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H.R. 589 — Department of Energy Research and Innovation Act (Rep. Smith, R-TX)

CONTACT: [Jennifer Weinhart](#), 202-226-0706

FLOOR SCHEDULE:

To be considered on under a suspension of the rules on January 24, 2017, which requires 2/3 majority for passage.

TOPLINE SUMMARY:

[H.R. 589](#) would provide policy direction for Department of Energy (DOE) research programs concerning basic science, nuclear energy, and research coordination. This bill would include text from seven previously passed House bills.

Title I would include text similar to the [Department of Energy Lab Modernization and Technology Transfer Act](#) (H.R. 1158 in the 114th Congress). It would improve technology transfer to the private sector, and would address the [Agreements for Commercialization Technology](#) pilot program.

Title II would address the Department of Energy's research coordination efforts, and would include text similar to the energy titles of the House-passed [America COMPETES](#) reauthorization (passed as H.R. 1806 in the 114th Congress).

Title III would address the Department of Energy Office of Science Policy, and would include text similar to four previously passed House bills including the [Solar Fuels Innovation Act](#) (H.R. 5638 in the 114th Congress), which would authorize a Solar Fuels Basic Research Initiative. It would also include text similar to the [Electricity Storage Innovation Act](#) (H.R. 5640 in the 114th Congress), to provide for the establishment at the DOE of an electricity storage basic research initiative.

It would also include text similar to the [American Super Computing Leadership Act](#) (H.R. 874 in the 114th Congress), to promote the development of software and hardware for high-end computing systems.

Title III would further include text similar to the previously passed [Low Dose Radiation Research Act](#) (H.R. 35 in the 114th Congress), which would require the Director of the Department of Energy's Office of Science to carry out a research program on low-dose radiation to enhance the scientific understanding of and reduce uncertainties associated with the effects of exposure to low-dose radiation in order to inform improved risk-management methods.

Title IV would include text similar to the previously passed [Nuclear Energy Innovation Capabilities Act](#) (H.R. 4084 in the 114th Congress), to revise the purposes of the civilian nuclear energy research, development, demonstration, and commercial application programs of the U.S. Department of Energy.

COST:

A Congressional Budget Office (CBO) estimate is not available.

Rule 28(a)(1) of the Rules of the Republican Conference prohibit measures from being scheduled for consideration under suspension of the rules without an accompanying cost estimate. Rule 28(b) provides that the cost estimate requirement may be waived by a majority of the Elected Leadership.

According to information provided courtesy of the Majority Leader's office, CBO preliminarily estimates that the bill would not affect direct spending or revenues.

CONSERVATIVE VIEWS:

Some conservatives may be concerned that several pieces of this legislation authorize a number of new research initiatives within existing programs at the Department of Energy. While the legislation does not include any authorizations for appropriations, its reforms are only effective to the extent that the programs continue to receive funding despite being unauthorized, a practice in violation of clause 2(a)(1) or rule XXI of the Rules of the House and that many conservatives have long opposed.

Some conservatives may believe that the underlying research initiatives addressed by the bill are not within the appropriate scope of the federal government, and would be better left to the private sector. Many conservative Members have supported appropriation amendments to eliminate some or all of the funding for applied research programs, which compose roughly 25% of this bill. However, some conservatives will support the bills shifting of the focus of DOE programs more towards basic research and away from predominately commercialization activities. Further, according to Science, Space and Technology Committee Chairman Smith: "While the Department of Energy Research and Innovation Act would provide basic research-focused direction, good government guidance, and disciplined policy limitations on existing, ongoing DOE programs, nothing in the legislation prevents or precludes the future reduction or termination of any DOE program as no funding is authorized by the legislation."

- **Expand the Size and Scope of the Federal Government?** The bill would authorize several new research initiatives and awards within existing programs of the Department of Energy.
- **Encroach into State or Local Authority?** No.
- **Delegate Any Legislative Authority to the Executive Branch?** No.
- **Contain Earmarks/Limited Tax Benefits/Limited Tariff Benefits?** No.

