real reform ideas or any other amendments, leaving this legislation unlikely to do anything to change the incentives facing decision-makers and will not end the perpetual funding of failing Federal programs.

As has been made perfectly clear to the ruling liberal Democrat leadership, many are concerned that although there's no cost estimate available for this version of the bill, it authorizes $75 million over 5 years to establish agency performance officers and interagency councils, but does not contain an effective means to consolidate or eliminate ineffective programs at each agency. If you add the 17,800 employees that the food safety bill is contemplating and then the new employees that will be required under the GPRA bill, we are adding to the number of Federal employees. But we should be decreasing the number of Federal employees.

I want to talk a minute about what has happened in terms of Federal employees since the Democrats took over the Congress. In 2007, there were a total of 1,832,000 executive branch employees and in the civilian agencies there were 1,173,000. In 2010, it goes to 2,148,000 and 1,428,000. Federal employment has grown by a remarkable 17 percent since 2007, to an estimated 2.1 million nonmilitary full-time workers. This is the largest workforce since 1992.

Also, Mr. Speaker, according to a recent analysis by USA Today, total compensation for Federal workers has risen 37 percent over 10 years, after inflation, compared to 8.8 percent for private workers. Federal workers earned an average compensation of $123,000 in 2009—double the private average of $61,000.

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Mr. Speaker, our country cannot afford this expansion of the Federal Government. We need to be reducing the Federal Government, not expanding it.

I would like to say further this version of the bill does not contain an amendment considered in committee markup by Republican Representative SCHOCK and supported by Democrat Congressmen COOPER and QUIGLEY that would have established a more thorough process for evaluating agency performance and eliminating programs that failed performance standards, were found to be duplicative or determined to be unnecessary.

H.R. 2142 mandates the creation of several new government-wide and agency-specific management plans. However, it does not—does not—increase executive accountability for failing programs.

Mr. Speaker, again, this bill is going in the wrong direction. What it does is it allows agencies to design their performance plans and then to measure their own results, using their own performance indicators. Rather than requiring agencies to focus on achieving measurable outcomes, the bill makes the creation of outcome-oriented performance measures optional. This would be like, Mr. Speaker, letting students set the criteria for getting their own grades, and we all know that doesn't work very well.

Strangely enough, also in the process, the bill directs agencies to ''identify low-priority program activities,'' which is ridiculous because, even if agencies had an incentive to label their own programs as ''low priority,'' they do not. This begs the question of why such programs are funded at all.

Mr. Speaker, the evidence is in. The liberal Democrat agenda has failed. They need to go back to the drawing board and come back to the American people with real solutions to their real problems. This isn't the time to dither and blame the Republican minority for the disappointing collapse of governance we have seen since the liberal majority seized control of Congress in 2007.

I urge my colleagues to take this opportunity to force the ruling liberal Democrats to rethink their misguided proposals by rejecting this rule and the underlying legislation and by protesting the liberal agenda that continues to distract from private-sector job creation and from getting the economy back on its feet.

I yield back the balance of my time.

Mr. MCGOVERN. I yield myself the balance of my time.

Mr. Speaker, oh, my goodness. There are a lot of things that come before the Members of this body that, I think, are worth getting all worked up about and that, I think, sometimes understandably lead to partisan bickering; but as to what we are talking about here today, to me and to, I think, most people who are watching, this should be fairly noncontroversial.

What we are talking about is a rule that will allow us to consider three bills. One is called the America COMPETES Reauthorization Act of 2010.

What does this radical bill do?

It authorizes funding increases for the National Science Foundation, the National Institutes for Science and Technology, and the Department of Energy's Office of Science for fiscal years 2010–2013, on a path toward increasing substantially our investment in research and development over the next 10 years. It is not even an appropriation. It is an authorization.

So the Appropriations Committee next year can work their will and decide whether to invest more in science so that we can compete in this global economy, or will we not invest in science and actually do what some of my friends on the other side of the aisle will tell you about taking a meat ax to these programs, you know, and putting ourselves at a competitive disadvantage?

This is a bill about supporting and expanding American energy technology so we are not so reliant on foreign oil and so we don't go to war over oil. It is a national security issue, but this somehow is a controversial bill. This should pass easily.

The other bill that is so radical, according to my colleague on the Republican side of the aisle, is called the Government Efficiency, Effectiveness, and Performance Improvement Act.

What does this bill do?

It basically says to agencies and departments, look, you need to work to come up with a plan to prevent unnecessary and wasteful spending and to help eliminate Federal Government waste by working with us to help us find where those wasteful areas are.

Now, this is what is causing such consternation on the other side of the aisle? I mean, rather than just taking a meat ax and saying an arbitrary percentage cut across the board, what this bill says is let's think about what we're doing. Maybe we can cut 5 percent; maybe we can cut 10 percent; maybe we can cut even more.

Well, let's do this in a sensible way where we don't adversely impact services that directly impact the American people for the good. Let's have a plan. Let's just not do this senselessly. Let's do this sensibly. Somehow, this radical, awful bill has caused all this noise by my colleague on the other side of the aisle.

The final bill is the Food Safety Modernization Act. Mr. Speaker, as I said earlier—and it's worth repeating—in this country, literally 76 million Americans on a yearly basis are sickened by contaminated food that they digest—76 million Americans a year. More than 300,000 of them end up going to hospitals on a yearly basis, and 5,000 die.

So what is this Congress trying to do?

We are trying to find a way to protect consumers, and my colleague on the other side of the aisle is all upset about it. Oh, boy. What a terrible, awful idea to protect the health and well-being of the citizens of this country by updating our food safety rules and regulations, which haven't been updated in almost 30 years.

Come on. I mean let's move forward with this rule. Let's consider these bills. I am sure they all will pass.

With that, Mr. Speaker, I urge a ''yes'' vote on the previous question and on the rule.

I yield back the balance of my time, and I move the previous question on the resolution.

The previous question was ordered.

The resolution was agreed to.

A motion to reconsider was laid on the table.

AMERICA COMPETES REAUTHORIZATION ACT OF 2010

Mr. GORDON of Tennessee. Mr. Speaker, pursuant to House Resolution 1781, I call up the bill (H.R. 5116) to invest in innovation through research and development, to improve the competitiveness of the United States, and for other purposes, with the Senate amendment thereto, and I have a motion at the desk.

The Clerk read the title of the bill.

The SPEAKER pro tempore. The Clerk will designate the Senate amendment:

The text of the Senate amendment is as follows:

Senate amendment:

Strike out all after the enacting clause and insert:

SECTION 1. SHORT TITLE; TABLE OF CONTENTS.

(a) SHORT TITLE.—this Act may be cited as the ''America COMPETES Reauthorization Act of 2010'' or the ''America Creating Opportunities to Meaningfully Promote Excellence in Technology, Education, and Science Reauthorization Act of 2010''.

(b) TABLE OF CONTENTS.—The table of contents for this Act is as follows:

Sec. 1. Short title; table of contents.
Sec. 2. Definitions.
Sec. 3. Budgetary impact statement.

TITLE I—OFFICE OF SCIENCE AND TECHNOLOGY POLICY

Sec. 101. Coordination of Federal STEM education.
Sec. 102. Coordination of advanced manufacturing research and development.
Sec. 103. Interagency public access committee.
Sec. 104. Federal scientific collections.
Sec. 105. Prize competitions.

TITLE II—NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

Sec. 201. NASA's contribution to innovation and competitiveness.
Sec. 202. NASA's contribution to education.
Sec. 203. Assessment of impediments to space science and engineering workforce development for minority and under-represented groups at NASA.
Sec. 204. International Space Station's contribution to national competitiveness enhancement.
Sec. 205. Study of potential commercial orbital platform program impact on Science, Technology, Engineering, and Mathematics.
Sec. 206. Definitions.

TITLE III—NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION

Sec. 301. Oceanic and atmospheric research and development program.
Sec. 302. Oceanic and atmospheric science education programs.
Sec. 303. Workforce study.

TITLE IV—NATIONAL INSTITUTE OF STANDARDS AND TECHNOLOGY

Sec. 401. Short title.
Sec. 402. Authorization of appropriations.
Sec. 403. Under Secretary of Commerce for Standards and Technology.
Sec. 404. Manufacturing Extension Partnership.
Sec. 405. Emergency communication and tracking technologies research initiative.
Sec. 406. Broadening participation.
Sec. 407. NIST Fellowships.
Sec. 408. Green manufacturing and construction.
Sec. 409. Definitions.

TITLE V—SCIENCE, TECHNOLOGY, ENGINEERING, AND MATHEMATICS SUPPORT PROGRAMS

SUBTITLE A—NATIONAL SCIENCE FOUNDATION

Sec. 501. Short title.
Sec. 502. Definitions.
Sec. 503. Authorization of appropriations.
Sec. 504. National Science Board administrative amendments.
Sec. 505. National Center for Science and Engineering statistics.
Sec. 506. National Science Foundation manufacturing research and education.
Sec. 507. National Science Board report on mid-scale instrumentation.
Sec. 508. Partnerships for innovation.
Sec. 509. Sustainable chemistry basic research.
Sec. 510. Graduate student support.
Sec. 511. Robert Noyce teacher scholarship program.
Sec. 512. Undergraduate broadening participation program.
Sec. 513. Research experiences for high school students.
Sec. 514. Research experiences for undergraduates.
Sec. 515. STEM industry internship programs.
Sec. 516. Cyber-enabled learning for national challenges.
Sec. 517. Experimental Program to Stimulate Competitive Research.
Sec. 518. Sense of the Congress regarding the science, technology, engineering, and mathematics talent expansion program.
Sec. 519. Sense of the Congress regarding the National Science Foundation's contributions to basic research and education.
Sec. 520. Academic technology transfer and commercialization of university research.
Sec. 521. Study to develop improved impact-on-society metrics.
Sec. 522. NSF grants in support of sponsored post-doctoral fellowship programs.
Sec. 523. Collaboration in planning for stewardship of large-scale facilities.
Sec. 524. Cloud computing research enhancement.
Sec. 525. Tribal colleges and universities program.
Sec. 526. Broader impacts review criterion.
Sec. 527. Twenty-first century graduate education.

SUBTITLE B—STEM-TRAINING GRANT PROGRAM

Sec. 551. Purpose.
Sec. 552. Program requirements.
Sec. 553. Grant program.
Sec. 554. Grant oversight and administration.
Sec. 555. Definitions.
Sec. 556. Authorization of appropriations.

TITLE VI—INNOVATION

Sec. 601. Office of innovation and entrepreneurship.
Sec. 602. Federal loan guarantees for innovative technologies in manufacturing.
Sec. 603. Regional innovation program.
Sec. 604. Study on economic competitiveness and innovative capacity of United States and development of national economic competitiveness strategy.
Sec. 605. Promoting use of high-end computing simulation and modeling by small- and medium-sized manufacturers.

TITLE VII—NIST GREEN JOBS

Sec. 701. Short title.
Sec. 702. Findings.
Sec. 703. National Institute of Standards and Technology competitive grant program.

TITLE VIII—GENERAL PROVISIONS

Sec. 801. Government Accountability Office review.
Sec. 802. Salary restrictions.
Sec. 803. Additional research authorities of the FCC.

TITLE IX—DEPARTMENT OF ENERGY

Sec. 901. Science, engineering, and mathematics education programs.
Sec. 902. Energy research programs.
Sec. 903. Basic research.
Sec. 904. Advanced Research Project Agency-Energy.

TITLE X—EDUCATION

Sec. 1001. References
Sec. 1002. Repeals and conforming amendments.
Sec. 1003. Authorizations of appropriations and matching requirement.

SEC. 2. DEFINITIONS.

In this Act:

(1) DIRECTOR.—In title I, the term ''Director'' means the Director of the Office of Science and Technology Policy.

(2) STEM.—The term ''STEM'' means the academic and professional disciplines of science, technology, engineering, and mathematics.

SEC. 3. BUDGETARY IMPACT STATEMENT.

The budgetary effects of this Act, for the purpose of complying with the Statutory Pay-As-You-Go-Act of 2010, shall be determined by reference to the latest statement titled ''Budgetary Effects of PAYGO Legislation'' for this Act, submitted for printing in the Congressional Record by the Chairman of the Senate Budget Committee, provided that such statement has been submitted prior to the vote on passage.

TITLE I—OFFICE OF SCIENCE AND TECHNOLOGY POLICY

SEC. 101. COORDINATION OF FEDERAL STEM EDUCATION.

(a) ESTABLISHMENT.—The Director shall establish a committee under the National Science and Technology Council, including the Office of Management and Budget, with the responsibility to coordinate Federal programs and activities in support of STEM education, including at the National Science Foundation, the Department of Energy, the National Aeronautics and Space Administration, the National Oceanic and Atmospheric Administration, the Department of Education, and all other Federal agencies that have programs and activities in support of STEM education.

(b) RESPONSIBILITIES.—The committee established under subsection (a) shall—

(1) coordinate the STEM education activities and programs of the Federal agencies;

(2) coordinate STEM education activities and programs with the Office of Management and Budget;

(3) encourage the teaching of innovation and entrepreneurship as part of STEM education activities;

(4) review STEM education activities and programs to ensure they are not duplicative of similar efforts within the Federal government;

(5) develop, implement through the participating agencies, and update once every 5 years a 5-year STEM education strategic plan, which shall—

(A) specify and prioritize annual and long-term objectives;

(B) specify the common metrics that will be used to assess progress toward achieving the objectives;

(C) describe the approaches that will be taken by each participating agency to assess the effectiveness of its STEM education programs and activities; and

(D) with respect to subparagraph (A), describe the role of each agency in supporting programs and activities designed to achieve the objectives; and

(6) establish, periodically update, and maintain an inventory of federally sponsored STEM education programs and activities, including documentation of assessments of the effectiveness of such programs and activities and rates of participation by women, underrepresented minorities, and persons in rural areas in such programs and activities.

(b) RESPONSIBILITIES OF OSTP.—The Director shall encourage and monitor the efforts of the participating agencies to ensure that the strategic plan under subsection (b)(5) is developed and executed effectively and that the objectives of the strategic plan are met.

(c) REPORT.—The Director shall transmit a report annually to Congress at the time of the President's budget request describing the plan required under subsection (b)(5). The annual report shall include—

(1) a description of the STEM education programs and activities for the previous and current fiscal years, and the proposed programs and activities under the President's budget request, of each participating Federal agency;

(2) the levels of funding for each participating Federal agency for the programs and activities described under paragraph (1) for the previous fiscal year and under the President's budget request;

(3) an evaluation of the levels of duplication and fragmentation of the programs and activities described under paragraph (1);

(4) except for the initial annual report, a description of the progress made in carrying out the implementation plan, including a description of the outcome of any program assessments completed in the previous year, and any changes made to that plan since the previous annual report; and

(5) a description of how the participating Federal agencies will disseminate information about federally supported resources for STEM education practitioners, including teacher professional development programs, to States and to STEM education practitioners, including to teachers and administrators in schools that meet the criteria described in subsection (c)(1)(A) and (B) of section 3175 of the Department of Energy Science Education Enhancement Act (42 U.S.C. 7381j(c)(1)(A) and (B)).

SEC. 102. COORDINATION OF ADVANCED MANUFACTURING RESEARCH AND DEVELOPMENT.

(a) INTERAGENCY COMMITTEE.—The Director shall establish or designate a Committee on Technology under the National Science and Technology Council. The Committee shall be responsible for planning and coordinating Federal programs and activities in advanced manufacturing research and development.

(b) RESPONSIBILITIES OF COMMITTEE.—The Committee shall—

(1) coordinate the advanced manufacturing research and development programs and activities of the Federal agencies;

(2) establish goals and priorities for advanced manufacturing research and development that will strengthen United States manufacturing;

(3) work with industry organizations, Federal agencies, and Federally Funded Research and Development Centers not represented on the Committee, to identify and reduce regulatory, logistical, and fiscal barriers within the Federal government and State governments that inhibit United States manufacturing;

(4) facilitate the transfer of intellectual property and technology based on federally supported university research into commercialization and manufacturing;

(5) identify technological, market, or business challenges that may best be addressed by public-private partnerships, and are likely to attract both participation and primary funding from industry;

(6) encourage the formation of public-private partnerships to respond to those challenges for transition to United States manufacturing; and

(7) develop, and update every 5 years, a strategic plan to guide Federal programs and activities in support of advanced manufacturing research and development, which shall—

(A) specify and prioritize near-term and long-term research and development objectives, the anticipated time frame for achieving the objectives, and the metrics for use in assessing progress toward the objectives;

(B) specify the role of each Federal agency in carrying out or sponsoring research and development to meet the objectives of the strategic plan;

(C) describe how the Federal agencies and Federally Funded Research and Development Centers supporting advanced manufacturing research and development will foster the transfer of research and development results into new manufacturing technologies and United States based manufacturing of new products and processes for the benefit of society to ensure national, energy, and economic security;

(D) describe how Federal agencies and Federally Funded Research and Development Centers supporting advanced manufacturing research and development will strengthen all levels of manufacturing education and training programs to ensure an adequate, well-trained workforce;

(E) describe how the Federal agencies and Federally Funded Research and Development Centers supporting advanced manufacturing research and development will assist small- and medium-sized manufacturers in developing and implementing new products and processes; and

(F) take into consideration the recommendations of a wide range of stakeholders, including representatives from diverse manufacturing companies, academia, and other relevant organizations and institutions.

(c) REPORT.—Not later than 1 year after the date of enactment of this Act, the Director shall transmit the strategic plan developed under subsection (b)(7) to the Senate Committee on Commerce, Science, and Transportation, and the House of Representatives Committee on Science and Technology, and shall transmit subsequent updates to those committees as appropriate.

SEC. 103. INTERAGENCY PUBLIC ACCESS COMMITTEE.

