# H.R. 4017, the Smart Energy Act

*Introduced by Reps. Bass (NH), Matheson (UT), Welch (VT), Barrow (GA), Dold (IL), and Fitzpatrick (PA)*

## TITLE I: FEDERAL ENERGY USE AND GENERATION

**SECTION 101. Utilizing Energy Savings Performance Contracts.**
Requires the use of Energy Savings Performance Contracts (ESPC) by federal agencies utilizing private sector financing. ESPCs allow federal agencies to accomplish energy savings projects without up-front capital costs and without special Congressional appropriations.

- ESPCs are contracts between a federal agency and an energy service company (ESCO) to perform a comprehensive energy audit for the federal facility and identify improvements to save energy. In consultation with the federal agency, the ESCO designs and constructs a project that meets the agency's needs and arranges the necessary funding. The ESCO guarantees that the improvements will generate energy cost savings sufficient to pay for the project over the term of the contract. After the contract ends, all additional cost savings accrue to the agency.

**SECTION 102. Demand response programs.**
Requires federal agencies to participate in demand response programs offered by electric utilities, Independent System Operators, Regional Transmission Organizations, and demand response aggregators.

- Demand response programs help to reduce energy costs and help to maintain system integrity by encouraging electricity ratepayers to lower energy use during peak times of electricity demand.

**SECTION 103. Federal data center consolidation.**
Requires federal agencies and the Office of Management and Budget to assess data center consolidation plans and complete missing elements in their respective data center inventories.

- The U.S. government currently spends approximately $76 billion a year on information technology (IT), with $20 billion of that spent on hardware, software, and file servers. Federal IT operations are currently distributed among roughly 2,100 data centers. Under an existing consolidation initiative, the goal is to reduce this number to approximately 1,100 data centers by 2015. This provision expands on the Government Accountability Office's recommendations to ensure goals and savings are met.

**SECTION 104. Adoption of personal computer power savings techniques by federal agencies.**
Requires the issuance of guidance for federal agencies to use computing tools that promote energy savings through the use of computer hardware, energy efficiency software, and power management tools.

- A typical desktop computer can use, on average, anywhere from $40-70 worth of energy each year. Multiplied by the hundreds of thousands of computers in use across the federal government, having efficiency plans in place will save taxpayer dollars.

**SECTION 105. Best practices for advanced metering.**
Calls for the Department of Energy to prepare a "best practices" report for the use of advanced metering of energy use in facilities, buildings, and equipment by federal agencies.

- Advanced metering provides real time data of electricity usage, resulting in the ability to use electricity more efficiently. Combined with other technologies such as "smart" thermostats, these systems can detect high-cost periods and automatically decrease electricity usage until a lower-cost period arrives.

**SECTION 106. Federal energy management and data collection standard.**
Requires the use of web-based tracking systems to certify compliance with the requirements for energy and water evaluations, the implementation of identified energy and water measures, and the publishing of consumption data on an individual facility basis.

- In total, the federal government spends $7 billion annually to heat, cool, and operate its 445,000 buildings. It is vital we have an efficient method of tracking energy savings across the federal government.

## TITLE II: PROVIDING OPPORTUNITIES FOR ENERGY EFFICIENCY IN BUSINESS AND INDUSTRY

**SECTION 201. Loan program for energy efficiency upgrades to existing buildings.**

- Utilizing an existing loan program, eligibility is expanded to establish the Building Retrofit Financing Program to implement innovative and advanced projects designed to allow for the installation and implementation of efficiency, advanced metering, distributed generation, or renewable energy technologies in federal buildings. Qualified projects would include commercial, multi-family residential, industrial, municipal, and government facilities, as well as schools and hospitals.

**SECTION 202. Coordination of research and development of energy efficient technologies for industry.**

- Capitalizes on research and development within the Department of Energy to promote the development of early-stage energy efficiency technologies and the use of innovative manufacturing process and research to move toward demonstrations and eventual commercialization.

**SECTION 203. Combined heat and power and waste heat recovery.**
Requires the Secretary of Energy to develop a strategic plan to double the production of electricity from combined heat and power and waste heat recovery in the United States to at least 170 gigawatts by 2020.

- Combined heat and power and waste heat recovery technologies are aimed at maximizing the energy potential and use of both mechanical power and thermal energy. In its most general form, combined heat and power and waste heat recovery systems capture energy produced during electricity generation to heat additional buildings and use industrial waste heat as a fuel source to generate electricity, respectively. According to the Pew Clean Energy Program, each year America's utilities and factories send enough heat up their chimneys to power all of Japan.