DETAILED SUMMARY AND ANALYSIS:

Title I

Title I would permit the directors of the National Laboratories to use authorized funds to support technology transfer at the DOE to carry out early stage technology demonstration activities, to encourage private sector interest, and highlight commercial applications of research.

Title I includes a sense of Congress that clean energy innovation would be beneficial to U.S. energy security and environmental goals. It would also address the restoration of the Laboratory Directed Research and Development Program, ensuring that operating contractors do not allocate general and administrative costs to laboratory directed research and development. It would require the Secretary of the Energy to establish a public database with a listing of unclassified research and development contracts, grants, agreements, task orders, or other transactions.

Title I would require the secretary to submit a report to Congress on any recommended policy changes, and any legislative changes to section 1001 of the Energy Policy Act of 2005 ([42 U.S.C. 16391](#)), to improve technology transfer to the private sector.

Title I would direct the secretary to carry out the [Agreements for Commercialization Technology](#) pilot program as previously announced on December 8, 2011. Eligible contractors for the relevant National Laboratories would be given increased authority to negotiate contract terms, and would give directors of National Laboratories the ability to enter into agreements with non-federal entities. Directors would be required to submit summaries, cost estimates, and documentation to the secretary. Directors must verify that activities carried out are not in competition with the private sector, and do not represent conflicts of interest. The title would also require the submission of a report to Congress.

Finally, Title I address the Short-Term Cost-Share Pilot Program, and would exempt institutes of higher education and other non-profit institutions from the requirement that at least 20 percent of research and development costs be provided by a non-federal source. It would require the DOE to submit reports to Congress on cost-sharing waivers.

The RSC legislative bulletin on similar provisions contained in H.R. 1158 in the 114th Congress can be found [here](#).

Title II

Title II would protect certain types of information collected by the Advanced Research Projects Agency – Energy (ARPA-E) program. It would further require the Department of Energy to identify opportunities for collaborative research and development and any commercial application of science and technologies. It would require the DOE to try to leverage existing programs and to coordinate and consolidate activities when possible to promote collaboration. It would require the DOE to prioritize activities that use domestic resources and to develop a framework for setting long term strategic goals. DOE would be required to develop a strategic research portfolio analysis and coordination plan, so that the DOE periodically reviews the science and technology activities of the department, looking at national needs.

Title II would also authorize Energy Innovation Hubs, to enhance the economic, environmental and energy security through the United States. These awards would be given to those that establish and operate Hubs, to support and conduct collaborative research and development. Awards would be given for not more than five years, subject to the availability of appropriations.

Title II would require the Secretary of Energy to submit a report to Congress for FY18, on a strategy for facilities and infrastructure supported by the Office of Science, the Office of Energy Efficiency and Renewable Energy, the Office of Fossil Energy, or the Office of Nuclear Energy, Science and Technology Programs at all National Laboratories and single-purpose research facilities.

The RSC legislative bulletin on similar provisions contained in H.R. 1806 in the 114th Congress can be found [here](#).

Title III

Title III would address the Department of Energy Office of Science Policy. It would largely include similar text to four previously passed House bills.

It would require the Director of the Office of Science Policy to provide competitive awards to multi-institutional collaborations to conduct energy research to accelerate scientific breakthroughs. Institutions would be permitted to collaborate on awards granted. Energy Frontier Research Centers

already supported may continue to receive support for four years following the date of the center's establishment. This title would permit the director to carry out a program for developing, constructing, operating and maintaining national energy sciences user facilities to improve American competitiveness.

Title III would require the secretary to carry out the Solar Fuels Research Initiative to expand knowledge of photochemistry, electrochemistry, biochemistry, and materials science relevant to solar fuels systems. It would require the secretary to organize activities into multidisciplinary teams, using expertise from National Laboratories, universities, and the private sector. It would require the Secretary of Energy to use the expertise provided by the Office of Science and Office of Energy Efficiency and Renewable Energy in order to carry out early research and development activities. It would also require the secretary to carry out programs to support research relevant to artificial photosynthetic systems and the need to replicate natural photosynthetic processes artificially.