(a) ESTABLISHMENT.—The Director shall establish a working group under the National Science and Technology Council with the responsibility to coordinate Federal science agency research and policies related to the dissemination and long-term stewardship of the results of unclassified research, including digital data and peer-reviewed scholarly publications, supported wholly, or in part, by funding from the Federal science agencies.

(b) RESPONSIBILITIES.—The working group shall—

(1) identify the specific objectives and public interests that need to be addressed by any policies coordinated under (a);

(2) take into account inherent variability among Federal science agencies and scientific disciplines in the nature of research, types of data, and dissemination models;

(3) coordinate the development or designation of standards for research data, the structure of full text and metadata, navigation tools, and other applications to maximize interoperability across Federal science agencies, across science and engineering disciplines, and between research data and scholarly publications, taking into account existing consensus standards, including international standards;

(4) coordinate Federal science agency programs and activities that support research and education on tools and systems required to ensure preservation and stewardship of all forms of digital research data, including scholarly publications;

(5) work with international science and technology counterparts to maximize interoperability between United States based unclassified research databases and international databases and repositories;

(6) solicit input and recommendations from, and collaborate with, non-Federal stakeholders, including the public, universities, nonprofit and for-profit publishers, libraries, federally funded and non federally funded research scientists, and other organizations and institutions with a stake in long term preservation and access to the results of federally funded research;

(7) establish priorities for coordinating the development of any Federal science agency policies related to public access to the results of federally funded research to maximize the benefits of such policies with respect to their potential economic or other impact on the science and engineering enterprise and the stakeholders thereof;

(8) take into consideration the distinction between scholarly publications and digital data;

(9) take into consideration the role that scientific publishers play in the peer review process in ensuring the integrity of the record of scientific research, including the investments and added value that they make; and

(10) examine Federal agency practices and procedures for providing research reports to the agencies charged with locating and preserving unclassified research.

(c) PATENT OR COPYRIGHT LAW.—Nothing in this section shall be construed to undermine any right under the provisions of title 17 or 35, United States Code.

(d) APPLICATION WITH EXISTING LAW.—Nothing defined in section (b) shall be construed to affect existing law with respect to Federal science agencies' policies related to public access.

(e) REPORT TO CONGRESS.—Not later than 1 year after the date of enactment of this Act, the Director shall transmit a report to Congress describing—

(1) the specific objectives and public interest identified under (b)(1);

(2) any priorities established under subsection (b)(7);

(3) the impact the policies described under (a) have had on the science and engineering enterprise and the stakeholders, including the financial impact on research budgets;

(4) the status of any Federal science agency policies related to public access to the results of federally funded research; and

(5) how any policies developed or being developed by Federal science agencies, as described in subsection (a), incorporate input from the non-Federal stakeholders described in subsection (b)(6).

(f) FEDERAL SCIENCE AGENCY DEFINED.—For the purposes of this section, the term ''Federal science agency'' means any Federal agency with an annual extramural research expenditure of over $100,000,000.

SEC. 104. FEDERAL SCIENTIFIC COLLECTIONS.

(a) MANAGEMENT OF SCIENTIFIC COLLECTIONS.—The Office of Science and Technology Policy shall develop policies for the management and use of Federal scientific collections to improve the quality, organization, access, including online access, and long-term preservation of such collections for the benefit of the scientific enterprise. In developing those policies the Office of Science and Technology Policy shall consult, as appropriate, with—

(1) Federal agencies with such collections; and

(2) representatives of other organizations, institutions, and other entities not a part of the Federal Government that have a stake in the preservation, maintenance, and accessibility of such collections, including State and local government agencies, institutions of higher education, museums, and other entities engaged in the acquisition, holding, management, or use of scientific collections.

(b) CLEARINGHOUSE.—The Office of Science and Technology Policy, in consultation with relevant Federal agencies, shall ensure the development of an online clearinghouse for information on the contents of and access to Federal scientific collections.

(c) DISPOSAL OF COLLECTIONS.—The policies developed under subsection (a) shall—

(1) require that, before disposing of a scientific collection, a Federal agency shall—

(A) conduct a review of the research value of the collection; and

(B) consult with researchers who have used the collection, and other potentially interested parties, concerning—

(i) the collection's value for research purposes; and

(ii) possible additional educational uses for the collection; and

(2) include procedures for Federal agencies to transfer scientific collections they no longer need to researchers at institutions or other entities qualified to manage the collections.

(d) COST PROJECTIONS.—The Office of Science and Technology Policy, in consultation with

relevant Federal agencies, shall develop a common set of methodologies to be used by Federal agencies for the assessment and projection of costs associated with the management and preservation of their scientific collections.

(e) SCIENTIFIC COLLECTION DEFINED.—In this section, the term ''scientific collection'' means a set of physical specimens, living or inanimate, created for the purpose of supporting science and serving as a long-term research asset, rather than for their market value as collectibles or their historical, artistic, or cultural significance, and, as appropriate and feasible, the associated specimen data and materials.

SEC. 105. PRIZE COMPETITIONS.

(a) IN GENERAL.—The Stevenson-Wydler Technology Innovation Act of 1980 (15 U.S.C. 3701 et seq.) is amended by adding at the end the following:

''SEC. 24. PRIZE COMPETITIONS.

''(a) DEFINITIONS.—In this section:

''(1) AGENCY.—The term 'agency' means a Federal agency.

''(2) DIRECTOR.—The term 'Director' means the Director of the Office of Science and Technology Policy.

''(3) FEDERAL AGENCY.—The term 'Federal agency' has the meaning given under section 4, except that term shall not include any agency of the legislative branch of the Federal Government.

''(4) HEAD OF AN AGENCY.—The term 'head of an agency' means the head of a Federal agency.

''(b) IN GENERAL.—Each head of an agency, or the heads of multiple agencies in cooperation, may carry out a program to award prizes competitively to stimulate innovation that has the potential to advance the mission of the respective agency.

''(c) PRIZES.—For purposes of this section, a prize may be one or more of the following:

''(1) A point solution prize that rewards and spurs the development of solutions for a particular, well-defined problem.

''(2) An exposition prize that helps identify and promote a broad range of ideas and practices that may not otherwise attract attention, facilitating further development of the idea or practice by third parties.

''(3) Participation prizes that create value during and after the competition by encouraging contestants to change their behavior or develop new skills that may have beneficial effects during and after the competition.

''(4) Such other types of prizes as each head of an agency considers appropriate to stimulate innovation that has the potential to advance the mission of the respective agency.

''(d) TOPICS.—In selecting topics for prize competitions, the head of an agency shall consult widely both within and outside the Federal Government, and may empanel advisory committees.

''(e) ADVERTISING.—The head of an agency shall widely advertise each prize competition to encourage broad participation.

''(f) REQUIREMENTS AND REGISTRATION.—For each prize competition, the head of an agency shall publish a notice in the Federal Register announcing—

''(1) the subject of the competition;

''(2) the rules for being eligible to participate in the competition;

''(3) the process for participants to register for the competition;

''(4) the amount of the prize; and

''(5) the basis on which a winner will be selected.

''(g) ELIGIBILITY.—To be eligible to win a prize under this section, an individual or entity—

''(1) shall have registered to participate in the competition under any rules promulgated by the head of an agency under subsection (f);

''(2) shall have complied with all the requirements under this section;

''(3) in the case of a private entity, shall be incorporated in and maintain a primary place of business in the United States, and in the case of an individual, whether participating singly or in a group, shall be a citizen or permanent resident of the United States; and

''(4) may not be a Federal entity or Federal employee acting within the scope of their employment.

''(h) CONSULTATION WITH FEDERAL EMPLOYEES.—An individual or entity shall not be deemed ineligible under subsection (g) because the individual or entity used Federal facilities or consulted with Federal employees during a competition if the facilities and employees are made available to all individuals and entities participating in the competition on an equitable basis.

''(i) LIABILITY.—

''(1) IN GENERAL.—

''(A) DEFINITION.—In this paragraph, the term 'related entity' means a contractor or subcontractor at any tier, and a supplier, user, customer, cooperating party, grantee, investigator, or detailee.

''(B) LIABILITY.—Registered participants shall be required to agree to assume any and all risks and waive claims against the Federal Government and its related entities, except in the case of willful misconduct, for any injury, death, damage, or loss of property, revenue, or profits, whether direct, indirect, or consequential, arising from their participation in a competition, whether the injury, death, damage, or loss arises through negligence or otherwise.

''(2) INSURANCE.—Participants shall be required to obtain liability insurance or demonstrate financial responsibility, in amounts determined by the head of an agency, for claims by—

''(A) a third party for death, bodily injury, or property damage, or loss resulting from an activity carried out in connection with participation in a competition, with the Federal Government named as an additional insured under the registered participant's insurance policy and registered participants agreeing to indemnify the Federal Government against third party claims for damages arising from or related to competition activities; and

''(B) the Federal Government for damage or loss to Government property resulting from such an activity.

''(3) EXCEPTION.—The head of an agency may not require a participant to waive claims against the administering entity arising out of the unauthorized use or disclosure by the agency of the intellectual property, trade secrets, or confidential business information of the participant.

''(j) INTELLECTUAL PROPERTY.—

''(1) PROHIBITION ON THE GOVERNMENT ACQUIRING INTELLECTUAL PROPERTY RIGHTS.—The Federal Government may not gain an interest in intellectual property developed by a participant in a competition without the written consent of the participant.

''(2) LICENSES.—The Federal Government may negotiate a license for the use of intellectual property developed by a participant for a competition.

''(k) JUDGES.—

''(1) IN GENERAL.—For each competition, the head of an agency, either directly or through an agreement under subsection (l), shall appoint one or more qualified judges to select the winner or winners of the prize competition on the basis described under subsection (f). Judges for each competition may include individuals from outside the agency, including from the private sector.

''(2) RESTRICTIONS.—A judge may not—

''(A) have personal or financial interests in, or be an employee, officer, director, or agent of any entity that is a registered participant in a competition; or

''(B) have a familial or financial relationship with an individual who is a registered participant.

''(3) GUIDELINES.—The heads of agencies who carry out competitions under this section shall develop guidelines to ensure that the judges appointed for such competitions are fairly balanced and operate in a transparent manner.

''(4) EXEMPTION FROM FACA.—The Federal Advisory Committee Act (5 U.S.C. App.) shall not apply to any committee, board, commission, panel, task force, or similar entity, created solely for the purpose of judging prize competitions under this section.

''(l) ADMINISTERING THE COMPETITION.—The head of an agency may enter into an agreement with a private, nonprofit entity to administer a prize competition, subject to the provisions of this section.

''(m) FUNDING.—

''(1) IN GENERAL.—Support for a prize competition under this section, including financial support for the design and administration of a prize or funds for a monetary prize purse, may consist of Federal appropriated funds and funds provided by the private sector for such cash prizes. The head of an agency may accept funds from other Federal agencies to support such competitions. The head of an agency may not give any special consideration to any private sector entity in return for a donation.

''(2) AVAILABILITY OF FUNDS.—Notwithstanding any other provision of law, funds appropriated for prize awards under this section shall remain available until expended. No provision in this section permits obligation or payment of funds in violation of section 1341 of title 31, United States Code.

''(3) AMOUNT OF PRIZE.—

''(A) ANNOUNCEMENT.—No prize may be announced under subsection (f) until all the funds needed to pay out the announced amount of the prize have been appropriated or committed in writing by a private source.

''(B) INCREASE IN AMOUNT.—The head of an agency may increase the amount of a prize after an initial announcement is made under subsection (f) only if—

''(i) notice of the increase is provided in the same manner as the initial notice of the prize; and

''(ii) the funds needed to pay out the announced amount of the increase have been appropriated or committed in writing by a private source.

''(4) LIMITATION ON AMOUNT.—

''(A) NOTICE TO CONGRESS.—No prize competition under this section may offer a prize in an amount greater than $50,000,000 unless 30 days have elapsed after written notice has been transmitted to the Committee on Commerce, Science, and Transportation of the Senate and the Committee on Science and Technology of the House of Representatives.

''(B) APPROVAL OF HEAD OF AGENCY.—No prize competition under this section may result in the award of more than $1,000,000 in cash prizes without the approval of the head of an agency.

''(n) GENERAL SERVICE ADMINISTRATION ASSISTANCE.—Not later than 180 days after the date of the enactment of the America COMPETES Reauthorization Act of 2010, the General Services Administration shall provide government wide services to share best practices and assist agencies in developing guidelines for issuing prize competitions. The General Services Administration shall develop a contract vehicle to provide agencies access to relevant products and services, including technical assistance in structuring and conducting prize competitions to take maximum benefit of the marketplace as they identify and pursue prize competitions to further the policy objectives of the Federal Government.

''(o) COMPLIANCE WITH EXISTING LAW.—

''(1) IN GENERAL.— The Federal Government shall not, by virtue of offering or providing a prize under this section, be responsible for compliance by registered participants in a prize competition with Federal law, including licensing, export control, and nonproliferation laws, and related regulations.

''(2) OTHER PRIZE AUTHORITY.—Nothing in this section affects the prize authority authorized by any other provision of law.

''(p) ANNUAL REPORT.—

''(1) IN GENERAL.—Not later than March 1 of each year, the Director shall submit to the Committee on Commerce, Science, and Transportation of the Senate and the Committee on Science and Technology of the House of Representatives a report on the activities carried out during the preceding fiscal year under the authority in subsection (b).

''(2) INFORMATION INCLUDED.—The report for a fiscal year under this subsection shall include, for each prize competition under subsection (b), the following:

''(A) PROPOSED GOALS.—A description of the proposed goals of each prize competition.

''(B) PREFERABLE METHOD.—An analysis of why the utilization of the authority in subsection (b) was the preferable method of achieving the goals described in subparagraph (A) as opposed to other authorities available to the agency, such as contracts, grants, and cooperative agreements.

''(C) AMOUNT OF CASH PRIZES.—The total amount of cash prizes awarded for each prize competition, including a description of amount of private funds contributed to the program, the sources of such funds, and the manner in which the amounts of cash prizes awarded and claimed were allocated among the accounts of the agency for recording as obligations and expenditures.

''(D) SOLICITATIONS AND EVALUATION OF SUBMISSIONS.—The methods used for the solicitation and evaluation of submissions under each prize competition, together with an assessment of the effectiveness of such methods and lessons learned for future prize competitions.

''(E) RESOURCES.—A description of the resources, including personnel and funding, used in the execution of each prize competition together with a detailed description of the activities for which such resources were used and an accounting of how funding for execution was allocated among the accounts of the agency for recording as obligations and expenditures.

''(F) RESULTS.—A description of how each prize competition advanced the mission of the agency concerned.''.

(b) REPEAL OF SPACE ACT LIMITATION.—Section 314(a) of the National Aeronautics and Space Act of 1958 (42 U.S.C. 2459f–1 is amended by striking ''The Administration may carry out a program to award prizes only in conformity with this section.''.

TITLE II—NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

SEC. 201. NASA'S CONTRIBUTION TO INNOVATION AND COMPETITIVENESS.

It is the sense of Congress that a renewed emphasis on technology development would enhance current mission capabilities and enable future missions, while encouraging NASA, private industry, and academia to spur innovation. NASA's Innovative Partnership Program is a valuable mechanism to accelerate technology maturation and encourage the transfer of technology into the private sector.

SEC. 202. NASA'S CONTRIBUTION TO EDUCATION.

(a) SENSE OF CONGRESS.—It is the sense of Congress that NASA is uniquely positioned to interest students in science, technology, engineering, and mathematics, not only by the example it sets, but through its education programs.

(b) EDUCATIONAL PROGRAM GOALS.—NASA shall develop and maintain educational programs—

(1) to carry out and support research based programs and activities designed to increase student interest and participation in STEM, including students from minority and underrepresented groups;

(2) to improve public literacy in STEM;

(3) that employ proven strategies and methods for improving student learning and teaching in STEM;

(4) to provide curriculum support materials and other resources that—

(A) are designed to be integrated with comprehensive STEM education;

(B) are aligned with national science education standards;

(C) promote the adoption and implementation of high-quality education practices that build toward college and career-readiness; and

(5) to create and support opportunities for enhanced and ongoing professional development for teachers using best practices that improve the STEM content and knowledge of the teachers, including through programs linking STEM teachers with STEM educators at the higher education level.

SEC. 203. ASSESSMENT OF IMPEDIMENTS TO SPACE SCIENCE AND ENGINEERING WORKFORCE DEVELOPMENT FOR MINORITY AND UNDERREPRESENTED GROUPS AT NASA.

(a) ASSESSMENT.—The Administrator shall enter into an arrangement for an independent assessment of any impediments to space science and engineering workforce development for minority and underrepresented groups at NASA, including recommendations on—

(1) measures to address such impediments;

(2) opportunities for augmenting the impact of space science and engineering workforce development activities and for expanding proven, effective programs; and

(3) best practices and lessons learned, as identified through the assessment, to help maximize the effectiveness of existing and future programs to increase the participation of minority and underrepresented groups in the space science and engineering workforce at NASA.

(b) REPORT.—A report on the assessment carried out under subsection (a) shall be transmitted to the House of Representatives Committee on Science and Technology and the Senate Committee on Commerce, Science, and Transportation not later than 15 months after the date of enactment of this Act.

(c) IMPLEMENTATION.—To the extent practicable, the Administrator shall take all necessary steps to address any impediments identified in the assessment.

SEC. 204. INTERNATIONAL SPACE STATION'S CONTRIBUTION TO NATIONAL COMPETITIVENESS ENHANCEMENT.

(a) SENSE OF CONGRESS.—It is the sense of the Congress that the International Space Station represents a valuable and unique national asset which can be utilized to increase educational opportunities and scientific and technological innovation which will enhance the Nation's economic security and competitiveness in the global technology fields of endeavor. If the period for active utilization of the International Space Station is extended to at least the year 2020, the potential for such opportunities and innovation would be increased. Efforts should be made to fully realize that potential.

