AMENDMENT TO THE RULES COMMITTEE PRINT
FOR H.R. 8
OFFERED BY MR. WELCH OF VERMONT

In chapter 1 of subtitle A of title IV, add at the end
the following new section:

SEC. 1111. SMART BUILDING ACCELERATION.

(a) DEFINITIONS.—In this section:

(1) INTERNET OF THINGS TECHNOLOGY SOLUTION.—The term “internet of things technology solution” means a solution that improves energy efficiency and predictive maintenance through cutting-edge technologies that utilize internet connected technologies including sensors, intelligent gateways, and security embedded hardware.

(2) PROGRAM.—The term “program” means the Federal Smart Building Program established under subsection (b)(1).

(3) SMART BUILDING.—The term “smart building” means a building, or collection of buildings, with an energy system that—

(A) is flexible and automated;

(B) has extensive operational monitoring and communication connectivity, allowing re-
mote monitoring and analysis of all building functions;

(C) takes a systems-based approach in integrating the overall building operations for control of energy generation, consumption, and storage;

(D) communicates with utilities and other third-party commercial entities, if appropriate; and

(E) is cybersecure.

(4) SMART BUILDING ACCELERATOR.—The term “smart building accelerator” means an initiative that is designed to demonstrate specific innovative policies and approaches—

(A) with clear goals and a clear timeline; and

(B) that, on successful demonstration, would accelerate investment in energy efficiency.

(b) FEDERAL SMART BUILDING PROGRAM.—

(1) ESTABLISHMENT.—Not later than 1 year after the date of enactment of this Act, the Secretary shall establish a program to be known as the “Federal Smart Building Program”—
(A) to implement smart building technology; and

(B) to demonstrate the costs and benefits of smart buildings.

(2) SELECTION.—

(A) IN GENERAL.—The Secretary of Energy shall coordinate the selection of not fewer than 1 building from among each of several key Federal agencies, as described in paragraph (4), to compose an appropriately diverse set of smart buildings based on size, type, and geographic location.

(B) INCLUSION OF COMMERCIALLY OPERATED BUILDINGS.—In making selections under subparagraph (A), the Secretary may include buildings that are owned by the Federal Government but are commercially operated.

(3) TARGETS.—Not later than 18 months after the date of enactment of this Act, the Secretary shall establish targets for the number of smart buildings to be commissioned and evaluated by key Federal agencies by 3 years and 6 years after the date of enactment of this Act.
(4) **FEDERAL AGENCY DESCRIBED.**—The key Federal agencies referred to in this subsection shall include buildings operated by—

(A) the Department of the Army;
(B) the Department of the Navy;
(C) the Department of the Air Force;
(D) the Department of Energy;
(E) the Department of the Interior;
(F) the Department of Veterans Affairs;
and
(G) the General Services Administration.

(5) **REQUIREMENT.**—In implementing the program, the Secretary shall leverage existing financing mechanisms including energy savings performance contracts, utility energy service contracts, and annual appropriations.

(6) **EVALUATION.**—Using the guidelines of the Federal Energy Management Program relating to whole-building evaluation, measurement, and verification, the Secretary shall evaluate the costs and benefits of the buildings selected under paragraph (2), including an identification of—

(A) which advanced building technologies—

(i) are most cost-effective; and
(ii) show the most promise for—

(I) increasing building energy savings;

(II) increasing service performance to building occupants;

(III) reducing environmental impacts; and

(IV) establishing cybersecurity;

and

(B) any other information the Secretary determines to be appropriate.

(7) AWARDS.—The Secretary may expand awards made under the Federal Energy Management Program and the Better Building Challenge to recognize specific agency achievements in accelerating the adoption of smart building technologies.

(e) SURVEY OF PRIVATE SECTOR SMART BUILDINGS.—

(1) SURVEY.—The Secretary shall conduct a survey of privately owned smart buildings throughout the United States, including commercial buildings, laboratory facilities, hospitals, multifamily residential buildings, and buildings owned by nonprofit organizations and institutions of higher education.
(2) SELECTION.—From among the smart buildings surveyed under paragraph (1), the Secretary shall select not fewer than 1 building each from an appropriate range of building sizes, types, and geographic locations.

(3) EVALUATION.—Using the guidelines of the Federal Energy Management Program relating to whole-building evaluation, measurement, and verification, the Secretary shall evaluate the costs and benefits of the buildings selected under paragraph (2), including an identification of—

(A) which advanced building technologies and systems—

(i) are most cost-effective; and

(ii) show the most promise for—

(I) increasing building energy savings;

(II) increasing service performance to building occupants;

(III) reducing environmental impacts; and

(IV) establishing cybersecurity;

and

(B) any other information the Secretary determines to be appropriate.
(d) Leverage Existing Programs.—

(1) Better Building Challenge.—As part of the Better Building Challenge of the Department of Energy, the Secretary, in consultation with major private sector property owners, shall develop smart building accelerators to demonstrate innovative policies and approaches that will accelerate the transition to smart buildings in the public, institutional, and commercial buildings sectors.

(2) Research and Development.—

(A) In General.—The Secretary shall conduct research and development to address key barriers to the integration of advanced building technologies and to accelerate the transition to smart buildings.

(B) Inclusion.—The research and development conducted under subparagraph (A) shall include research and development on—

(i) achieving whole-building, systems-level efficiency through smart system and component integration;

(ii) improving physical components, such as sensors and controls, to be adaptive, anticipatory, and networked;
(iii) integration of internet of things technology solutions, including measures to increase water and energy efficiency, improve water quality, support real-time utility management, and enable actionable analytics and predictive maintenance to improve building systems long-term viability;

(iv) reducing the cost of key components to accelerate the adoption of smart building technologies;

(v) data management, including the capture and analysis of data and the interoperability of the energy systems;

(vi) protecting against cybersecurity threats and addressing security vulnerabilities of building systems or equipment;

(vii) business models, including how business models may limit the adoption of smart building technologies and how to support transactive energy;

(viii) integration and application of combined heat and power systems and energy storage for resiliency;
(ix) characterization of buildings and components;

(x) consumer and utility protections;

(xi) continuous management, including the challenges of managing multiple energy systems and optimizing systems for disparate stakeholders; and

(xii) other areas of research and development, as determined appropriate by the Secretary.

(e) REPORT.—Not later than 2 years after the date of enactment of this Act, and every 2 years thereafter until a total of 3 reports have been made, the Secretary shall submit to the Committee on Energy and Natural Resources of the Senate and the Committee on Energy and Commerce of the House of Representatives a report on—

(1) the establishment of the Federal Smart Building Program and the evaluation of Federal smart buildings under subsection (b);

(2) the survey and evaluation of private sector smart buildings under subsection (c); and

(3) any recommendations of the Secretary to further accelerate the transition to smart buildings.