Title III would further require the secretary to carry out the Electricity Storage Basic Research Initiative to support research and advanced scientific knowledge pertaining to experimental electricity storage systems. It would require the secretary to organize activities into multidisciplinary teams, using expertise from National Laboratories, universities, and the private sector. It would require the secretary to leverage the expertise provided by the Office of Science and Office of Energy Efficiency and Renewable Energy in order to carry out early research and development activities. It would require the Secretary to carry out programs to support the study of multivalent ion materials in electric energy storage systems, electrochemistry modeling and simulation, and mesoscale electrochemistry.

Title III would additionally require the Department of Energy to develop at least two National Laboratory-industry-university partnerships to conduct integrated research for exascale computers. The term "exascale" is defined as a computing system performance at or near 10^{18} floating point operations per second. It would require the secretary to conduct mission-related codesign activities in developing the exascale computing systems, and to develop necessary advancements in hardware and software technology, and provide competitive access for researchers to the exascale computing systems. This title would require several reports to Congress, including on integration of applications, funding, and on a review of the project.

Title III would ensure international collaboration at the most advanced accelerator facilities, including the Large Hadron Collider, ensuring that U.S. researchers have access. It would also require the DOE to carry out research activities on rare decay processes and the neutrino, and on dark energy and dark matter, in a collaborative process. It would require the Director of the Office of Science to carry out research and development activities in systems biology, to increase the understanding of complex biological systems. It would prevent the director from approving new climate-science related initiatives, unless they are well coordinated, with relevant work carried out by other federal agencies.

Title III would require the director to carry out a research program on low-dose radiation. It would also require the director, in coordination with the Assistant Secretary for Nuclear Energy, to carry out a research program studying materials that can endure the neutron, plasma, and heat fluxes expected in a fusion power system, and the need for one or more facilities to examine and test fusion and next generation fission materials. It would require the director to support research and development activities to optimize the tokamak approach to fusion and for inertial fusion for energy applications. It would require the director to support research activities at institutes of higher

education, national labs, or at private facilities for a portfolio of alternative and enabling fusion energy concepts. It would further require the Office of Science to coordinate with ARPA-E.

Title III would permit the director to carry out a program for the production of isotopes, ensuring any production activities do not compete with private industry, unless it is critically in the nation's interest. It would also require the director to carry out a program to improve the safety, efficiency, and readiness of infrastructure at laboratories of the Office of Science.

The RSC legislative bulletin on similar provisions contained in H.R. 5638, H.R. 5640, and H.R. 35 in the 114th Congress can be found [here](#), [here](#), and [here](#).

Title IV

Title IV would address nuclear energy innovation capabilities. It would emphasize a necessity for providing research infrastructure to enable academics, staff from National Laboratories, and private sector individuals to make discoveries relevant to nuclear, chemical, and materials science engineering. It would clarify objectives to emphasize enabling the private sector and the National Laboratories to work together to demonstrate novel reactor concepts.

Title IV would direct the Department of Energy to establish a program to enhance American ability to produce new reactor technologies using high-performance computation modeling and simulation techniques, in coordination with relevant federal agencies through the National Strategic Computing Initiative, and would require the Department of Energy to determine the mission need for and prioritize a versatile reactor-based fast neutron source, which will be established as a national user facility by December 31, 2025, and to give a plan to Congress in order to establish the facility.

It would authorize a program that will enable the private sector to construct and operate privately-funded nuclear reactor concepts, and to leverage the technical expertise of federal agencies and laboratories to minimize the time it will take to enable the operation and construction of experimental reactors funded by private sources at national laboratories or at DOE-owned sites. The reactors would be required to operate to enable physical validation of reactor concepts, resolve technical uncertainty, increase practical knowledge, and generate research and development to improve new and emerging technologies. It would require a report to Congress on the DOE's ability to authorize and oversee these experimental reactors.