(b) EVALUATION AND ASSESSMENT OF NASA'S INTERAGENCY CONTRIBUTION.—Pursuant to the authority provided in title II of the America COMPETES Act (Public Law 110–69), the Administrator shall evaluate and, where possible, expand efforts to maximize NASA's contribution to interagency efforts to enhance science, technology, engineering, and mathematics education capabilities, and to enhance the Nation's technological excellence and global competitiveness. The Administrator shall identify these enhancements in the annual reports required by section 2001(e) of that Act (42 U.S.C. 16611a(e)).

(c) REPORT TO THE CONGRESS.—Within 120 days after the date of enactment of this Act, the Administrator shall provide to the House of Representatives Committee on Science and Technology and the Senate Committee on Commerce, Science, and Transportation a report on the assessment made pursuant to subsection (a). The report shall include—

(1) a description of current and potential activities associated with utilization of the International Space Station which are supportive of the goals of educational excellence and innovation and competitive enhancement established or reaffirmed by this Act, including a summary of the goals supported, the number of individuals or organizations participating in or benefiting from such activities, and a summary of how such activities might be expanded or improved upon;

(2) a description of government and private partnerships which are, or may be, established to effectively utilize the capabilities represented by the International Space Station to enhance United States competitiveness, innovation and science, technology, engineering, and mathematics education; and

(3) a summary of proposed actions or activities to be undertaken to ensure the maximum utilization of the International Space Station to contribute to fulfillment of the goals and objectives of this Act, and the identification of any additional authority, assets, or funding that would be required to support such activities.

SEC. 205. STUDY OF POTENTIAL COMMERCIAL ORBITAL PLATFORM PROGRAM IMPACT ON SCIENCE, TECHNOLOGY, ENGINEERING, AND MATHEMATICS.

(a) IN GENERAL.—Section 1003 of the National Aeronautics and Space Administration Authorization Act of 2010 (42 U.S.C. 18421) is amended to read as follows:

''SEC. 1003. STUDY OF POTENTIAL COMMERCIAL ORBITAL PLATFORM PROGRAM IMPACT ON SCIENCE, TECHNOLOGY, ENGINEERING, AND MATHEMATICS.

''A fundamental and unique capability of NASA is in stimulating science, technology, engineering, and mathematics education in the United States. In ensuring maximum use of that capability, the Administrator shall carry out a study to—

''(1) identify the benefits of and lessons learned from ongoing and previous NASA orbital student programs including, at a minimum, the Get Away Special (GAS) and Earth Knowledge Acquired by Middle School Students (EarthKAM) programs, on science, technology, engineering, and mathematics education;

''(2) assess the potential impacts on science, technology, engineering, and mathematics education of a program that would facilitate the development of scientific and educational payloads involving United States students and educators and the flights of those payloads on commercially available orbital platforms, when available and operational, with the goal of providing frequent and regular payload launches;

''(3) identify NASA expertise, such as NASA science, engineering, payload development, and payload operations, that could be made available to facilitate a science, technology, engineering, and mathematics program using commercial orbital platforms; and

''(4) identify the issues that would need to be addressed before NASA could properly assess the merits and feasibility of the program described in paragraph (2).''.

(c) EFFECTIVE DATE.—The amendment made by subsection (a) shall take effect on October 12, 2010.

SEC. 206. DEFINITIONS.

In this title:

(1) ADMINISTRATOR.—The term ''Administrator'' means the Administrator of NASA.

(2) NASA.—The term ''NASA'' means the National Aeronautics and Space Administration.

TITLE III—NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION

SEC. 301. OCEANIC AND ATMOSPHERIC RESEARCH AND DEVELOPMENT PROGRAM.

Section 4001 of the America COMPETES Act (33 U.S.C. 893) is amended—

(1) by inserting ''(a) IN GENERAL.—'' before ''The Administrator''; and

(2) by adding at the end the following:

''(b) OCEANIC AND ATMOSPHERIC RESEARCH AND DEVELOPMENT PROGRAM.—The Administrator shall implement programs and activities—

''(1) to identify emerging and innovative research and development priorities to enhance United States competitiveness, support development of new economic opportunities based on NOAA research, observations, monitoring modeling, and predictions that sustain ecosystem services;

''(2) to promote United States leadership in oceanic and atmospheric science and competitiveness in the applied uses of such knowledge, including for the development and expansion of economic opportunities; and

''(3) to advance ocean, coastal, Great Lakes, and atmospheric research and development, including potentially transformational research, in collaboration with other relevant Federal agencies, academic institutions, the private sector, and nongovernmental programs, consistent with NOAA's mission to understand, observe, and model the Earth's atmosphere and biosphere, including the oceans, in an integrated manner.

''(c) REPORT.—No later than 12 months after the date of enactment of the America COMPETES Reauthorization Act of 2010, the Administrator, in consultation with the National Science Foundation or other such agencies with mature transformational research portfolios, shall develop and submit a report to the Senate Committee on Commerce, Science, and Transportation and the House of Representatives Committee on Science and Technology that describes NOAA's strategy for enhancing transformational research in its research and development portfolio to increase United States competitiveness in oceanic and atmospheric science and technology. The report shall—

''(1) define 'transformational research';

''(2) identify emerging and innovative areas of research and development where transformational research has the potential to make significant and revolutionary –advancements in both understanding and U.S. science leadership;

''(3) describe how transformational research priorities are identified and appropriately –balanced in the context of NOAA's broader research portfolio;

''(4) describe NOAA's plan for developing a competitive peer review and priority-setting –process, funding mechanisms, performance and evaluation measures, and transition-to-operation guidelines for transformational research; and

''(5) describe partnerships with other agencies involved in transformational research.''.

SEC. 302. OCEANIC AND ATMOSPHERIC SCIENCE EDUCATION PROGRAMS.

Section 4002 of the America COMPETES Act (33 U.S.C. 893a) is amended—

(1) by striking ''the agency.'' in subsection (a) and inserting ''agency, with consideration given to the goal of promoting the participation of individuals from underrepresented groups in STEM fields and in promoting the acquisition and retention of highly qualified and motivated young scientists to complement and supplement workforce needs.'';

(2) by redesignating subsections (b) and (c) as subsections (c) and (d), respectively;

(3) by inserting after subsection (a) the following:

''(b) EDUCATIONAL PROGRAM GOALS.—The education programs developed by NOAA shall, to the extent applicable—

''(1) carry out and support research based programs and activities designed to increase student interest and participation in STEM;

''(2) improve public literacy in STEM;

''(3) employ proven strategies and methods for improving student learning and teaching in STEM;

''(4) provide curriculum support materials and other resources that—

''(A) are designed to be integrated with comprehensive STEM education;

''(B) are aligned with national science education standards; and

''(C) promote the adoption and implementation of high-quality education practices that build toward college and career-readiness; and

''(5) create and support opportunities for enhanced and ongoing professional development for teachers using best practices that improves the STEM content and knowledge of the teachers, including through programs linking STEM teachers with STEM educators at the higher education level.'';

(4) by striking ''develop'' in subsection (c), as redesignated, and inserting ''maintain''; and

(5) by adding at the end thereof the following:

''(e) STEM DEFINED.—In this section, the term 'STEM' means the academic and professional disciplines of science, technology, engineering, and mathematics.''.

SEC. 303. WORKFORCE STUDY.

(a) IN GENERAL.—The Secretary of Commerce, in cooperation with the Secretary of Education, shall request the National Academy of Sciences to conduct a study on the scientific workforce in the areas of oceanic and atmospheric research and development. The study shall investigate—

(1) whether there is a shortage in the number of individuals with advanced degrees in oceanic and atmospheric sciences who have the ability to conduct high quality scientific research in physical and chemical oceanography, meteorology, and atmospheric modeling, and related fields, for government, nonprofit, and private sector entities;

(2) what Federal programs are available to help facilitate the education of students hoping to pursue these degrees;

(3) barriers to transitioning highly qualified oceanic and atmospheric scientists into Federal civil service scientist career tracks;

(4) what institutions of higher education, the private sector, and the Congress could do to increase the number of individuals with such post baccalaureate degrees;

(5) the impact of an aging Federal scientist workforce on the ability of Federal agencies to conduct high quality scientific research; and

(6) what actions the Federal government can take to assist the transition of highly qualified scientists into Federal career scientist positions and ensure that the experiences of retiring Federal scientists are adequately documented and transferred prior to retirement from Federal service.

(b) COORDINATION.—The Secretary of Commerce and the Secretary of Education shall consult with the heads of other Federal agencies and departments with oceanic and atmospheric expertise or authority in preparing the specifications for the study.

(c) REPORT.—No later than 18 months after the date of enactment of this Act, the Secretary of Commerce and the Secretary of Education shall transmit a joint report to each committee of Congress with jurisdiction over the programs described in 4002(b) of the America COMPETES Act (33 U.S.C. 893a(b)), as amended by section 302 of this Act, detailing the findings and recommendations of the study and setting forth a prioritized plan to implement the recommendations.

(d) PROGRAM AND PLAN.—The Administrator of the National Oceanic and Atmospheric Administration shall evaluate the National Academy of Sciences study and develop a workforce program and plan to institutionalize the Administration's Federal science career pathways and address aging workforce issues. The program and plan shall be developed in consultation with the Administration's cooperative institutes and other academic partners to identify and implement programs and mechanisms to ensure that—

(1) sufficient highly qualified scientists are able to transition into Federal career scientist positions in the Administration's laboratories and programs; and

(2) the technical and management experiences of senior employees are documented and transferred before leaving Federal service.

TITLE IV—NATIONAL INSTITUTE OF STANDARDS AND TECHNOLOGY

SEC. 401. SHORT TITLE.

This title may be cited as the ''National Institute of Standards and Technology Authorization Act of 2010''.

SEC. 402. AUTHORIZATION OF APPROPRIATIONS.

(a) FISCAL YEAR 2011.—

(1) IN GENERAL.—There are authorized to be appropriated to the Secretary of Commerce $918,900,000 for the National Institute of Standards and Technology for fiscal year 2011.

(2) SPECIFIC ALLOCATIONS.—Of the amount authorized by paragraph (1)—

(A) $584,500,000 shall be authorized for scientific and technical research and services laboratory activities;

(B) $124,800,000 shall be authorized for the construction and maintenance of facilities; and

(C) $209,600,000 shall be authorized for industrial technology services activities, of which—

(i) $141,100,000 shall be authorized for the Manufacturing Extension Partnership program under sections 25 and 26 of such Act (15 U.S.C. 278k and 278l), of which not more than $5,000,000 shall be for the competitive grant program under section 25(f) of such Act; and

(ii) $10,000,000 shall be authorized for the Malcolm Baldrige National Quality Award program under section 17 of the Stevenson-Wydler Technology Innovation Act of 1980 (15 U.S.C. 3711a).

(b) FISCAL YEAR 2012.—

(1) IN GENERAL.—There are authorized to be appropriated to the Secretary of Commerce $970,800,000 for the National Institute of Standards and Technology for fiscal year 2012.

(2) SPECIFIC ALLOCATIONS.—Of the amount authorized by paragraph (1)—

(A) $661,100,000 shall be authorized for scientific and technical research and services laboratory activities;

(B) $84,900,000 shall be authorized for the construction and maintenance of facilities; and

(C) $224,800,000 shall be authorized for industrial technology services activities, of which—

(i) $155,100,000 shall be authorized for the Manufacturing Extension Partnership program under sections 25 and 26 of such Act (15 U.S.C. 278k and 278l), of which not more than $5,000,000 shall be for the competitive grant program under section 25(f) of such Act; and

(ii) $10,300,000 shall be authorized for the Malcolm Baldrige National Quality Award program under section 17 of the Stevenson-Wydler Technology Innovation Act of 1980 (15 U.S.C. 3711a).

(c) FISCAL YEAR 2013.—

(1) IN GENERAL.—There are authorized to be appropriated to the Secretary of Commerce $1,039,709,000 for the National Institute of Standards and Technology for fiscal year 2013.

(2) SPECIFIC ALLOCATIONS.—Of the amount authorized by paragraph (1)—

(A) $676,700,000 shall be authorized for scientific and technical research and services laboratory activities;

(B) $121,300,000 shall be authorized for the construction and maintenance of facilities; and

(C) $241,709,000 shall be authorized for industrial technology services activities, of which—

(i) $165,100,000 shall be authorized for the Manufacturing Extension Partnership program under sections 25 and 26 of such Act (15 U.S.C. 278k and 278l), of which not more than $5,000,000 shall be for the competitive grant program under section 25(f) of such Act; and

(ii) $10,609,000 shall be authorized for the Malcolm Baldrige National Quality Award program under section 17 of the Stevenson-Wydler Technology Innovation Act of 1980 (15 U.S.C. 3711a).

SEC. 403. UNDER SECRETARY OF COMMERCE FOR STANDARDS AND TECHNOLOGY.

(a) ESTABLISHMENT.—The National Institute of Standards and Technology Act is amended by inserting after section 3 the following:

"SEC. 4. UNDER SECRETARY OF COMMERCE FOR STANDARDS AND TECHNOLOGY.

''(a) ESTABLISHMENT.—There shall be in the Department of Commerce an Under Secretary of Commerce for Standards and Technology (in this section referred to as the 'Under Secretary').

''(b) APPOINTMENT.—The Under Secretary shall be appointed by the President by and with the advice and consent of the Senate.

''(c) COMPENSATION.—The Under Secretary shall be compensated at the rate in effect for level III of the Executive Schedule under section 5314 of title 5, United States Code.

''(d) DUTIES.—The Under Secretary shall serve as the Director of the Institute and shall perform such duties as required of the Director by the Secretary under this Act or by law.

''(e) APPLICABILITY.—The individual serving as the Director of the Institute on the date of enactment of the National Institute of Standards and Technology Authorization Act of 2010 shall also serve as the Under Secretary until such time as a successor is appointed under subsection (b).''.

(b) CONFORMING AMENDMENTS.—

(1) TITLE 5, UNITED STATES CODE.—

(A) LEVEL III.—Section 5314 of title 5, United States Code, is amended by inserting before the item ''Associate Attorney General'' the following:

''Under Secretary of Commerce for Standards and Technology, who also serves as Director of the National Institute of Standards and Technology.''.

(B) LEVEL IV.—Section 5315 of title 5, United States Code, is amended by striking ''Director, National Institute of Standards and Technology, Department of Commerce.''.

(2) NATIONAL INSTITUTE OF STANDARDS AND TECHNOLOGY ACT.—Section 5 of the National Institute of Standards and Technology Act (15 U.S.C. 274) is amended by striking the first, fifth, and sixth sentences.

SEC. 404. MANUFACTURING EXTENSION PARTNERSHIP.

(a) COMMUNITY COLLEGE SUPPORT.—Section 25(a) of the National Institute of Standards and Technology Act (15 U.S.C. 278k(a)) is amended—

(1) by striking ''and'' after the semicolon in paragraph (4);

(2) by striking ''Institute.'' in paragraph (5) and inserting ''Institute; and''; and

(3) by adding at the end the following:

''(6) providing to community colleges information about the job skills needed in small- and medium-sized manufacturing businesses in the regions they serve.''.

(b) INNOVATIVE SERVICES INITIATIVE.—Section 25 of such Act (15 U.S.C. 278k) is amended by adding at the end the following:

''(g) INNOVATIVE SERVICES INITIATIVE.—

''(1) ESTABLISHMENT.—The Director shall establish, within the Centers program under this section, an innovative services initiative to assist small- and medium-sized manufacturers in—

''(A) reducing their energy usage, greenhouse gas emissions, and environmental waste to improve profitability;

''(B) accelerating the domestic commercialization of new product technologies, including components for renewable energy and energy efficiency systems; and

''(C) identification of and diversification to new markets, including support for transitioning to the production of components for renewable energy and energy efficiency systems.

''(2) MARKET DEMAND.—The Director may not undertake any activity to accelerate the domestic commercialization of a new product technology under this subsection unless an analysis of market demand for the new product technology has been conducted.''.

(c) REPORTS.—Section 25 of such Act (15 U.S.C. 278k), as amended by subsection (b), is further amended by adding at the end the following:

''(h) REPORTS.—

''(1) IN GENERAL.—In submitting the 3-year programmatic planning document and annual updates under section 23, the Director shall include an assessment of the Director's governance of the program established under this section.

''(2) CRITERIA.—In conducting the assessment, the Director shall use the criteria established pursuant to the Malcolm Baldrige National Quality Award under section 17(d)(1)(C) of the Stevenson-Wydler Technology Innovation Act of 1980 (15 U.S.C. 3711a(d)(1)(C)).''.

(d) HOLLINGS MANUFACTURING EXTENSION PARTNERSHIP PROGRAM COST-SHARING.—Section 25(c) of such Act (15 U.S.C. 278k(c)) is amended by adding at the end the following:

''(7) Not later than 90 days after the date of enactment of the National Institute of Standards and Technology Authorization Act of 2010, the Comptroller General shall submit to Congress a report on the cost share requirements under the program. The report shall—

''(A) discuss various cost share structures, including the cost share structure in place prior to such date of enactment, and the effect of such cost share structures on individual Centers and the overall program; and

''(B) include recommendations for how best to structure the cost share requirement to provide for the long-term sustainability of the program.''.

''(8) If consistent with the recommendations in the report transmitted to Congress under paragraph (7), the Secretary shall alter the cost structure requirements specified under paragraph (3)(B) and (5) provided that the modification does not increase the cost share structure in place before the date of enactment of the America COMPETES Reauthorization Act of 2010, or allow the Secretary to provide a Center more than 50 percent of the costs incurred by that Center.''.

(e) ADVISORY BOARD.—Section 25(e)(4) of such Act (15 U.S.C. 278k(e)(4)) is amended to read as follows:

''(4) FEDERAL ADVISORY COMMITTEE ACT APPLICABILITY.—

''(A) IN GENERAL.—In discharging its duties under this subsection, the MEP Advisory Board shall function solely in an advisory capacity, in accordance with the Federal Advisory Committee Act.

