. Responsibilities relevant to FEMP’s mission include:
 - develop federal goals and plans for NEWS RD&D (basic and applied)
 - issue a strategic plan every 2 years beginning 1 year after the enactment of EA 2020
 - coordinate and develop methodologies for the collection and dissemination of data and results related to NEWS RD&D
 - recommend improvements and best practices for the collection and dissemination of federal water use data and the use of monitoring networks

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Section 1012: Federal Energy Management Program

This section amends Section 543 of the National Energy Conservation Policy Act (42 U.S.C. 8253) to codify the Federal Energy Management Program.

- The Federal Energy Management Program was codified by the Energy Act 2020 to facilitate the implementation by the Federal Government of cost-effective energy and water management and energy-related investment practices to:
 - (A) to coordinate and strengthen Federal energy and water resilience; and
 - (B) to promote environmental stewardship
- Lists program activities:
 - Strategic planning and technical assistance
 - Energy and water management and reporting
 - Federal interagency coordination
 - Facility and fleet optimization

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Section 3104: National goal for renewable energy production on Federal land

This section focuses on developing and implementing goals for renewable energy production on federal land.

- DOI Secretary, in consultation with Department of Agriculture and other relevant agencies, shall establish national goals for renewable energy production on Federal land by September 1, 2022
- DOI Secretary shall issue permits that authorize energy production from solar, wind, or geothermal equaling at least 25 gigawatts by 2025 through management of public lands and administration of Federal laws
- Accounting changes to Federal Renewable Electricity Goal pertaining to geothermal use
 - Allows avoided energy consumption from geothermal energy to count (marginal efficiency of geothermal heat pump vs. air-to-air)
 - Although on-site, does not account for a Btu reduction for energy performance requirement (Btu/GSF) while other on-site renewable sources continue to count as energy conservation

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Section 8004: Grid integration research and development

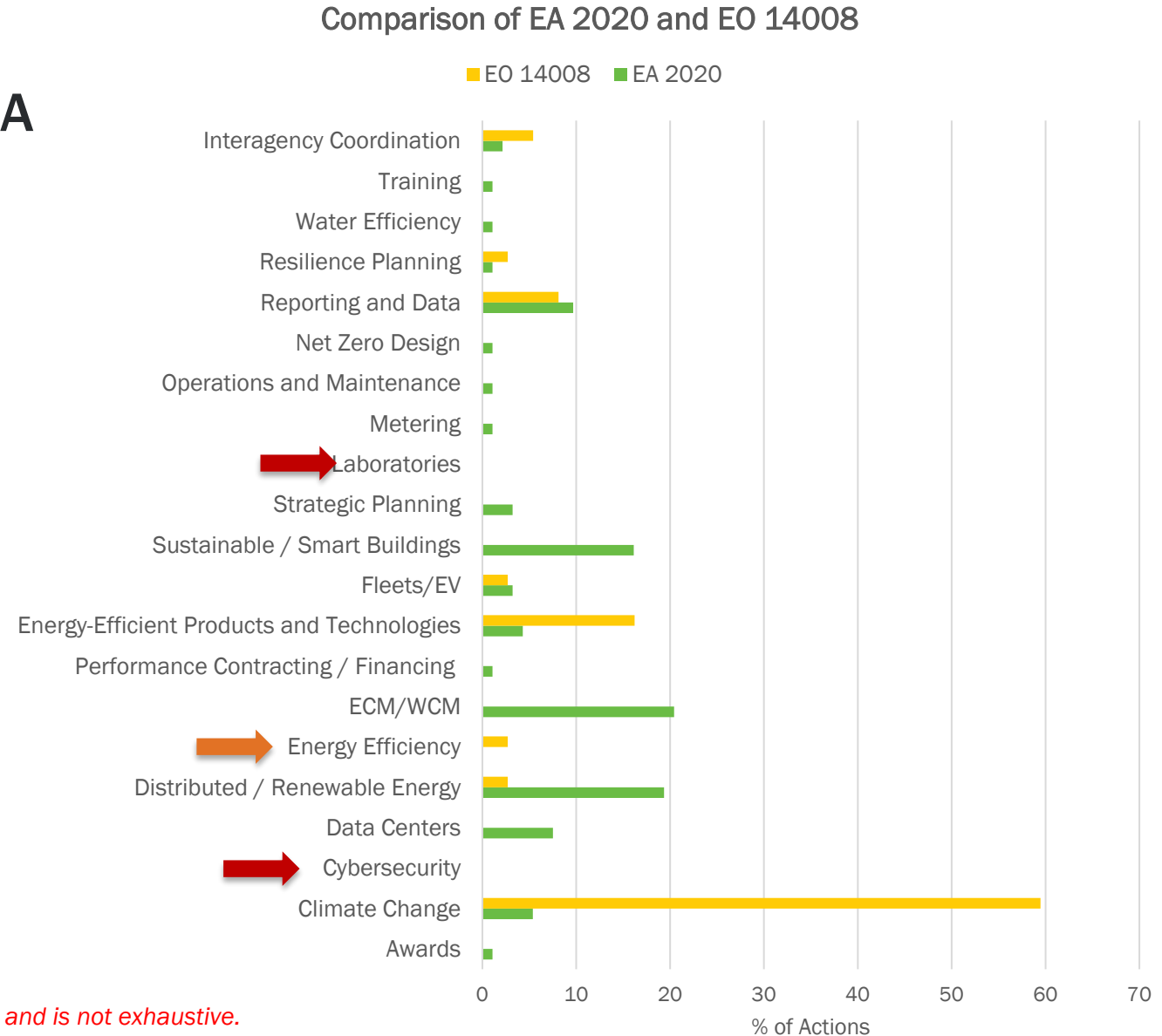
This section focuses on R&D into technologies required to integrate renewable energy systems and electric vehicles into the grid. While the focus is not primarily on implementation at federal facilities, the report that the DOE Secretary must deliver about electric vehicles requires an assessment of the feasibility of adopting EV integration technologies at DOE facilities.

- DOE Secretary shall submit a report to Congress focused on integration of electric vehicles into the grid. This includes “an assessment of the feasibility of adopting technologies developed under the program established under subsection (a) at Department facilities”

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Comparison of topics included in EA 2020 and EO 14008

- Emphasis of EO 14008 is on **Climate Change**, whereas relevant actions of EA 2020 for FEMP are more evenly distributed
- Areas where both EA 2020 and EO 14008 focus include:
 - Interagency Coordination
 - Resilience Planning
 - Reporting and Data*
 - Fleet/EVs
 - Energy-Efficient Products and Technologies*
 - Distributed/Renewable Energy
 - Climate Change



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FEMP Guidance Documents & Resources – Status of Review and Next Actions

FEMP GUIDANCE/GUIDES	STATUS
1. Renewable Energy Guide	UNDER REVIEW TO ENSURE ALIGNMENT WITH EA 2020
2. Online Water Technical Resource Guide	
3. Update/Consolidate facility management guidance	
4. Benchmarking guidance	
5. Enhanced Planning Tools for Facility Evaluations	
6. Metering Guidance	
7. Guidance on Energy Management Information Systems (EMIS)	
8. Web-Based Fleet Guidance and Resource Center	