Title IV would require the Department of Energy to submit 2 alternate 10-year budget plans for civilian nuclear energy research and development to Congress.

The RSC legislative bulletin on similar provisions contained in H.R. 4084 in the 114th Congress can be found [here](#).

COMMITTEE ACTION:

H.R. 589 was introduced on January 20, 2017, and was referred to the House Committee on Science, Space, and Technology.

ADMINISTRATION POSITION:

A Statement of Administration Policy is not available.

CONSTITUTIONAL AUTHORITY:

Congress has the power to enact this legislation pursuant to the following: “Congress has the power to enact this legislation pursuant to the following: Article I, Section 8, Clause 18. No specific enumerating clause granting authority to implement research activities was included.”

H.R. 600 — Digital GAP Act (Rep. Royce, R-CA)

CONTACT: [Nicholas Rodman](#), 202-226-8576

FLOOR SCHEDULE:

Scheduled for consideration on January 24, 2017 under suspension of the rules, which requires 2/3 vote for passage.

TOPLINE SUMMARY:

[H.R. 600](#) the Digital Global Access Policy Act, would codify the Department of State's efforts to encourage developing countries to improve mobile and fixed access to the internet.

COST:

No Congressional Budget Office (CBO) estimate is available.

Rule 28(a)(1) of the Rules of the Republican Conference prohibit measures from being scheduled for consideration under suspension of the rules without an accompanying cost estimate. Rule 28(b) provides that the cost estimate requirement may be waived by a majority of the Elected Leadership.

CBO [estimated](#) that implementing H.R. 5537, passed in the 114th Congress and similar to H.R. 600, would cost less than \$500,000 over the 2017-2021 period; such spending would be subject to the availability of appropriated funds.

CONSERVATIVE CONCERNS:

Some conservatives may feel that supporting international development of internet technology is not an appropriate function of the U.S. government or use of domestic taxpayer funds. Other conservatives may highlight the value of international assistance to promote American values and interests abroad through programs assisting developing nations to improve unrestricted and easy access to the internet, especially in autocratic regimes.

- **Expand the Size and Scope of the Federal Government?** No.
- **Encroach into State or Local Authority?** No.
- **Delegate Any Legislative Authority to the Executive Branch?** No.
- **Contain Earmarks/Limited Tax Benefits/Limited Tariff Benefits?** No.

DETAILED SUMMARY AND ANALYSIS:

H.R. 600 would express a statement of policy that it is the policy of the United States to partner and coordinate with the governments of foreign countries, international organizations, regional economic communities, businesses, civil society, and other stakeholders in a concerted effort to close the digital gap by promoting: (1) first-time Internet access to mobile or broadband Internet for at least 1.5 billion people in developing countries by 2020 in both urban and rural areas; (2) Internet deployment and related coordination, capacity building, and build-once policies and approaches in developing countries, including actions to encourage standardization of build-once policies and approaches for the inclusion of broadband conduit in rights-of-way projects that are funded, co-funded, or partially financed by the United States or any international organization that includes the United States as a member, in consultation with telecommunications providers, unless a cost-benefit analysis determines that the cost of such approach outweighs the benefits; (3) policy changes that encourage first-time affordable access to the Internet in developing countries, including actions to

encourage integration of universal and gender-equitable Internet access goals, to be informed by the collection of related gender disaggregated data, and Internet tools into national development plans and United States Government country-level development strategies; (4) the removal of tax and regulatory barriers to Internet access; (5) the use of the Internet to increase economic growth and trade; (6) use of the Internet to bolster democracy, government accountability, transparency, and human rights, including through the establishments of policies, initiatives, and investments; (7) Internet access and inclusion into Internet policymaking for women, people with disabilities, minorities, low-income and marginalized groups, and underserved populations; (8) cybersecurity and data protection; and (9) inter-agency coordination and cooperation across all executive branch agencies regarding the construction and promotion of Internet initiatives as a greater part of United States foreign policy.