''(B) EXCEPTION.—Section 14 of the Federal Advisory Committee Act shall not apply to the MEP Advisory Board.'.

(f) DESIGNATION OF PROGRAM.—

(1) IN GENERAL.—Section 25 of the National Institute of Standards and Technology Act (15 U.S.C. 278k), as amended by subsection (c), is further amended by adding at the end the following:

''(i) DESIGNATION.—

''(1) HOLLINGS MANUFACTURING EXTENSION PARTNERSHIP.—The program under this section shall be known as the 'Hollings Manufacturing Extension Partnership'.

''(2) HOLLINGS MANUFACTURING EXTENSION CENTERS.—The Regional Centers for the Transfer of Manufacturing Technology created and supported under subsection (a) shall be known as the 'Hollings Manufacturing Extension Centers' (in this Act referred to as the 'Centers').''.

(2) CONFORMING AMENDMENT TO CONSOLIDATED APPROPRIATIONS ACT, 2005.—Division B of title II of the Consolidated Appropriations Act, 2005 (Public Law 108–447; 118 Stat. 2879; 15 U.S.C. 278k note) is amended under the heading ''INDUSTRIAL TECHNOLOGY SERVICES'' by striking ''2007: Provided further, That'' and all that follows through ''Extension Centers.'' and inserting ''2007.''.

(3) TECHNICAL AMENDMENTS.—

(A) Section 25(a) of the National Institute of Standards and Technology Act (15 U.S.C. 278k(a)) is amended in the matter preceding paragraph (1) by striking ''Regional Centers for the Transfer of Manufacturing Technology'' and inserting ''regional centers for the transfer of manufacturing technology''.

(B) Section 25 of such Act (15 U.S.C. 278k), as amended by subsection (f), is further amended by adding at the end the following:

''(j) COMMUNITY COLLEGE DEFINED.—In this section, the term 'community college' means an institution of higher education (as defined under section 101(a) of the Higher Education Act of 1965 (20 U.S.C. 1001(a))) at which the highest degree that is predominately awarded to students is an associate's degree.''.

(h) EVALUATION OF OBSTACLES UNIQUE TO SMALL MANUFACTURERS.—Section 25 of such Act (15 U.S.C. 278k), as amended by subsection (g), is further amended by adding at the end the following:

''(k) EVALUATION OF OBSTACLES UNIQUE TO SMALL MANUFACTURERS.—The Director shall—

''(1) evaluate obstacles that are unique to small manufacturers that prevent such manufacturers from effectively competing in the global market;

''(2) implement a comprehensive plan to train the Centers to address such obstacles; and

''(3) facilitate improved communication between the Centers to assist such manufacturers in implementing appropriate, targeted solutions to such obstacles.''.

(i) NIST ACT AMENDMENT.—Section 25(f)(3) of the National Institute of Standards and Technology Act (15 U.S.C. 278k(f)(3)) is amended by striking ''Director of the Centers program,'' and inserting ''Director of the Hollings MEP program,''.

SEC. 405. EMERGENCY COMMUNICATION AND TRACKING TECHNOLOGIES RESEARCH INITIATIVE.

(a) ESTABLISHMENT.—The Director shall establish a research initiative to support the development of emergency communication and tracking technologies for use in locating trapped individuals in confined spaces, such as underground mines, and other shielded environments, such as high-rise buildings or collapsed structures, where conventional radio communication is limited.

(b) ACTIVITIES.—In order to carry out this section, the Director shall work with the private sector and appropriate Federal agencies to—

(1) perform a needs assessment to identify and evaluate the measurement, technical standards, and conformity assessment needs required to improve the operation and reliability of such emergency communication and tracking technologies;

(2) support the development of technical standards and conformance architecture to improve the operation and reliability of such emergency communication and tracking technologies; and

(3) incorporate and build upon existing reports and studies on improving emergency communications.

(c) REPORT.—Not later than 18 months after the date of enactment of this Act, the Director shall submit to Congress and make publicly available a report describing the assessment performed under subsection (b)(1) and making recommendations about research priorities to address gaps in the measurement, technical standards, and conformity assessment needs identified by the assessment.

SEC. 406. BROADENING PARTICIPATION.

(a) RESEARCH FELLOWSHIPS.—Section 18 of the National Institute of Standards and Technology Act (15 U.S.C. 278g–1) is amended by adding at the end the following:

''(c) UNDERREPRESENTED MINORITIES.—In evaluating applications for fellowships under this section, the Director shall give consideration to the goal of promoting the participation of underrepresented minorities in research areas supported by the Institute.''.

(b) POSTDOCTORAL FELLOWSHIP PROGRAM.—Section 19 of such Act (15 U.S.C. 278g–2) is amended by adding at the end the following:

''In evaluating applications for fellowships under this section, the Director shall give consideration to the goal of promoting the participation of underrepresented minorities in research areas supported by the Institute.''.

(c) TEACHER DEVELOPMENT.—Section 19A(c) of such Act (15 U.S.C. 278g–2a(c)) is amended by adding at the end the following: ''The Director shall give special consideration to an application from a teacher from a high-need school, as defined in section 200 of the Higher Education Act of 1965 (20 U.S.C. 1021).''.

SEC. 407. NIST FELLOWSHIPS.

(a) POST-DOCTORAL FELLOWSHIP PROGRAM.—Section 19 of the National Institute of Standards and Technology Act (15 U.S.C. 278g–2) is amended by striking '', in conjunction with the National Academy of Sciences,''.

(b) RESEARCH FELLOWSHIPS.—Section 18(a) of that Act (15 USC 278g–1(a)) is amended by striking ''up to 1.5 percent of the''.

(c) COMMERCE, SCIENCE, AND TECHNOLOGY FELLOWSHIP PROGRAM.—Section 5163(d) of the Omnibus Trade and Competition Act of 1988 (15 U.S.C. 1533) is repealed.

SEC. 408. GREEN MANUFACTURING AND CONSTRUCTION.

The Director shall carry out a green manufacturing and construction initiative—

(1) to develop accurate sustainability metrics and practices for use in manufacturing;

(2) to advance the development of standards, including high performance green building standards, and the creation of an information infrastructure to communicate sustainability information about suppliers; and

(3) to move buildings toward becoming high performance green buildings, including improving energy performance, service life, and indoor air quality of new and retrofitted buildings through validated measurement data.

SEC. 409. DEFINITIONS.

In this title:

(1) DIRECTOR.—The term ''Director'' means the Director of the National Institute of Standards and Technology.

(2) FEDERAL AGENCY.—The term ''Federal agency'' has the meaning given such term in section 4 of the Stevenson-Wydler Technology Innovation Act of 1980 (15 U.S.C. 3703).

(3) HIGH PERFORMANCE GREEN BUILDING.—The term ''high performance green building'' has the meaning given that term by section 401(13) of the Energy Independence and Security Act of 2009 (42 U.S.C. 17061(13)).

TITLE V—SCIENCE, TECHNOLOGY, ENGINEERING, AND MATHEMATICS SUPPORT PROGRAMS

SUBTITLE A—NATIONAL SCIENCE FOUNDATION

SEC. 501. SHORT TITLE.

This subtitle may be cited as the ''National Science Foundation Authorization Act of 2010''.

SEC. 502. DEFINITIONS.

In this subtitle:

(1) DIRECTOR.—The term ''Director'' means the Director of the National Science Foundation.

(2) EPSCoR.—The term ''EPSCoR'' means the Experimental Program to Stimulate Competitive Research.

(3) FOUNDATION.—The term ''Foundation'' means the National Science Foundation established under section 2 of the National Science Foundation Act of 1950 (42 U.S.C. 1861).

(4) INSTITUTION OF HIGHER EDUCATION.—The term ''institution of higher education'' has the meaning given such term in section 101(a) of the Higher Education Act of 1965 (20 U.S.C. 1001(a)).

(5) STATE.—The term ''State'' means one of the several States, the District of Columbia, the Commonwealth of Puerto Rico, the Virgin Islands, Guam, American Samoa, the Commonwealth of the Northern Mariana Islands, or any other territory or possession of the United States.

(6) UNITED STATES.—The term ''United States'' means the several States, the District of Columbia, the Commonwealth of Puerto Rico, the Virgin Islands, Guam, American Samoa, the Commonwealth of the Northern Mariana Islands, and any other territory or possession of the United States.

SEC. 503. AUTHORIZATION OF APPROPRIATIONS.

(a) FISCAL YEAR 2011.—

(1) IN GENERAL.—There are authorized to be appropriated to the Foundation $7,424,400,000 for fiscal year 2011.

(2) SPECIFIC ALLOCATIONS.—Of the amount authorized by paragraph (1)—

(A) $5,974,782,000 shall be made available to carry research and related activities;

(B) $937,850,000 shall be made available for education and human resources;

(C) $164,744,000 shall be made available for major research equipment and facilities construction;

(D) $327,503,000 shall be made available for agency operations and award management;

(E) $4,803,000 shall be made available for the Office of the National Science Board; and

(F) $14,718,000 shall be made available for the Office of Inspector General.

(b) FISCAL YEAR 2012.—

(1) IN GENERAL.—There are authorized to be appropriated to the Foundation $7,800,000,000 for fiscal year 2012.

(2) SPECIFIC ALLOCATIONS.—Of the amount authorized by paragraph (1)—

(A) $6,234,281,000 shall be made available to carry research and related activities;

(B) $978,959,000 shall be made available for education and human resources;

(C) $225,544,000 shall be made available for major research equipment and facilities construction;

(D) $341,676,000 shall be made available for agency operations and award management;

(E) $4,808,000 shall be made available for the Office of the National Science Board; and

(F) $14,732,000 shall be made available for the Office of Inspector General.

(c) FISCAL YEAR 2013.—

(1) IN GENERAL.—There are authorized to be appropriated to the Foundation $8,300,000,000 for fiscal year 2013.

(2) SPECIFIC ALLOCATIONS.—Of the amount authorized by paragraph (1)—

(A) $6,637,849,000 shall be made available to carry research and related activities;

(B) $1,041,762,000 shall be made available for education and human resources;

(C) $236,764,000 shall be made available for major research equipment and facilities construction;

(D) $363,670,000 shall be made available for agency operations and award management;

(E) $4,906,000 shall be made available for the Office of the National Science Board; and

(F) $15,049,000 shall be made available for the Office of Inspector General.

SEC. 504. NATIONAL SCIENCE BOARD ADMINISTRATIVE AMENDMENTS.

(a) STAFFING AT THE NATIONAL SCIENCE BOARD.—Section 4(g) of the National Science Foundation Act of 1950 (42 U.S.C. 1863(g)) is amended by striking ''not more than 5''.

(b) NATIONAL SCIENCE BOARD REPORTS.—Section 4(j)(2) of the National Science Foundation Act of 1950 (42 U.S.C. 1863(j)(2)) is amended by inserting ''within the authority of the Foundation (or otherwise as requested by the Congress or the President)'' after ''individual policy matters''.

(c) BOARD ADHERENCE TO SUNSHINE ACT.—Section 15(a)(2) of the National Science Foundation Authorization Act of 2002 (42 U.S.C. 1862n–5(a)(2)) is amended—

(1) by striking ''The Board'' and inserting ''To ensure transparency of the Board's entire decision-making process, including deliberations on Board business occurring within its various subdivisions, the Board''; and

(2) by adding at the end the following: ''The preceding requirement will apply to meetings of the full Board, whenever a quorum is present; and to meetings of its subdivisions, whenever a quorum of the subdivision is present.''.

SEC. 505. NATIONAL CENTER FOR SCIENCE AND ENGINEERING STATISTICS.

(a) ESTABLISHMENT.—There is established within the Foundation a National Center for Science and Engineering Statistics that shall serve as a central Federal clearinghouse for the collection, interpretation, analysis, and dissemination of objective data on science, engineering, technology, and research and development.

(b) DUTIES.—In carrying out subsection (a) of this section, the Director, acting through the Center shall—

(1) collect, acquire, analyze, report, and disseminate statistical data related to the science and engineering enterprise in the United States and other nations that is relevant and useful to practitioners, researchers, policymakers, and the public, including statistical data on—

(A) research and development trends;

(B) the science and engineering workforce;

(C) United States competitiveness in science, engineering, technology, and research and development; and

(D) the condition and progress of United States STEM education;

(2) support research using the data it collects, and on methodologies in areas related to the work of the Center; and

(3) support the education and training of researchers in the use of large-scale, nationally representative data sets.

(c) STATISTICAL REPORTS.—The Director or the National Science Board, acting through the Center, shall issue regular, and as necessary, special statistical reports on topics related to the national and international science and engineering enterprise such as the biennial report required by section 4(j)(1) of the National Science Foundation Act of 1950 (42 U.S.C. 1863(j)(1)) on indicators of the state of science and engineering in the United States.

SEC. 506. NATIONAL SCIENCE FOUNDATION MANUFACTURING RESEARCH AND EDUCATION.

(a) MANUFACTURING RESEARCH.—The Director shall carry out a program to award merit-reviewed, competitive grants to institutions of higher education to support fundamental research leading to transformative advances in manufacturing technologies, processes, and enterprises that will support United States manufacturing through improved performance, productivity, sustainability, and competitiveness. Research areas may include—

(1) nanomanufacturing;

(2) manufacturing and construction machines and equipment, including robotics, automation, and other intelligent systems;

(3) manufacturing enterprise systems;

(4) advanced sensing and control techniques;

(5) materials processing; and

(6) information technologies for manufacturing, including predictive and real-time models and simulations, and virtual manufacturing.

(b) MANUFACTURING EDUCATION.—In order to help ensure a well-trained manufacturing workforce, the Director shall award grants to strengthen and expand scientific and technical education and training in advanced manufacturing, including through the Foundation's Advanced Technological Education program.

SEC. 507. NATIONAL SCIENCE BOARD REPORT ON MID-SCALE INSTRUMENTATION.

(a) MID-SCALE RESEARCH INSTRUMENTATION NEEDS.—The National Science Board shall evaluate the needs, across all disciplines supported by the Foundation, for mid-scale research instrumentation that falls between the instruments funded by the Major Research Instrumentation program and the very large projects funded by the Major Research Equipment and Facilities Construction program.

(b) REPORT ON MID-SCALE RESEARCH INSTRUMENTATION PROGRAM.—Not later than 1 year after the date of enactment of this Act, the National Science Board shall submit to Congress a report on mid-scale research instrumentation at the Foundation. At a minimum, this report shall include—

(1) the findings from the Board's evaluation of instrumentation needs required under subsection (a), including a description of differences across disciplines and Foundation research directorates;

(2) a recommendation or recommendations regarding how the Foundation should set priorities for mid-scale instrumentation across disciplines and Foundation research directorates;

(3) a recommendation or recommendations regarding the appropriateness of expanding existing programs, including the Major Research Instrumentation program or the Major Research Equipment and Facilities Construction program, to support more instrumentation at the mid-scale;

(4) a recommendation or recommendations regarding the need for and appropriateness of a new, Foundation-wide program or initiative in support of mid-scale instrumentation, including any recommendations regarding the administration of and budget for such a program or initiative and the appropriate scope of instruments to be funded under such a program or initiative; and

(5) any recommendation or recommendations regarding other options for supporting mid-scale research instrumentation at the Foundation.

SEC. 508. PARTNERSHIPS FOR INNOVATION.

(a) IN GENERAL.—The Director shall carry out a program to award merit-reviewed, competitive grants to institutions of higher education to establish and to expand partnerships that promote innovation and increase the impact of research by developing tools and resources to connect new scientific discoveries to practical uses.

(b) PARTNERSHIPS.—

(1) IN GENERAL.—To be eligible for funding under this section, an institution of higher education must propose establishment of a partnership that—

(A) includes at least one private sector entity; and

(B) may include other institutions of higher education, public sector institutions, private sector entities, and nonprofit organizations.

(2) PRIORITY.—In selecting grant recipients under this section, the Director shall give priority to partnerships that include one or more institutions of higher education and at least one of the following:

(A) A minority serving institution.

(B) A primarily undergraduate institution.

(C) A 2-year institution of higher education.

(c) PROGRAM.—Proposals funded under this section shall seek—

(1) to increase the impact of the most promising research at the institution or institutions of higher education that are members of the partnership through knowledge transfer or commercialization;

(2) to increase the engagement of faculty and students across multiple disciplines and departments, including faculty and students in schools of business and other appropriate non-STEM fields and disciplines in knowledge transfer activities;

(3) to enhance education and mentoring of students and faculty in innovation and entrepreneurship through networks, courses, and development of best practices and curricula;

(4) to strengthen the culture of the institution or institutions of higher education to undertake and participate in activities related to innovation and leading to economic or social impact;

(5) to broaden the participation of all types of institutions of higher education in activities to meet STEM workforce needs and promote innovation and knowledge transfer; and

(6) to build lasting partnerships with local and regional businesses, local and State governments, and other relevant entities.

(d) ADDITIONAL CRITERIA.—In selecting grant recipients under this section, the Director shall also consider the extent to which the applicants are able to demonstrate evidence of institutional support for, and commitment to—

(1) achieving the goals of the program as described in subsection (c);

(2) expansion to an institution-wide program if the initial proposal is not for an institution-wide program; and

(3) sustaining any new innovation tools and resources generated from funding under this program.

(e) LIMITATION.—No funds provided under this section may be used to construct or renovate a building or structure.

SEC. 509. SUSTAINABLE CHEMISTRY BASIC RESEARCH.

The Director shall establish a Green Chemistry Basic Research program to award competitive, merit-based grants to support research into green and sustainable chemistry which will lead to clean, safe, and economical alternatives to traditional chemical products and practices. The research program shall provide sustained support for green chemistry research, education, and technology transfer through—

(1) merit-reviewed competitive grants to individual investigators and teams of investigators, including, to the extent practicable, young investigators, for research;

(2) grants to fund collaborative research partnerships among universities, industry, and nonprofit organizations;

(3) symposia, forums, and conferences to increase outreach, collaboration, and dissemination of green chemistry advances and practices; and

(4) education, training, and retraining of undergraduate and graduate students and professional chemists and chemical engineers, including through partnerships with industry, in green chemistry science and engineering.

