



U.S. SENATE COMMITTEE ON
**ENERGY &
NATURAL RESOURCES**

SENATOR MARIA CANTWELL, *Ranking Member*

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S. 2447, the Smart Building Acceleration Act By Sen. Maria Cantwell (D-Wash.)

The building sector uses more than 40 percent of the energy of the nation, but it has traditionally been challenging to increase energy efficiency in this sector for two reasons. First, buildings are designed to stand for decades, and individual owners have little incentive to make energy efficiency improvements that yield benefits beyond their often short period of ownership. Second, builders and building owners often pass on the energy costs to the building buyer or their tenants, so owners have little incentive to make energy efficiency improvements to reduce energy costs. However, emerging energy monitoring and control technologies are enabling a transition of the building sector to “smart” buildings that have dramatically reduced energy use and improved quality of service to occupants. The purpose of this bill is to accelerate the transition to smart buildings by supporting research and by documenting the costs and benefits of emerging technologies in private-sector and federal government buildings.

Survey and Evaluation of Privately-Owned Smart Buildings. This bill requires the Secretary of Energy to conduct a survey of privately-owned smart buildings across the nation, including commercial buildings, laboratory facilities, hospitals, multi-family residences, and buildings owned by nonprofit organizations and institutions of higher education. The Secretary shall then select at least one building each from an appropriate range of building sizes and types surveyed. These buildings will be evaluated by the Secretary for costs and benefits, and an assessment of which advanced building technologies are the most cost-effective and show the most promise for increasing building energy savings, increasing service performance to the buildings’ occupants, safeguarding cybersecurity, and reducing environmental impacts.

Federal Building Costs and Benefits Demonstration Program. The Secretary will establish a program to implement smart building technology at one or more buildings under each of several federal agencies to demonstrate the costs and benefits of smart buildings and evaluate the cost and benefits of these buildings.

Smart Building Acceleration Demonstration Program. Under the umbrella of DOE’s Better Buildings Challenge, the Secretary will develop, in consultation with private-sector property owners, a smart building accelerator to demonstrate policies and approaches that accelerate the transition to smart, commercial buildings.

Research on Transitioning to Smart Buildings. The bill also requires the Secretary to conduct research and development focused on eliminating barriers to the integration of advanced building technologies and accelerating the transition to smart buildings. The bill includes a list of required research areas, such as optimal integration of systems throughout the whole building, physical components, reducing the cost of key components, improving data management, and protecting against cybersecurity threats, etc. The Secretary will provide a report to Congress that both summarizes the findings of the survey and the private-sector evaluations, and provides recommendations on how to accelerate the transition to smart buildings.