The President should direct United States representatives to appropriate international bodies to use the influence of the United States, consistent with the broad development goals of the United States, to advocate that each such body commit to increase efforts and coordination to promote affordable and gender-equitable Internet access, and integrate affordable and gender-equitable Internet access data into existing economic and business assessments, evaluations, and indexes.

The bill would express a sense of Congress that the Secretary of State should redesignate an existing Assistant Secretary position to be the Assistant Secretary for Cyberspace to lead the Department of State's diplomatic cyberspace policy generally, including for cybersecurity, internet access, internet freedom, and to promote an open, secure, and reliable information and communications technology infrastructure. The Secretary of State would be required to: (1) update existing training programs relevant to policy discussions; (2) promote the recruitment of candidates with technical expertise into the Civil Service and the Foreign Service; and (3) work to improve inter-agency coordination and cooperation on cybersecurity and Internet initiatives. To offset any costs incurred by the Department of State to carry out the designation of an Assistant Secretary for Cyberspace, the Secretary of State would be directed to eliminate such positions within the Department of State. The redesignation of the Assistant Secretary position would not be construed as increasing the number of Assistant Secretary positions at the Department of State above the current authorized level of 24.

H.R. 600 would express a sense of Congress that the Administrator of the United States Agency for International Development should: (1) integrate efforts to expand internet access, develop appropriate technologies, and enhance digital literacy into the education, development, and economic growth programs of the agency; (2) expand the utilization of information and communications technologies in humanitarian aid and disaster relief responses and United States operations involving stabilization and security; (3) establish and promote guidelines for the protection of personal information of individuals served by humanitarian, disaster, and development programs directly through the United States government, through contracts funded by the United States government and by international organizations.

The bill would also express a sense of Congress that access to technology can transform agriculture, community economic development, education, environment, health, and youth development which are the sectors in which Peace Corps currently develops positions for volunteers, and that the Peace Corps should develop positions for volunteers that are focused on leveraging technology for development, education, and social and economic mobility.

The bill would further require that the President submit plans to Congress to promote partnerships by United States development agencies, as well as a report on efforts to implement the policy and a discussion of the plans and existing efforts by the United States government in developing countries.

H.R. 600 contains similar language to [H.R. 5537](#) which passed the House in the 114th Congress by voice vote on September 7, 2016. The RSC's legislative bulletin for H.R. 5537 can be found [here](#).

COMMITTEE ACTION:

H.R. 600 was introduced on January 23, 2017 and was referred to the House Committee on Foreign Affairs.

ADMINISTRATION POSITION:

A Statement of Administration Policy is not available.

CONSTITUTIONAL AUTHORITY:

According to the sponsor: "Congress has the power to enact this legislation pursuant to the following: Article I, section 8 of the Constitution of the United States of America." No enumerating clause was listed.

H.R. 601 — READ Act (Rep. Lowey, D-NY)

CONTACT: [Nicholas Rodman](#), 202-226-8576

FLOOR SCHEDULE:

Scheduled for consideration on January 24, 2017 under suspension of the rules, which requires 2/3 vote for passage.

TOPLINE SUMMARY:

[H.R. 601](#) would require the U.S. Agency for International Development (USAID) to develop a comprehensive U.S. strategy to promote quality universal basic education, and designate a Senior Coordinator of United States Government Actions to Provide Basic Education Assistance.

COST:

No Congressional Budget Office (CBO) estimate is available.

Rule 28(a)(1) of the Rules of the Republican Conference prohibit measures from being scheduled for consideration under suspension of the rules without an accompanying cost estimate. Rule 28(b) provides that the cost estimate requirement may be waived by a majority of the Elected Leadership.

CBO [estimated](#) that implementing H.R. 4481, passed in the 114th Congress and similar to H.R. 601, would cost less than \$500,000 each year and total \$1 million over the 2017-2021 period; such spending would be subject to the availability of appropriated funds.