SEC. 510. GRADUATE STUDENT SUPPORT.

(a) FINDING.—The Congress finds that—

(1) the Integrative Graduate Education and Research Traineeship program is an important program for training the next generation of scientists and engineers in team-based interdisciplinary research and problem solving, and for providing them with the many additional skills, such as communication skills, needed to thrive in diverse STEM careers; and

(2) the Integrative Graduate Education and Research Traineeship program is no less valuable to the preparation and support of graduate students than the Foundation's Graduate Research Fellowship program.

(b) EQUAL TREATMENT OF IGERT AND GRF.—Beginning in fiscal year 2011, the Director shall increase or, if necessary, decrease funding for the Foundation's Integrative Graduate Education and Research Traineeship program (or any program by which it is replaced) at least at the same rate as it increases or decreases funding for the Graduate Research Fellowship program.

(c) SUPPORT FOR GRADUATE STUDENT RESEARCH FROM THE RESEARCH ACCOUNT.—For each of the fiscal years 2011 through 2013, at least 50 percent of the total Foundation funds allocated to the Integrative Graduate Education and Research Traineeship program and the Graduate Research Fellowship program shall come from funds appropriated for Research and Related Activities.

(d) COST OF EDUCATION ALLOWANCE FOR GRF PROGRAM.—Section 10 of the National Science Foundation Act of 1950 (42 U.S.C. 1869) is amended—

(1) by inserting ''(a) IN GENERAL.—'' before ''The Foundation is authorized''; and

(2) by adding at the end the following:

''(b) AMOUNT.—The Director shall establish for each year the amount to be awarded for scholarships and fellowships under this section for that year. Each such scholarship and fellowship shall include a cost of education allowance of $12,000, subject to any restrictions on the use of cost of education allowance as determined by the Director.''.

SEC. 511. ROBERT NOYCE TEACHER SCHOLARSHIP PROGRAM.

(a) MATCHING REQUIREMENT.—Section 10A(h)(1) of the National Science Foundation Authorization Act of 2002 (42 U.S.C. 1862n–1a(h)(1)) is amended to read as follows:

''(1) IN GENERAL.—An eligible entity receiving a grant under this section shall provide, from non-Federal sources, to carry out the activities supported by the grant—

''(A) in the case of grants in an amount of less than $1,500,000, an amount equal to at least 30 percent of the amount of the grant, at least one half of which shall be in cash; and

''(B) in the case of grants in an amount of $1,500,000 or more, an amount equal to at least 50 percent of the amount of the grant, at least one half of which shall be in cash.''.

(b) RETIRING STEM PROFESSIONALS.—Section 10A(a)(2)(A) of the National Science Foundation Authorization Act of 2002 (42 U.S.C. 1862n–1a(a)(2)(A)) is amended by inserting ''including retiring professionals in those fields,'' after ''mathematics professionals,''.

SEC. 512 UNDERGRADUATE BROADENING PARTICIPATION PROGRAM.

The Foundation shall continue to support the Historically Black Colleges and Universities Undergraduate Program, the Louis Stokes Alliances for Minority Participation program, the Tribal Colleges and Universities Program, and Hispanic-serving institutions as separate programs.

SEC. 513. RESEARCH EXPERIENCES FOR HIGH SCHOOL STUDENTS.

The Director shall permit specialized STEM high schools conducting research to participate in major data collection initiatives from universities, corporations, or government labs under a research grant from the Foundation, as part of the research proposal.

SEC. 514. RESEARCH EXPERIENCES FOR UNDERGRADUATES.

(a) RESEARCH SITES.—The Director shall award grants, on a merit-reviewed, competitive basis, to institutions of higher education, nonprofit organizations, or consortia of such institutions and organizations, for sites designated by the Director to provide research experiences for 6 or more undergraduate STEM students for sites designated at primarily undergraduate institutions of higher education and 10 or more undergraduate STEM students for all other sites, with consideration given to the goal of promoting the participation of individuals identified in section 33 or 34 of the Science and Engineering Equal Opportunities Act (42 U.S.C. 1885a or 1885b). The Director shall ensure that—

(1) at least half of the students participating in a program funded by a grant under this subsection at each site shall be recruited from institutions of higher education where research opportunities in STEM are limited, including 2-year institutions;

(2) the awards provide undergraduate research experiences in a wide range of STEM disciplines;

(3) the awards support a variety of projects, including independent investigator-led projects, interdisciplinary projects, and multi-institutional projects (including virtual projects);

(4) students participating in each program funded have mentors, including during the academic year to the extent practicable, to help connect the students' research experiences to the overall academic course of study and to help students achieve success in courses of study leading to a baccalaureate degree in a STEM field;

(5) mentors and students are supported with appropriate salary or stipends; and

(6) student participants are tracked, for employment and continued matriculation in STEM

fields, through receipt of the undergraduate degree and for at least 3 years thereafter.

(b) INCLUSION OF UNDERGRADUATES IN STANDARD RESEARCH GRANTS.—The Director shall require that every recipient of a research grant from the Foundation proposing to include 1 or more students enrolled in certificate, associate, or baccalaureate degree programs in carrying out the research under the grant shall request support, including stipend support, for such undergraduate students as part of the research proposal itself rather than as a supplement to the research proposal, unless such undergraduate participation was not foreseeable at the time of the original proposal.

SEC. 515. STEM INDUSTRY INTERNSHIP PROGRAMS.

(a) IN GENERAL.—The Director may award grants, on a competitive, merit-reviewed basis, to institutions of higher education, or consortia thereof, to establish or expand partnerships with local or regional private sector entities, for the purpose of providing undergraduate students with integrated internship experiences that connect private sector internship experiences with the students' STEM coursework. The partnerships may also include industry or professional associations.

(b) INTERNSHIP PROGRAM.—The grants awarded under section (a) may include internship programs in the manufacturing sector.

(c) USE OF GRANT FUNDS.—Grants under this section may be used—

(1) to develop and implement hands-on learning opportunities;

(2) to develop curricula and instructional materials related to industry, including the manufacturing sector;

(3) to perform outreach to secondary schools;

(4) to develop mentorship programs for students with partner organizations; and

(5) to conduct activities to support awareness of career opportunities and skill requirements.

(d) PRIORITY.—In awarding grants under this section, the Director shall give priority to institutions of higher education or consortia thereof that demonstrate significant outreach to and coordination with local or regional private sector entities and Regional Centers for the Transfer of Manufacturing Technology established by section 25(a) of the National Institute of Standards and Technology Act (15 U.S.C. 278k(a)) in developing academic courses designed to provide students with the skills or certifications necessary for employment in local or regional companies.

(c) OUTREACH TO RURAL COMMUNITIES.—The Foundation shall conduct outreach to institutions of higher education and private sector entities in rural areas to encourage those entities to participate in partnerships under this section.

(d) COST-SHARE.—The Director shall require a 50 percent non-Federal cost-share from partnerships established or expanded under this section.

(e) RESTRICTION.—No Federal funds provided under this section may be used—

(1) for the purpose of providing stipends or compensation to students for private sector internships unless private sector entities match 75 percent of such funding; or

(2) as payment or reimbursement to private sector entities, except for institutions of higher education.

(f) REPORT.—Not less than 3 years after the date of enactment of this Act, the Director shall submit a report to Congress on the number and total value of awards made under this section, the number of students affected by those awards, any evidence of the effect of those awards on workforce preparation and jobs placement for participating students, and an economic and ethnic breakdown of the participating students.

SEC. 516. CYBER-ENABLED LEARNING FOR NATIONAL CHALLENGES.

The Director shall, in consultation with appropriate Federal agencies, identify ways to use cyber-enabled learning to create an innovative STEM workforce and to help retrain and retain our existing STEM workforce to address national challenges, including national security and competitiveness, and use technology to enhance or supplement laboratory based learning.

SEC. 517. EXPERIMENTAL PROGRAM TO STIMULATE COMPETITIVE RESEARCH.

(a) FINDINGS.—The Congress finds that—

(1) The National Science Foundation Act of 1950 stated, ''it shall be an objective of the Foundation to strengthen research and education in the sciences and engineering, including independent research by individuals, throughout the United States, and to avoid undue concentration of such research and education,'';

(2) National Science Foundation funding remains highly concentrated, with 27 States and 2 jurisdictions, taken together, receiving only about 10 percent of all NSF research funding; each of these States received only a fraction of one percent of Foundation's research dollars each year;

(3) the Nation requires the talent, expertise, and research capabilities of all States in order to prepare sufficient numbers of scientists and engineers, remain globally competitive and support economic development.

(b) CONTINUATION OF PROGRAM.—The Director shall continue to carry out EPSCoR, with the objective of helping the eligible States to develop the research infrastructure that will make them more competitive for Foundation and other Federal research funding. The program shall continue to increase as the National Science Foundation funding increases.

(c) CONGRESSIONAL REPORTS.—The Director shall report to the appropriate committees of Congress on an annual basis, using the most recent available data—

(1) the total amount made available, by State, under EPSCoR;

(2) the amount of co-funding made available to EPSCoR States;

(3) the total amount of National Science Foundation funding made available to all institutions and entities within EPSCoR States; and

(4) efforts and accomplishments to more fully integrate the 29 EPSCoR jurisdictions in major activities and initiatives of the Foundation.

(d) COORDINATION OF EPSCOR AND SIMILAR FEDERAL PROGRAMS.—

(1) ANOTHER FINDING.—The Congress finds that a number of Federal agencies have programs, such as Experimental Programs to Stimulate Competitive Research and the National Institutes of Health Institutional Development Award program, designed to increase the capacity for and quality of science and technology research and training at academic institutions in States that historically have received relatively little Federal research and development funding.

(2) COORDINATION REQUIRED.—The EPSCoR Interagency Coordinating Committee, chaired by the National Science Foundation, shall—

(A) coordinate EPSCoR and Federal EPSCoR-like programs to maximize the impact of Federal support for building competitive research infrastructure, and in order to achieve an integrated Federal effort;

(B) coordinate agency objectives with State and institutional goals, to obtain continued non-Federal support of science and technology research and training;

(C) develop metrics to assess gains in academic research quality and competitiveness, and in science and technology human resource development;

(D) conduct a cross-agency evaluation of EPSCoR and other Federal EPSCoR-like programs and accomplishments, including management, investment, and metric-measuring strategies implemented by the different agencies aimed to increase the number of new investigators receiving peer-reviewed funding, broaden participation, and empower knowledge generation, dissemination, application, and national research and development competitiveness;

(E) coordinate the development and implementation of new, novel workshops, outreach activities, and follow-up mentoring activities among EPSCoR or EPSCoR-like programs for colleges and universities in EPSCoR States and territories in order to increase the number of proposals submitted and successfully funded and to enhance statewide coordination of EPSCoR and Federal EPSCoR-like programs;

(F) coordinate the development of new, innovative solicitations and programs to facilitate collaborations, partnerships, and mentoring activities among faculty at all levels in non-EPSCoR and EPSCoR States and jurisdictions;

(G) conduct an evaluation of the roles, responsibilities and degree of autonomy that program officers or managers (or the equivalent position) have in executing EPSCoR programs at the different Federal agencies and the impacts these differences have on the number of EPSCoR State and jurisdiction faculty participating in the peer review process and the percentage of successful awards by individual EPSCoR State jurisdiction and individual researcher; and

(H) conduct a survey of colleges and university faculty at all levels regarding their knowledge and understanding of EPSCoR, and their level of interaction with and knowledge about their respective State or Jurisdictional EPSCoR Committee.

(3) MEETINGS AND REPORTS.—The Committee shall meet at least twice each fiscal year and shall submit an annual report to the appropriate committees of Congress describing progress made in carrying out paragraph (2).

(e) FEDERAL AGENCY REPORTS.—Each Federal agency that administers an EPSCoR or Federal EPSCoR-like program shall submit to the OSTP as part of its Federal budget submission—

(1) a description of the program strategy and objectives;

(2) a description of the awards made in the previous year, including—

(A) the percentage of reviewers and number of new reviewers from EPSCoR States;

(B) the percentage of new investigators from EPSCoR States;

(C) the number of programs or large collaborator awards involving a partnership of organizations and institutions from EPSCoR and non-EPSCoR States; and

(3) an analysis of the gains in academic research quality and competitiveness, and in science and technology human resource development, achieved by the program in the last year.

(f) NATIONAL ACADEMY OF SCIENCES STUDY.—

(1) IN GENERAL.—The Director shall contract with the National Academy of Sciences to conduct a study on all Federal agencies that administer an Experimental Program to Stimulate Competitive Research or a program similar to the Experimental Program to Stimulate Competitive Research.

(2) MATTERS TO BE ADDRESSED.—The study conducted under paragraph (1) shall include the following:

(A) A delineation of the policies of each Federal agency with respect to the awarding of grants to EPSCoR States.

(B) The effectiveness of each program.

(C) Recommendations for improvements for each agency to achieve EPSCoR goals.

(D) An assessment of the effectiveness of EPSCoR States in using awards to develop science and engineering research and education, and science and engineering infrastructure within their States.

(E) Such other issues that address the effectiveness of EPSCoR as the National Academy of Sciences considers appropriate.

SEC. 518. SENSE OF THE CONGRESS REGARDING THE SCIENCE, TECHNOLOGY, ENGINEERING, AND MATHEMATICS TALENT EXPANSION PROGRAM.

It is the sense of the Congress that—

(1) the Science, Technology, Engineering, and Mathematics Talent Expansion Program established by the National Science Foundation Authorization Act of 2002 continues to be an effective program to increase the number of students, who are citizens or permanent residents of the United States, receiving associate or baccalaureate degrees in established or emerging fields within science, technology, engineering, and mathematics, and its authorization continues;

(2) the strategies employed continue to strengthen mentoring and tutoring between faculty and students and provide students with information and exposure to potential career pathways in science, technology, engineering, and mathematics areas;

(3) this highly competitive program awarded 145 Program implementation awards and 12 research projects in the first 6 years of operations; and

(4) the Science, Technology, Engineering, and Mathematics Talent Expansion Program should continue to be supported by the National Science Foundation.

SEC. 519. SENSE OF THE CONGRESS REGARDING THE NATIONAL SCIENCE FOUNDATION'S CONTRIBUTIONS TO BASIC RESEARCH AND EDUCATION.

(a) FINDINGS.—The Congress finds that—

(1) the National Science Foundation is an independent Federal agency created by Congress in 1950 to, among other things, promote the progress of science, to advance the national health, prosperity, and welfare, and to secure the national defense;

(2) the Foundation is the funding source for approximately 20 percent of all federally supported basic research conducted by America's colleges and universities, and is the major source of Federal backing for mathematics, computer science and other sciences;

(3) the America COMPETES Act of 2007 helped rejuvenate our focus on increasing basic research investment in the physical sciences, strengthening educational opportunities in the science, technology, engineering, and mathematics fields and developing a robust innovation infrastructure; and

(4) reauthorization of the America COMPETES Act should continue a robust investment in basic research and education and preserve the essence of the original Act by increasing the investment focus on science, technology, engineering, and mathematics basic research and education as a national priority.

(b) SENSE OF THE CONGRESS.—It is the sense of the Congress that—

(1) the National Science Foundation is the finest scientific foundation in the world, and is a vital agency that must support basic research needed to advance the United States into the 21st century;

(2) the National Science Foundation should focus Federal research and development resources primarily in the areas of science, technology, engineering, and mathematics basic research and education; and

(3) the National Science Foundation should strive to ensure that federally-supported research is of the finest quality, is ground breaking, and answers questions or solves problems that are of utmost importance to society at large.

SEC. 520. ACADEMIC TECHNOLOGY TRANSFER AND COMMERCIALIZATION OF UNIVERSITY RESEARCH.

(a) IN GENERAL.—Any institution of higher education (as such term is defined in section 101(A) of the Higher Education Act of 1965 (20 U.S.C. 1001(a))) that receives National Science Foundation research support and has received at least $25,000,000 in total Federal research grants in the most recent fiscal year shall keep, maintain, and report annually to the National Science Foundation the universal record locator for a public website that contains information concerning its general approach to and mechanisms for transfer of technology and the commercialization of research results, including—

(1) contact information for individuals and university offices responsible for technology transfer and commercialization;

(2) information for both university researchers and industry on the institution's technology licensing and commercialization strategies;

(3) success stories, statistics, and examples of how the university supports commercialization of research results;

(4) technologies available for licensing by the university where appropriate; and

(5) any other information deemed by the institution to be helpful to companies with the potential to commercialize university inventions.

(b) NSF WEBSITE.—The National Science Foundation shall create and maintain a website accessible to the public that links to each website mentioned under (a).

(c) TRADE SECRET INFORMATION.—Notwithstanding subsection (a), an institution shall not be required to reveal confidential, trade secret, or proprietary information on its website.

SEC. 521. STUDY TO DEVELOP IMPROVED IMPACT-ON-SOCIETY METRICS.

(a) IN GENERAL.—Within 180 days after the date of enactment of this Act, the Director of the National Science Foundation shall contract with the National Academy of Sciences to initiate a study to evaluate, develop, or improve metrics for measuring the potential impact-on-society, including—

(1) the potential for commercial applications of research studies funded in whole or in part by grants of financial assistance from the Foundation or other Federal agencies;

(2) the manner in which research conducted at, and individuals graduating from, an institution of higher education contribute to the development of new intellectual property and the success of commercial activities;

(3) the quality of relevant scientific and international publications; and

(4) the ability of such institutions to attract external research funding.

(b) REPORT.—Within 1 year after initiating the study required by subsection (a), the Director shall submit a report to the Senate Committee on Commerce, Science, and Transportation and the House of Representatives Committee on Science and Technology setting forth the Director's findings, conclusions, and recommendations.

SEC. 522. NSF GRANTS IN SUPPORT OF SPONSORED POST-DOCTORAL FELLOWSHIP PROGRAMS.

The Director of the National Science Foundation may utilize funds appropriated to carry out grants to institutions of higher education (as such term is defined in section 101(a) of the Higher Education Act of 1965 (20 U.S.C. 1001(a))) to provide financial support for post-graduate research in fields with potential commercial applications to match, in whole or in part, any private sector grant of financial assistance to any post-doctoral program in such a field of study.

SEC. 523. COLLABORATION IN PLANNING FOR STEWARDSHIP OF LARGE-SCALE FACILITIES.

It is the sense of Congress that—

(1) the Foundation should, in its planning for construction and stewardship of large facilities, coordinate and collaborate with other Federal agencies, including the Department of Energy's Office of Science, to ensure that joint investments may be made when practicable;

(2) in particular, the Foundation should ensure that it responds to recommendations by the National Academy of Sciences and working groups convened by the National Science and Technology Council regarding such facilities and opportunities for partnership with other agencies in the design and construction of such facilities; and

(3) for facilities in which research in multiple disciplines will be possible, the Director should include multiple units within the Foundation during the planning process.

SEC. 524. CLOUD COMPUTING RESEARCH ENHANCEMENT.

(a) RESEARCH FOCUS AREA.—The Director may support a national research agenda in key areas affected by the increased use of public and private cloud computing, including—

(1) new approaches, techniques, technologies, and tools for—

(A) optimizing the effectiveness and efficiency of cloud computing environments; and

(B) mitigating security, identity, privacy, reliability, and manageability risks in cloud-based environments, including as they differ from traditional data centers;

(2) new algorithms and technologies to define, assess, and establish large-scale, trustworthy, cloud-based infrastructures;

(3) models and advanced technologies to measure, assess, report, and understand the performance, reliability, energy consumption, and other characteristics of complex cloud environments; and

(4) advanced security technologies to protect sensitive or proprietary information in global-scale cloud environments.

(b) ESTABLISHMENT.—

(1) IN GENERAL.—Not later than 60 days after the date of enactment of this Act, the Director shall initiate a review and assessment of cloud computing research opportunities and challenges, including research areas listed in subsection (a), as well as related issues such as—

(A) the management and assurance of data that are the subject of Federal laws and regulations in cloud computing environments, which laws and regulations exist on the date of enactment of this Act;

(B) misappropriation of cloud services, piracy through cloud technologies, and other threats to the integrity of cloud services;

(C) areas of advanced technology needed to enable trusted communications, processing, and storage; and

(D) other areas of focus determined appropriate by the Director.

(2) UNSOLICITED PROPOSALS.—The Director may accept unsolicited proposals that review and assess the issues described in paragraph (1). The proposals may be judged according to existing criteria of the National Science Foundation.

(c) REPORT.—The Director shall provide an annual report for not less than 5 consecutive years to Congress on the outcomes of National Science Foundation investments in cloud computing research, recommendations for research focus and program improvements, or other related recommendations. The reports, including any interim findings or recommendations, shall be made publicly available on the website of the National Science Foundation.

(d) NIST SUPPORT.—The Director of the National Institute of Standards and Technology shall—

(1) collaborate with industry in the development of standards supporting trusted cloud computing infrastructures, metrics, interoperability, and assurance; and

(2) support standards development with the intent of supporting common goals.

SEC. 525. TRIBAL COLLEGES AND UNIVERSITIES PROGRAM.

(a) IN GENERAL.—The Director shall continue to support a program to award grants on a competitive, merit-reviewed basis to tribal colleges and universities (as defined in section 316 of the Higher Education Act of 1965 (20 U.S.C. 1059c), including institutions described in section 317 of such Act (20 U.S.C. 1059d), to enhance the quality of undergraduate STEM education at such institutions and to increase the retention and graduation rates of Native American students pursuing associate's or baccalaureate degrees in STEM.

(b) PROGRAM COMPONENTS.—Grants awarded under this section shall support—

(1) activities to improve courses and curriculum in STEM;

(2) faculty development;

(3) stipends for undergraduate students participating in research; and

(4) other activities consistent with subsection (a), as determined by the Director.

(c) INSTRUMENTATION.—Funding provided under this section may be used for laboratory equipment and materials.

SEC. 526. BROADER IMPACTS REVIEW CRITERION.

(a) GOALS.—The Foundation shall apply a Broader Impacts Review Criterion to achieve the following goals:

(1) Increased economic competitiveness of the United States.

(2) Development of a globally competitive STEM workforce.

(3) Increased participation of women and underrepresented minorities in STEM.

(4) Increased partnerships between academia and industry.

(5) Improved pre-K–12 STEM education and teacher development.

(6) Improved undergraduate STEM education.

(7) Increased public scientific literacy.

(8) Increased national security.

(b) POLICY.—Not later than 6 months after the date of enactment of this Act, the Director shall develop and implement a policy for the Broader Impacts Review Criterion that—

(1) provides for educating professional staff at the Foundation, merit review panels, and applicants for Foundation research grants on the policy developed under this subsection;

(2) clarifies that the activities of grant recipients undertaken to satisfy the Broader Impacts Review Criterion shall—

(A) to the extent practicable employ proven strategies and models and draw on existing programs and activities; and

(B) when novel approaches are justified, build on the most current research results;

(3) allows for some portion of funds allocated to broader impacts under a research grant to be used for assessment and evaluation of the broader impacts activity;

(4) encourages institutions of higher education and other nonprofit education or research organizations to develop and provide, either as individual institutions or in partnerships thereof, appropriate training and programs to assist Foundation-funded principal investigators at their institutions in achieving the goals of the Broader Impacts Review Criterion as described in subsection (a); and

(5) requires principal investigators applying for Foundation research grants to provide evidence of institutional support for the portion of the investigator's proposal designed to satisfy the Broader Impacts Review Criterion, including evidence of relevant training, programs, and other institutional resources available to the investigator from either their home institution or organization or another institution or organization with relevant expertise.

SEC. 527. TWENTY-FIRST CENTURY GRADUATE EDUCATION.

(a) IN GENERAL.—The Director shall award grants, on a competitive, merit-reviewed basis, to institutions of higher education to implement or expand research-based reforms in master's and doctoral level STEM education that emphasize preparation for diverse careers utilizing STEM degrees, including at diverse types of institutions of higher education, in industry, and at government agencies and research laboratories.

(b) USES OF FUNDS.—Activities supported by grants under this section may include—

(1) creation of multidisciplinary or interdisciplinary courses or programs for the purpose of improved student instruction and research in STEM;

(2) expansion of graduate STEM research opportunities to include interdisciplinary research opportunities and research opportunities in industry, at Federal laboratories, and at international research institutions or research sites;

(3) development and implementation of future faculty training programs focused on improved instruction, mentoring, assessment of student learning, and support of undergraduate STEM students;

(4) support and training for graduate students to participate in instructional activities beyond the traditional teaching assistantship, and especially as part of ongoing educational reform efforts, including at pre-K–12 schools, and primarily undergraduate institutions;

(5) creation, improvement, or expansion of innovative graduate programs such as science master's degree programs;

(6) development and implementation of seminars, workshops, and other professional development activities that increase the ability of graduate students to engage in innovation, technology transfer, and entrepreneurship;

(7) development and implementation of seminars, workshops, and other professional development activities that increase the ability of graduate students to effectively communicate their research findings to technical audiences outside of their own discipline and to nontechnical audiences;

(8) expansion of successful STEM reform efforts beyond a single academic unit to other STEM academic units within an institution or to comparable academic units at other institutions; and

(9) research on teaching and learning of STEM at the graduate level related to the proposed reform effort, including assessment and evaluation of the proposed reform activities and research on scalability and sustainability of approaches to reform.

(c) PARTNERSHIP.—An institution of higher education may partner with one or more other nonprofit education or research organizations, including scientific and engineering societies, for the purposes of carrying out the activities authorized under this section.

(d) SELECTION PROCESS.—

(1) APPLICATIONS.—An institution of higher education seeking a grant under this section shall submit an application to the Director at such time, in such manner, and containing such information as the Director may require. The application shall include, at a minimum—

(A) a description of the proposed reform effort;

(B) in the case of applications that propose an expansion of a previously implemented reform effort at the applicant's institution or at other institutions, a description of the previously implemented reform effort;

(C) evidence of institutional support for, and commitment to, the proposed reform effort, including long-term commitment to implement successful strategies from the current reform effort beyond the academic unit or units included in the grant proposal or to disseminate successful strategies to other institutions; and

(D) a description of the plans for assessment and evaluation of the grant proposed reform activities.

(2) REVIEW OF APPLICATIONS.—In selecting grant recipients under this section, the Director shall consider at a minimum—

(A) the likelihood of success in undertaking the proposed effort at the institution submitting the application, including the extent to which the faculty, staff, and administrators of the institution are committed to making the proposed institutional reform a priority of the participating academic unit or units;

(B) the degree to which the proposed reform will contribute to change in institutional culture and policy such that a greater value is placed on preparing graduate students for diverse careers utilizing STEM degrees;

(C) the likelihood that the institution will sustain or expand the reform beyond the period of the grant; and

(D) the degree to which scholarly assessment and evaluation plans are included in the design of the reform effort.

SUBTITLE B—STEM-TRAINING GRANT PROGRAM

SEC. 551. PURPOSE.

The purpose of this subtitle is to replicate and implement programs at institutions of higher education that provide integrated courses of study in science, technology, engineering, or mathematics, and teacher education, that lead to a baccalaureate degree in science, technology, engineering, or mathematics with concurrent teacher certification.

SEC. 552. PROGRAM REQUIREMENTS.

The Director shall replicate and implement undergraduate degree programs under this subtitle that—

(1) are designed to recruit and prepare students who pursue a baccalaureate degree in science, technology, engineering, or mathematics to become certified as elementary and secondary teachers;

(2) require the education department (or its equivalent) and the departments or division responsible for preparation of science, technology, engineering, and mathematics majors at an institution of higher education to collaborate in establishing and implementing the program at that institution;

(3) require students participating in the program to enter the program through a field-based course and to continue to complete field-based courses supervised by master teachers throughout the program;

(4) hire sufficient teachers so that the ratio of students to master teachers in the program does not exceed 100 to 1;

(5) include instruction in the use of scientifically-based instructional materials and methods, assessments, pedagogical content knowledge (including the interaction between mathematics and science), the use of instructional technology, and how to incorporate State and local standards into the classroom curriculum;

(6) restrict to students participating in the program those courses that are specifically designed for the needs of teachers of science, technology, engineering, and mathematics; and

(7) require students participating in the program to successfully complete a final evaluation of their teaching proficiency, based on their classroom teaching performance, conducted by multiple trained observers, and a portfolio of their accomplishments.

SEC. 553. GRANT PROGRAM.

(a) IN GENERAL.—The Director shall establish a grant program to support programs at institutions of higher education to carry out the purpose of this subtitle.

(b) GEOGRAPHICAL CONSIDERATIONS.—In the administration of this subtitle, the Director shall take such steps as may be necessary to ensure that grants are equitably distributed across all regions of the United States, taking into account population density and other geographic and demographic considerations.

(c) AMOUNT OF GRANT.—Subject to the requirements of subsection (d), the Director may award grants annually on a competitive basis to institutions of higher education in the amount of $2,000,000, per institution of which—

(1) $1,500,000 shall be used—

(A) to design, implement, and evaluate a program that meets the requirements of section 552;

(B) to employ master teachers at the institution to oversee field experiences;

(C) to provide a stipend to mentor teachers participating in the program; and

(D) to support curriculum development and implementation strategies for science, technology, engineering, and mathematics content courses taught through the program; and

(2) up to $500,000 shall be set aside by the grantee for technical support and evaluation services from the institution whose programs will be replicated.

(d) ELIGIBILITY.—To be eligible to apply for a grant under this section, an institution of higher education shall—

(1) include former secondary school science, technology, engineering, or mathematics master teachers as faculty in its science department for this program;

(2) grant terminal degrees in science, technology, engineering, and mathematics; and

(3) have a process to be used in establishing partnerships with local educational agencies for placement of participating students in their field experiences, including a process for identifying mentor teachers working in local schools to supervise classroom field experiences in cooperation with university-based master teachers;

(4) maintain policies allowing flexible entry to the program throughout the undergraduate coursework;

(5) require that master teachers employed by the institution will supervise field experiences of students in the program;

(6) require that the program complies with State certification or licensing requirements and the requirements under section 9101(23) of the Elementary and Secondary Education Act of 1965 (20 U.S.C. 7801(23)) for highly qualified teachers;

(7) develop during the course of the grant a plan for long-term support and assessment of its graduates, which shall include—

(A) induction support for graduates in their first one to two years of teaching;

(B) systems to determine the teaching status of graduates and thereby determine retention rates; and

(C) methods to analyze the achievement of students taught by graduates, and methods to analyze classroom practices of graduates; and

(8) be able upon completion of the grant at the end of 5 years to fund essential program costs, including salaries of master teachers and other necessary personnel, from recurring university budgets.

(e) APPLICATION REQUIREMENTS.—An institution of higher education seeking a grant under the program shall submit an application to the Director in such form, at such time, and containing such information and assurances as the Director may require, including—

(1) a description of the current rate at which individuals majoring in science, technology, engineering, and mathematics become certified as elementary and secondary teachers;

(2) a description for the institution's plan for increasing the numbers of students enrolled in and graduating from the program supported under this subtitle;

(3) a description of the institution's capacity to develop a program in which individuals majoring in science, technology, engineering, and mathematics can become certified as elementary and secondary teachers;

(4) identification of the organizational unit within the department or division of arts and sciences or the science department at the institution that will adopt teacher certification for elementary and secondary teachers as its primary mission;

(5) identification of core faculty within the department or division of arts and sciences or the science department at the institution to champion teacher preparation in their departments by teaching courses dedicated to preparing future elementary and secondary school teachers, helping create new degree plans, advising prospective students within their major, and assisting as needed with program administration;

(6) identification of core faculty in the education department or its equivalent at the institution to champion teacher preparation by creating and teaching courses specific to the preparation of science, technology, engineering, and mathematics and working closely with colleagues in the department or division of arts and sciences or the science department; and

(7) a description of involving practical, field-based experience in teaching and degree plans enabling students to graduate in 4 years with a major in science, technology, engineering, or mathematics and elementary or secondary school teacher certification.

(f) MATCHING REQUIREMENT.—An institution of higher education may not receive a grant under this section unless it provides, from non-federal sources, to carry out the activities supported by the grant, an amount that is not less than—

(1) 35 percent of the amount of the grant for the first fiscal year of the grant;

(2) 55 percent of the amount of the grant for the second and third fiscal years of the grant; and

(3) 75 percent of the amount of the grant for the fourth and fifth fiscal years of the grant.

(g) GUIDANCE.—Within 90 days after the date of enactment of this Act, the Director shall initiate a proceeding to promulgate guidance for the administration of the grant program established under subsection (a).

SEC. 554. GRANT OVERSIGHT AND ADMINISTRATION.

(a) IN GENERAL.—The Director may execute a contract for program oversight and fiscal management with an organization at an institution of higher education, a non-profit organization, or other entity that demonstrates capacity for and experience in—

(1) replicating 1 or more similar programs at regional or national levels;

(2) providing programmatic and technical implementation assistance for the program;

(3) performing data collection and analysis to ensure proper implementation and continuous program improvement; and

(4) providing accountability for results by measuring and monitoring achievement of programmatic milestones.

(b) OVERSIGHT RESPONSIBILITIES.—

(1) MANDATORY DUTIES.—If the Director executes a contract under subsection (a) with an organization for program oversight and fiscal management, the organization shall—

(A) ensure that a grant recipient faithfully replicates and implements the program or programs for which the grant is awarded;

(B) ensure that grant funds are used for the purposes authorized and that a grant recipient has a system in place to track and account for all Federal grant funds provided;

(C) provide technical assistance to grant recipients;

(D) collect and analyze data and report to the Director annually on the effects of the program on—

(i) the progress of participating students in achieving teaching competence and teaching certification;

(ii) the participation of students in the program by major, compared with local and State needs on secondary teachers by discipline; and

(iii) the participation of students in the program by demographic subgroup;

(E) collect and analyze data and report to the Director annually on the effects of the program on the academic achievement of elementary and secondary school students taught by graduates of programs funded by grants under this subtitle; and

(F) submit an annual report to the Director demonstrating compliance with the requirements of subparagraphs (A) through (E).

(2) DISCRETIONARY DUTIES.—At the request of the Director, the organization under contract under subsection (a) may assist the Director in evaluating grant applications.

(c) REPORTS TO CONGRESS.—The Director shall submit a copy of the annual report required by subsection (b)(1)(F) to the Senate Committee on Commerce, Science, and Transportation, the Senate Committee on Health, Education, Labor, and Pensions, the House of Representatives Committee on Science and Technology, and the House of Representatives Committee on Education and Labor.

SEC. 555. DEFINITIONS.

In this subtitle:

(1) FIELD-BASED COURSE.—The term ''field-based course'' means a course of instruction offered by an institution of higher education that includes a requirement that students teach a minimum of 3 lessons or sequences of lessons to elementary or secondary students.

(2) INSTITUTION OF HIGHER EDUCATION.—The term ''institution of higher education'' has the meaning given that term by section 101 of the Higher Education Act of 1965 (20 U.S.C. 1001).

(3) MASTER TEACHER.—The term ''master teacher'' means an individual—

(A) who has been awarded a master's or doctoral degree by an institution of higher education;

(B) whose graduate coursework included courses in mathematics, science, computer science, or engineering;

(C) who has at least 3 years teaching experience in K–12 settings; and

(D) whose teaching has been recognized for exceptional accomplishments in educating students, or is demonstrated to have resulted in improved student achievement.