CONSERVATIVE CONCERNS:

Some conservatives may feel that supporting international basic education is not an appropriate function of the U.S. government or use of domestic taxpayer funds. Other conservatives may highlight the value of international assistance to promote American values and interests abroad through programs assisting developing nations to improve equitable access to education.

- **Expand the Size and Scope of the Federal Government?** No.
- **Encroach into State or Local Authority?** No.
- **Delegate Any Legislative Authority to the Executive Branch?** No.
- **Contain Earmarks/Limited Tax Benefits/Limited Tariff Benefits?** No.

DETAILED SUMMARY AND ANALYSIS:

H.R. 601 would amend section 105 of the Foreign Assistance Act of 1961 ([22 U.S.C. 2151c](#)) to state that it shall be the policy of the United States to work with partner countries and other donors to promote sustainable, quality basic education through programs and activities that: (1) take into consideration and help respond to the needs, capacities, and commitment of developing countries to achieve measurable improvements in literacy, numeracy, and other basic skills development that prepare an individual to be an active, productive member of society and the workforce; (2) strengthen educational systems, promote communities of learning, expand access to safe learning environments, including by breaking down specific barriers to basic education for women and girls, ensure continuity of education, including in conflict settings, measurably improve teacher skills and learning outcomes, and support the engagement of parents in the education of their children to help partner countries ensure that all children, including marginalized children and other vulnerable groups, have access to and benefit from quality basic education; (3) promote education as a

foundation for sustained economic growth and development within a comprehensive assistance strategy that places partner countries on a trajectory toward graduation from assistance with clearly defined benchmarks of success that are used as requirements for related procurement vehicles, such as grants; and (4) monitor and evaluate the effectiveness and quality of basic education programs in partner countries.

Not later than October 1, 2017, the president would be directed to submit a comprehensive United States strategy to Congress to be carried out during fiscal years 2018 through 2022 to promote quality basic education in partner countries. The strategy would be mandated to: (1) prioritize assistance to countries that are partners of the United States and whose populations are most in need of improved basic education; (2) build the capacity of relevant actors in partner countries, including in government and in civil society, to develop and implement national education plans that measurably improve basic education; (3) to identify and replicate successful interventions that improve access to and quality of basic education in conflict settings and in partner countries; (4) to project general levels of resources needed to achieve stated program objectives; (5) to develop means to track implementation in partner countries and ensure that such countries are expending appropriate domestic resources and instituting any relevant legal regulatory, or institutional reforms needed to achieve stated program objectives; (6) to leverage United States capabilities, including through technical assistance, training, and research; and (7) to improve coordination and reduce duplication among relevant Executive branch agencies and officials, other donors, multilateral institutions, nongovernmental organizations, and governments in partner countries.

The bill would establish within USAID, a Senior Coordinator of United States International Basic Education Assistance to oversee and coordinate all resources and activities of the United States government relating to the promotion of international basic education programs and activities. To offset any costs incurred by USAID to carry out the establishment and appointment of a Senior Coordinator of United States International Basic Education Assistance, the president would be directed to eliminate such positions within the agency.

The president would be directed to ensure that programs carried out under the strategy shall apply rigorous monitoring and evaluation methodologies to focus on learning and accountability, include methodological guidance, and include funding for both short- and long-term monitoring and evaluation to enable assessment of the sustainability and scalability of assistance programs, as well as additional specified criteria.

H.R. 601 contains similar language to [H.R. 4481](#) which passed the House in the 114th Congress by voice vote on September 7, 2016. The RSC's legislative bulletin for H.R. 4481 can be found [here](#).

COMMITTEE ACTION:

H.R. 601 was introduced on January 23, 2017 and was referred to the House Committee on Foreign Affairs.

ADMINISTRATION POSITION:

A Statement of Administration Policy is not available.

CONSTITUTIONAL AUTHORITY:

According to the sponsor: Congress has the power to enact this legislation pursuant to the following: Article I." No enumerating section and clause were listed.

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