(4) MENTOR TEACHER.—The term ''mentor teacher'' means an elementary or secondary school classroom teacher who assists with the training of students participating in a field-based course.

(5) DIRECTOR.—The term ''Director'' means the Director of the National Science Foundation.

SEC. 556. AUTHORIZATION OF APPROPRIATIONS.

There are authorized to be appropriated to the Director to carry out this subtitle $10,000,000 for each of fiscal years 2011 through 2013.

TITLE VI—INNOVATION

SEC. 601. OFFICE OF INNOVATION AND ENTREPRENEURSHIP.

The Stevenson-Wydler Technology Innovation Act of 1980 (15 U.S.C. 3701 et seq.), as amended by section 106 of this Act, is amended by adding at the end the following:

''SEC. 25. OFFICE OF INNOVATION AND ENTREPRENEURSHIP.

''(a) IN GENERAL.—The Secretary shall establish an Office of Innovation and Entrepreneurship to foster innovation and the commercialization of new technologies, products, processes, and services with the goal of promoting productivity and economic growth in the United States.

''(b) DUTIES.—The Office of Innovation and Entrepreneurship shall be responsible for—

''(1) developing policies to accelerate innovation and advance the commercialization of research and development, including federally funded research and development;

''(2) identifying existing barriers to innovation and commercialization, including access to capital and other resources, and ways to overcome those barriers, particularly in States participating in the Experimental Program to Stimulate Competitive Research;

''(3) providing access to relevant data, research, and technical assistance on innovation and commercialization;

''(4) strengthening collaboration on and coordination of policies relating to innovation and commercialization, including those focused on the needs of small businesses and rural communities, within the Department of Commerce, between the Department of Commerce and other Federal agencies, and between the Department of Commerce and appropriate State government agencies and institutions, as appropriate; and

''(5) any other duties as determined by the Secretary.

''(c) ADVISORY COMMITTEE.—The Secretary shall establish an Advisory Council on Innovation and Entrepreneurship to provide advice to the Secretary on carrying out subsection (b).''.

SEC. 602. FEDERAL LOAN GUARANTEES FOR INNOVATIVE TECHNOLOGIES IN MANUFACTURING.

The Stevenson-Wydler Technology Innovation Act of 1980 (15 U.S.C. 3701 et seq.), as amended by section 601, is further amended by adding at the end the following:

"SEC. 26. FEDERAL LOAN GUARANTEES FOR INNOVATIVE TECHNOLOGIES IN MANUFACTURING.

''(a) ESTABLISHMENT.—The Secretary shall establish a program to provide loan guarantees for obligations to small- or medium-sized manufacturers for the use or production of innovative technologies.

''(b) ELIGIBLE PROJECTS.—A loan guarantee may be made under the program only for a project that re-equips, expands, or establishes a manufacturing facility in the United States—

''(1) to use an innovative technology or an innovative process in manufacturing;

''(2) to manufacture an innovative technology product or an integral component of such a product; or

''(3) to commercialize an innovative product, process, or idea that was developed by research funded in whole or in part by a grant from the Federal government.

''(c) ELIGIBLE BORROWER.—A loan guarantee may be made under the program only for a borrower who is a small- or medium-sized manufacturer, as determined by the Secretary under the criteria established pursuant to subsection (l).

''(d) LIMITATION ON AMOUNT.—A loan guarantee shall not exceed an amount equal to 80 percent of the obligation, as estimated at the time at which the loan guarantee is issued.

''(e) LIMITATIONS ON LOAN GUARANTEE.—No loan guarantee shall be made unless the Secretary determines that—

''(1) there is a reasonable prospect of repayment of the principal and interest on the obligation by the borrower;

''(2) the amount of the obligation (when combined with amounts available to the borrower from other sources) is sufficient to carry out the project;

''(3) the obligation is not subordinate to other financing;

''(4) the obligation bears interest at a rate that does not exceed a level that the Secretary determines appropriate, taking into account the prevailing rate of interest in the private sector for similar loans and risks; and

''(5) the term of an obligation requires full repayment over a period not to exceed the lesser of—

''(A) 30 years; or

''(B) 90 percent of the projected useful life, as determined by the Secretary, of the physical asset to be financed by the obligation.

''(f) DEFAULTS.—

''(1) PAYMENT BY SECRETARY.—

''(A) IN GENERAL.—If a borrower defaults (as defined in regulations promulgated by the Secretary and specified in the loan guarantee) on the obligation, the holder of the loan guarantee shall have the right to demand payment of the unpaid amount from the Secretary.

''(B) PAYMENT REQUIRED.—Within such period as may be specified in the loan guarantee or related agreements, the Secretary shall pay to the holder of the loan guarantee the unpaid interest on and unpaid principal of the obligation as to which the borrower has defaulted, unless the Secretary finds that there was no default by the borrower in the payment of interest or principal or that the default has been remedied.

''(C) FORBEARANCE.—Nothing in this subsection precludes any forbearance by the holder of the obligation for the benefit of the borrower which may be agreed upon by the parties to the obligation and approved by the Secretary.

''(2) SUBROGATION.—

''(A) IN GENERAL.—If the Secretary makes a payment under paragraph (1), the Secretary shall be subrogated to the rights, as specified in the loan guarantee, of the recipient of the payment or related agreements including, if appropriate, the authority (notwithstanding any other provision of law)—

''(i) to complete, maintain, operate, lease, or otherwise dispose of any property acquired pursuant to such loan guarantee or related agreement; or

''(ii) to permit the borrower, pursuant to an agreement with the Secretary, to continue to pursue the purposes of the project if the Secretary determines that such an agreement is in the public interest.

''(B) SUPERIORITY OF RIGHTS.—The rights of the Secretary, with respect to any property acquired pursuant to a loan guarantee or related agreements, shall be superior to the rights of any other person with respect to the property.

''(3) NOTIFICATION.—If the borrower defaults on an obligation, the Secretary shall notify the Attorney General of the default.

''(g) TERMS AND CONDITIONS.—A loan guarantee under this section shall include such detailed terms and conditions as the Secretary determines appropriate—

''(1) to protect the interests of the United States in the case of default; and

''(2) to have available all the patents and technology necessary for any person selected, including the Secretary, to complete and operate the project.

''(h) CONSULTATION.—In establishing the terms and conditions of a loan guarantee under this section, the Secretary shall consult with the Secretary of the Treasury.

''(i) FEES.—

''(1) IN GENERAL.—The Secretary shall charge and collect fees for loan guarantees in amounts the Secretary determines are sufficient to cover applicable administrative expenses.

''(2) AVAILABILITY.—Fees collected under this subsection shall—

''(A) be deposited by the Secretary into the Treasury of the United States; and

''(B) remain available until expended, subject to such other conditions as are contained in annual appropriations Acts.

''(3) LIMITATION.—In charging and collecting fees under paragraph (1), the Secretary shall take into consideration the amount of the obligation.

''(j) RECORDS.—

''(1) IN GENERAL.—With respect to a loan guarantee under this section, the borrower, the lender, and any other appropriate party shall keep such records and other pertinent documents as the Secretary shall prescribe by regulation, including such records as the Secretary may require to facilitate an effective audit.

''(2) ACCESS.—The Secretary and the Comptroller General of the United States, or their duly authorized representatives, shall have access to records and other pertinent documents for the purpose of conducting an audit.

''(k) FULL FAITH AND CREDIT.—The full faith and credit of the United States is pledged to the payment of all loan guarantees issued under this section with respect to principal and interest.

''(l) REGULATIONS.—The Secretary shall issue final regulations before making any loan guarantees under the program. The regulations shall include—

''(1) criteria that the Secretary shall use to determine eligibility for loan guarantees under this section, including—

''(A) whether a borrower is a small- or medium-sized manufacturer; and

''(B) whether a borrower demonstrates that a market exists for the innovative technology product, or the integral component of such a product, to be manufactured, as evidenced by written statements of interest from potential purchasers;

''(2) criteria that the Secretary shall use to determine the amount of any fees charged under subsection (i), including criteria related to the amount of the obligation;

''(3) policies and procedures for selecting and monitoring lenders and loan performance; and

''(4) any other policies, procedures, or information necessary to implement this section.

''(m) AUDIT.—

''(1) ANNUAL INDEPENDENT AUDITS.—The Secretary shall enter into an arrangement with an independent auditor for annual evaluations of the program under this section.

''(2) COMPTROLLER GENERAL REVIEW.—The Comptroller General of the United States shall conduct a biennial review of the Secretary's execution of the program under this section.

''(3) REPORT.—The results of the independent audit under paragraph (1) and the Comptroller General's review under paragraph (2) shall be provided directly to the Committee on Science and Technology of the House of Representatives and the Committee on Commerce, Science, and Transportation of the Senate.

''(n) REPORT TO CONGRESS.—Concurrent with the submission to Congress of the President's annual budget request in each year after the date of enactment of the America COMPETES Reauthorization Act of 2010, the Secretary shall transmit to the Committee on Science and Technology of the House of Representatives and the Committee on Commerce, Science, and Transportation of the Senate a report containing a summary of all activities carried out under this section.

''(o) COORDINATION AND NONDUPLICATION.—To the maximum extent practicable, the Secretary shall ensure that the activities carried out under this section are coordinated with, and do not duplicate the efforts of, other loan guarantee programs within the Federal Government.

''(p) MEP CENTERS.—The Secretary may use centers established under section 25 of the National Institute of Standards and Technology Act (15 U.S.C. 278k) to provide information about the program established under this section and to conduct outreach to potential borrowers, as appropriate.

''(q) MINIMIZING RISK.—The Secretary shall promulgate regulations and policies to carry out this section in accordance with Office of Management and Budget Circular No. A–129, entitled 'Policies for Federal Credit Programs and Non-Tax Receivables', as in effect on the date of enactment of the America COMPETES Reauthorization Act of 2010.

''(r) SENSE OF CONGRESS.—It is the sense of Congress that no loan guarantee shall be made under this section unless the borrower agrees to use a federally-approved electronic employment eligibility verification system to verify the employment eligibility of—

''(1) all persons hired during the contract term by the borrower to perform employment duties within the United States; and

''(2) all persons assigned by the borrower to perform work within the United States on the project.

''(s) DEFINITIONS.—In this section:

''(1) COST.—The term 'cost' has the meaning given such term under section 502 of the Federal Credit Reform Act of 1990 (2 U.S.C. 661a).

''(2) INNOVATIVE PROCESS.—The term 'innovative process' means a process that is significantly improved as compared to the process in general use in the commercial marketplace in the United States at the time the loan guarantee is issued.

''(3) INNOVATIVE TECHNOLOGY.—The term 'innovative technology' means a technology that is significantly improved as compared to the technology in general use in the commercial marketplace in the United States at the time the loan guarantee is issued.

''(4) LOAN GUARANTEE.—The term 'loan guarantee' has the meaning given such term in section 502 of the Federal Credit Reform Act of 1990 (2 U.S.C. 661a). The term includes a loan guarantee commitment (as defined in section 502 of such Act (2 U.S.C. 661a)).

''(5) OBLIGATION.—The term 'obligation' means the loan or other debt obligation that is guaranteed under this section.

''(6) PROGRAM.—The term 'program' means the loan guarantee program established in subsection (a).

''(t) AUTHORIZATION OF APPROPRIATIONS.—There are authorized to be appropriated $20,000,000 for each of fiscal years 2011 through 2013 to provide the cost of loan guarantees under this section.''.

SEC. 603. REGIONAL INNOVATION PROGRAM.

The Stevenson-Wydler Technology Innovation Act of 1980 (15 U.S.C. 3701 et seq.), as amended by section 602, is further amended by adding at the end thereof the following:

"SEC. 27. REGIONAL INNOVATION PROGRAM.

''(a) ESTABLISHMENT.—The Secretary shall establish a regional innovation program to encourage and support the development of regional innovation strategies, including regional innovation clusters and science and research parks.

'(b) CLUSTER GRANTS.—

''(1) IN GENERAL.—As part of the program established under subsection (a), the Secretary may award grants on a competitive basis to eligible recipients for activities relating to the formation and development of regional innovation clusters.

''(2) PERMISSIBLE ACTIVITIES.—Grants awarded under this subsection may be used for activities determined appropriate by the Secretary, including the following:

''(A) Feasibility studies.

''(B) Planning activities.

''(C) Technical assistance.

''(D) Developing or strengthening communication and collaboration between and among participants of a regional innovation cluster.

''(E) Attracting additional participants to a regional innovation cluster.

''(F) Facilitating market development of products and services developed by a regional innovation cluster, including through demonstration, deployment, technology transfer, and commercialization activities.

''(G) Developing relationships between a regional innovation cluster and entities or clusters in other regions.

''(H) Interacting with the public and State and local governments to meet the goals of the cluster.

''(3) ELIGIBLE RECIPIENT DEFINED.—In this subsection, the term 'eligible recipient' means—

''(A) a State;

''(B) an Indian tribe;

''(C) a city or other political subdivision of a State;

''(D) an entity that—

''(i) is a nonprofit organization, an institution of higher education, a public-private partnership, a science or research park, a Federal laboratory, or an economic development organization or similar entity; and

''(ii) has an application that is supported by a State or a political subdivision of a State; or

''(E) a consortium of any of the entities described in subparagraphs (A) through (D).

''(4) APPLICATION.—

''(A) IN GENERAL.—An eligible recipient shall submit an application to the Secretary at such time, in such manner, and containing such information and assurances as the Secretary may require.

''(B) COMPONENTS.—The application shall include, at a minimum, a description of the regional innovation cluster supported by the proposed activity, including a description of—

''(i) whether the regional innovation cluster is supported by the private sector, State and local governments, and other relevant stakeholders;

''(ii) how the existing participants in the regional innovation cluster will encourage and solicit participation by all types of entities that might benefit from participation, including newly formed entities and those rival existing participants;

''(iii) the extent to which the regional innovation cluster is likely to stimulate innovation and have a positive impact on regional economic growth and development;

''(iv) whether the participants in the regional innovation cluster have access to, or contribute to, a well-trained workforce;

''(v) whether the participants in the regional innovation cluster are capable of attracting additional funds from non-Federal sources; and

''(vi) the likelihood that the participants in the regional innovation cluster will be able to sustain activities once grant funds under this subsection have been expended.

''(C) SPECIAL CONSIDERATION.—The Secretary shall give special consideration to applications from regions that contain communities negatively impacted by trade.

''(5) SPECIAL CONSIDERATION.—The Secretary shall give special consideration to an eligible recipient who agrees to collaborate with local workforce investment area boards.

''(6) COST SHARE.—The Secretary may not provide more than 50 percent of the total cost of any activity funded under this subsection.

''(7) USE AND APPLICATION OF RESEARCH AND INFORMATION PROGRAM.—To the maximum extent practicable, the Secretary shall ensure that activities funded under this subsection use and apply any relevant research, best practices, and metrics developed under the program established in subsection (c).

''(c) SCIENCE AND RESEARCH PARK DEVELOPMENT GRANTS.—

''(1) IN GENERAL.—As part of the program established under subsection (a), the Secretary may award grants for the development of feasibility studies and plans for the construction of new science parks or the renovation or expansion of existing science parks.

''(2) LIMITATION ON AMOUNT OF GRANTS.—The amount of a grant awarded under this subsection may not exceed $750,000.

''(3) AWARD.—

''(A) COMPETITION REQUIRED.—The Secretary shall award grants under this subsection pursuant to a full and open competition.

''(B) GEOGRAPHIC DISPERSION.—In conducting a competitive process, the Secretary shall consider the need to avoid undue geographic concentration among any one category of States based on their predominant rural or urban character as indicated by population density.

''(C) SELECTION CRITERIA.—The Secretary shall publish the criteria to be utilized in any competition for the selection of recipients of grants under this subsection, which shall include requirements relating to the—

''(i) effect the science park will have on regional economic growth and development;

''(ii) number of jobs to be created at the science park and the surrounding regional community each year during its first 3 years;

''(iii) funding to be required to construct, renovate or expand the science park during its first 3 years;

''(iv) amount and type of financing and access to capital available to the applicant;

''(v) types of businesses and research entities expected in the science park and surrounding regional community;

''(vi) letters of intent by businesses and research entities to locate in the science park;

''(vii) capability to attract a well trained workforce to the science park;

''(viii) the management of the science park during its first 5 years;

''(ix) expected financial risks in the construction and operation of the science park and the risk mitigation strategy;

''(x) physical infrastructure available to the science park, including roads, utilities, and telecommunications;

''(xi) utilization of energy-efficient building technology including nationally recognized green building design practices, renewable energy, cogeneration, and other methods that increase energy efficiency and conservation;

''(xii) consideration to the transformation of military bases affected by the base realignment and closure process or the redevelopment of existing buildings, structures, or brownfield sites that are abandoned, idled, or underused into single or multiple building facilities for science and technology companies and institutions;

''(xiii) ability to collaborate with other science parks throughout the world;

''(xiv) consideration of sustainable development practices and the quality of life at the science park; and

''(xv) other such criteria as the Secretary shall prescribe.

''(4) ALLOCATION CONSTRAINTS.—The Secretary may not allocate less than one-third of the total grant funding allocated under this section for any fiscal year to grants under subsection (b) or this subsection without written notification to the Senate Committee on Commerce, Science, and Transportation and the House of Representatives Committees on Science and Technology and on Energy and Commerce.

''(d) LOAN GUARANTEES FOR SCIENCE PARK INFRASTRUCTURE.—

''(1) IN GENERAL.—Subject to paragraph (2), the Secretary may guarantee up to 80 percent of the loan amount for projects for the construction or expansion, including renovation and modernization, of science park infrastructure.

''(2) LIMITATIONS ON GUARANTEE AMOUNTS.—The maximum amount of loan principal guaranteed under this subsection may not exceed—

''(A) $50,000,000 with respect to any single project; and

''(B) $300,000,000 with respect to all projects.

''(3) SELECTION OF GUARANTEE RECIPIENTS.—The Secretary shall select recipients of loan guarantees under this subsection based upon the ability of the recipient to collateralize the loan amount through bonds, equity, property, and such other things of values as the Secretary shall deem necessary. Recipients of grants under subsection (c) are not eligible for a loan guarantee during the period of the grant. To the extent that the Secretary determines it to be feasible, the Secretary may select recipients of guarantee assistance in accord with a competitive process that takes into account the factors set out in subsection (c)(3)(C) of this section.

''(4) TERMS AND CONDITIONS FOR LOAN GUARANTEES.—The loans guaranteed under this subsection shall be subject to such terms and conditions as the Secretary may prescribe, except that—

''(A) the final maturity of such loans made or guaranteed may not exceed the lesser of—

''(i) 30 years; or

''(ii) 90 percent of the useful life of any physical asset to be financed by the loan;

''(B) a loan guaranteed under this subsection may not be subordinated to another debt contracted by the borrower or to any other claims against the borrowers in the case of default;

''(C) a loan may not be guaranteed under this subsection unless the Secretary determines that the lender is responsible and that provision is made for servicing the loan on reasonable terms and in a manner that adequately protects the financial interest of the United States;

''(D) a loan may not be guaranteed under this subsection if—

''(i) the income from the loan is excluded from gross income for purposes of chapter 1 of the Internal Revenue Code of 1986; or

''(ii) the guarantee provides significant collateral or security, as determined by the Secretary in coordination with the Secretary of the Treasury, for other obligations the income from which is so excluded;

''(E) any guarantee provided under this subsection shall be conclusive evidence that—

''(i) the guarantee has been properly obtained;

''(ii) the underlying loan qualified for the guarantee; and

''(iii) absent fraud or material misrepresentation by the holder, the guarantee is presumed to be valid, legal, and enforceable;

''(F) the Secretary may not extend credit assistance unless the Secretary has determined that there is a reasonable assurance of repayment; and

''(G) new loan guarantees may not be committed except to the extent that appropriations of budget authority to cover their costs are made in advance, as required under section 504 of the Federal Credit Reform Act of 1990 (2 U.S.C. 661c).

''(5) PAYMENT OF LOSSES.—

''(A) IN GENERAL.—If, as a result of a default by a borrower under a loan guaranteed under

this subsection, after the holder has made such further collection efforts and instituted such enforcement proceedings as the Secretary may require, the Secretary determines that the holder has suffered a loss, the Secretary shall pay to the holder the percentage of the loss specified in the guarantee contract. Upon making any such payment, the Secretary shall be subrogated to all the rights of the recipient of the payment. The Secretary shall be entitled to recover from the borrower the amount of any payments made pursuant to any guarantee entered into under this section.

''(B) ENFORCEMENT OF RIGHTS.—The Attorney General shall take such action as may be appropriate to enforce any right accruing to the United States as a result of the issuance of any guarantee under this section.

''(C) FORBEARANCE.—Nothing in this section may be construed to preclude any forbearance for the benefit of the borrower which may be agreed upon by the parties to the guaranteed loan and approved by the Secretary, if budget authority for any resulting subsidy costs (as defined in section 502(5) of the Federal Credit Reform Act of 1990) is available.

''(6) EVALUATION OF CREDIT RISK.—

''(A) The Secretary shall periodically assess the credit risk of new and existing direct loans or guaranteed loans.

''(B) Not later than 2 years after the date of the enactment of the America COMPETES Reauthorization Act of 2010, the Comptroller General of the United States shall—

''(i) conduct a review of the subsidy estimates for the loan guarantees under this section; and

''(ii) submit to Congress a report on the review conducted under this paragraph.

''(7) TERMINATION.—A loan may not be guaranteed under this section after September 30, 2013.

''(8) AUTHORIZATION OF APPROPRIATIONS.—There are authorized to be appropriated $7,000,000 for each of fiscal years 2011 through 2013 for the cost (as defined in section 502(5) of the Federal Credit Reform Act of 1990) of guaranteeing $300,000,000 in loans under this section, such sums to remain available until expended.

''(e) REGIONAL INNOVATION RESEARCH AND INFORMATION PROGRAM.—

''(1) IN GENERAL.—As part of the program established under subsection (a), the Secretary shall establish a regional innovation research and information program—

''(A) to gather, analyze, and disseminate information on best practices for regional innovation strategies (including regional innovation clusters), including information relating to how innovation, productivity, and economic development can be maximized through such strategies;

''(B) to provide technical assistance, including through the development of technical assistance guides, for the development and implementation of regional innovation strategies (including regional innovation clusters);

''(C) to support the development of relevant metrics and measurement standards to evaluate regional innovation strategies (including regional innovation clusters), including the extent to which such strategies stimulate innovation, productivity, and economic development; and

''(D) to collect and make available data on regional innovation cluster activity in the United States, including data on—

''(i) the size, specialization, and competitiveness of regional innovation clusters;

''(ii) the regional domestic product contribution, total jobs and earnings by key occupations, establishment size, nature of specialization, patents, Federal research and development spending, and other relevant information for regional innovation clusters; and

''(iii) supply chain product and service flows within and between regional innovation clusters.

''(2) RESEARCH GRANTS.—The Secretary may award research grants on a competitive basis to support and further the goals of the program established under this subsection.

''(3) DISSEMINATION OF INFORMATION.—Data and analysis compiled by the Secretary under the program established in this subsection shall be made available to other Federal agencies, State and local governments, and nonprofit and for-profit entities.

''(4) REGIONAL INNOVATION GRANT PROGRAM.—The Secretary shall incorporate data and analysis relating to any grant under subsection (b) or (c) and any loan guarantee under subsection (d) into the program established under this subsection.

''(f) INTERAGENCY COORDINATION.—

''(1) IN GENERAL.—To the maximum extent practicable, the Secretary shall ensure that the activities carried out under this section are coordinated with, and do not duplicate the efforts of, other programs at the Department of Commerce or other Federal agencies.

''(2) COLLABORATION.—

''(A) IN GENERAL.—The Secretary shall explore and pursue collaboration with other Federal agencies, including through multiagency funding opportunities, on regional innovation strategies.

''(B) SMALL BUSINESSES.—The Secretary shall ensure that such collaboration with Federal agencies prioritizes the needs and challenges of small businesses.

''(g) EVALUATION.—

''(1) IN GENERAL.—Not later than 3 years after the date of enactment of the America COMPETES Reauthorization Act of 2010, the Secretary shall enter into a contract with an independent entity, such as the National Academy of Sciences, to conduct an evaluation of the program established under subsection (a).

''(2) REQUIREMENTS.—The evaluation shall include—

''(A) whether the program is achieving its goals;

''(B) any recommendations for how the program may be improved; and

''(C) a recommendation as to whether the program should be continued or terminated.

''(h) DEFINITIONS.—In this section:

''(1) REGIONAL INNOVATION CLUSTER.—The term 'regional innovation cluster' means a geographically bounded network of similar, synergistic, or complementary entities that—

''(A) are engaged in or with a particular industry sector;

''(B) have active channels for business transactions and communication;

''(C) share specialized infrastructure, labor markets, and services; and

''(D) leverage the region's unique competitive strengths to stimulate innovation and create jobs.

''(2) SCIENCE PARK.—The term 'Science park' means a property-based venture, which has—

''(A) master-planned property and buildings designed primarily for private-public research and development activities, high technology and science-based companies, and research and development support services;

''(B) a contractual or operational relationship with one or more science- or research-related institution of higher education or governmental or non-profit research laboratories;

''(C) a primary mission to promote research and development through industry partnerships, assisting in the growth of new ventures and promoting innovation-driven economic development;

''(D) a role in facilitating the transfer of technology and business skills between researchers and industry teams; and

''(E) a role in promoting technology-led economic development for the community or region in which the science park is located. A science park may be owned by a governmental or not-for-profit entity, but it may enter into partnerships or joint ventures with for-profit entities for development or management of specific components of the park.

''(3) STATE.—The term 'State' means one of the several States, the District of Columbia, the Commonwealth of Puerto Rico, the Virgin Islands, Guam, American Samoa, the Commonwealth of the Northern Mariana Islands, or any other territory or possession of the United States.

''(i) AUTHORIZATION OF APPROPRIATIONS.—Except as provided in subsection (d)(8), there are authorized to be appropriated $100,000,000 for each of fiscal years 2011 through 2013 to carry out this section (other than for loan guarantees under subsection (d)).''.

SEC. 604. STUDY ON ECONOMIC COMPETITIVENESS AND INNOVATIVE CAPACITY OF UNITED STATES AND DEVELOPMENT OF NATIONAL ECONOMIC COMPETITIVENESS STRATEGY.

(a) STUDY.—

(1) IN GENERAL.—Not later than 1 year after the date of the enactment of this Act, the Secretary of Commerce shall complete a comprehensive study of the economic competitiveness and innovative capacity of the United States.

(2) MATTERS COVERED.—The study required by paragraph (1) shall include the following:

(A) An analysis of the United States economy and innovation infrastructure.

(B) An assessment of the following:

(i) The current competitive and innovation performance of the United States economy relative to other countries that compete economically with the United States.

(ii) Economic competitiveness and domestic innovation in the current business climate, including tax and Federal regulatory policy.

(iii) The business climate of the United States and those of other countries that compete economically with the United States.

(iv) Regional issues that influence the economic competitiveness and innovation capacity of the United States, including—

(I) the roles of State and local governments and institutions of higher education; and

(II) regional factors that contribute positively to innovation.

(v) The effectiveness of the Federal Government in supporting and promoting economic competitiveness and innovation, including any duplicative efforts of, or gaps in coverage between, Federal agencies and departments.

(vi) Barriers to competitiveness in newly emerging business or technology sectors, factors influencing underperforming economic sectors, unique issues facing small and medium enterprises, and barriers to the development and evolution of start-ups, firms, and industries.

(vii) The effects of domestic and international trade policy on the competitiveness of the United States and the United States economy.

(viii) United States export promotion and export finance programs relative to export promotion and export finance programs of other countries that compete economically with the United States, including Canada, France, Germany, Italy, Japan, Korea, and the United Kingdom, with noting of export promotion and export finance programs carried out by such countries that are not analogous to any programs carried out by the United States.

(ix) The effectiveness of current policies and programs affecting exports, including an assessment of Federal trade restrictions and State and Federal export promotion activities.

(x) The effectiveness of the Federal Government and Federally funded research and development centers in supporting and promoting technology commercialization and technology transfer.

(xi) Domestic and international intellectual property policies and practices.

(xii) Manufacturing capacity, logistics, and supply chain dynamics of major export sectors, including access to a skilled workforce, physical infrastructure, and broadband network infrastructure.

(xiii) Federal and State policies relating to science, technology, and education and other relevant Federal and State policies designed to promote commercial innovation, including immigration policies.

(C) Development of recommendations on the following:

(i) How the United States should invest in human capital.

(ii) How the United States should facilitate entrepreneurship and innovation.

(iii) How best to develop opportunities for locally and regionally driven innovation by providing Federal support.

(iv) How best to strengthen the economic infrastructure and industrial base of the United States.

(v) How to improve the international competitiveness of the United States.

(3) CONSULTATION.—

(A) IN GENERAL.—The study required by paragraph (1) shall be conducted in consultation with the National Economic Council of the Office of Policy Development, such Federal agencies as the Secretary considers appropriate, and the Innovation Advisory Board established under subparagraph (B). The Secretary shall also establish a process for obtaining comments from the public.

(B) INNOVATION ADVISORY BOARD.—

(i) IN GENERAL.—The Secretary shall establish an Innovation Advisory Board for purposes of obtaining advice with respect to the conduct of the study required by paragraph (1).

(ii) COMPOSITION.—The Advisory Board established under clause (i) shall be comprised of 15 members, appointed by the Secretary—

(I) who shall represent all major industry sectors;

(II) a majority of whom should be from private industry, including large and small firms, representing advanced technology sectors and more traditional sectors that use technology; and

(III) who may include economic or innovation policy experts, State and local government officials active in technology-based economic development, and representatives from higher education.

(iii) EXEMPTION FROM FACA.—The Federal Advisory Committee Act (5 U.S.C. App.) shall not apply to the advisory board established under clause (i).

(b) STRATEGY.—

(1) IN GENERAL.—Not later than 1 year after the completion of the study required by subsection (a), the Secretary shall develop, based on the study required by subsection (a)(1), a national 10-year strategy to strengthen the innovative and competitive capacity of the Federal Government, State and local governments, United States institutions of higher education, and the private sector of the United States.

(2) ELEMENTS.—The strategy required by paragraph (1) shall include the following:

(A) Actions to be taken by individual Federal agencies and departments to improve competitiveness.

(B) Proposed legislative actions for consideration by Congress.

(C) Annual goals and milestones for the 10-year period of the strategy.

(D) A plan for monitoring the progress of the Federal Government with respect to improving conditions for innovation and the competitiveness of the United States.

(c) REPORT.—

(1) IN GENERAL.—Upon the completion of the strategy required by subsection (b), the Secretary of Commerce shall submit to Congress and the President a report on the study conducted under subsection (a) and the strategy developed under subsection (b).

(2) ELEMENTS.—The report required by paragraph (1) shall include the following:

(A) The findings of the Secretary with respect to the study conducted under subsection (a).

(B) The strategy required by subsection (b).

SEC. 605. PROMOTING USE OF HIGH-END COMPUTING SIMULATION AND MODELING BY SMALL- AND MEDIUM-SIZED MANUFACTURERS.

(a) FINDINGS.—Congress finds that—

(1) the utilization of high-end computing simulation and modeling by large-scale government contractors and Federal research entities has resulted in substantial improvements in the development of advanced manufacturing technologies; and

(2) such simulation and modeling would also benefit small- and medium-sized manufacturers in the United States if such manufacturers were to deploy such simulation and modeling throughout their manufacturing chains.

(b) POLICY.—It is the policy of the United States to take all effective measures practicable to ensure that Federal programs and policies encourage and contribute to the use of high-end computing simulation and modeling in the United States manufacturing sector.

(c) STUDY.—

(1) IN GENERAL.—Not later than 30 days after the date of the enactment of this Act, the Secretary of Commerce, in consultation with the Secretary of Energy and the Director of the Office of Science and Technology Policy, shall carry out, through an interagency consulting process, a study of the barriers to the use of high-end computing simulation and modeling by small- and medium-sized manufacturers in the United States.

(2) FACTORS.—In carrying out the study required by paragraph (1), the Secretary of Commerce, in consultation with the Secretary of Energy and the Director of the Office of Science and Technology Policy, shall consider the following:

(A) The access of small- and medium-sized manufacturers in the United States to high-performance computing facilities and resources.

(B) The availability of software and other applications tailored to meet the needs of such manufacturers.

(C) Whether such manufacturers employ or have access to individuals with appropriate expertise for the use of such facilities and resources.

(D) Whether such manufacturers have access to training to develop such expertise.

(E) The availability of tools and other methods to such manufacturers to understand and manage the costs and risks associated with transitioning to the use of such facilities and resources.

(3) REPORT.—Not later than 270 days after the commencement of the study required by paragraph (1), the Secretary of Commerce shall, in consultation with the Secretary of Energy and the Director of the Office of Science and Technology Policy, submit to Congress a report on such study. Such report shall include such recommendations for such legislative or administrative action as the Secretary of Commerce considers appropriate in light of the study to increase the utilization of high-end computing simulation and modeling by small- and medium-sized manufacturers in the United States.

(d) AUTHORIZATION OF DEMONSTRATION AND PILOT PROGRAMS.—As part of the study required by subsection (c)(1), the Secretary of Commerce, the Secretary of Energy, and the Director of the Office of Science and Technology Policy may carry out such demonstration or pilot programs as either Secretary or the Director considers appropriate to gather experiential data to evaluate the feasibility and advisability of a specific program or policy initiative to reduce barriers to the utilization of high-end computer modeling and simulation by small- and medium-sized manufacturers in the United States.

TITLE VII—NIST GREEN JOBS

SEC. 701. SHORT TITLE.

This title may be cited as the ''NIST Grants for Energy Efficiency, New Job Opportunities, and Business Solutions Act of 2010'' or the ''NIST GREEN JOBS Act of 2010''.

SEC. 702. FINDINGS.

Congress finds the following:

(1) Over its 20-year existence, the Hollings Manufacturing Extension Partnership has proven its value to manufacturers as demonstrated by the resulting impact on jobs and the economies of all 50 States and the Nation as a whole.

(2) The Hollings Manufacturing Extension Partnership has helped thousands of companies reinvest in themselves through process improvement and business growth initiatives leading to more sales, new markets, and the adoption of technology to deliver new products and services.

(3) Manufacturing is an increasingly important part of the construction sector as the industry moves to the use of more components and factory built sub-assemblies.

(4) Construction practices must become more efficient and precise if the United States is to construct and renovate its building stock to reduce related carbon emissions to levels that are consistent with combating global warming.

(5) Many companies involved in construction are small, without access to innovative manufacturing techniques, and could benefit from the type of training and business analysis activities that the Hollings Manufacturing Extension Partnership routinely provides to the Nation's manufacturers and their supply chains.

(6) Broadening the competitiveness grant program under section 25(f) of the National Institute of Standards and Technology Act (15 U.S.C. 278k(f)) could help develop and diffuse knowledge necessary to capture a large portion of the estimated $100 billion or more in energy savings if buildings in the United States met the level and quality of energy efficiency now found in buildings in certain other countries.

(7) It is therefore in the national interest to expand the capabilities of the Hollings Manufacturing Extension Partnership to be supportive of the construction and green energy industries.

SEC. 703. NATIONAL INSTITUTE OF STANDARDS AND TECHNOLOGY COMPETITIVE GRANT PROGRAM.

(a) IN GENERAL.—Section 25(f)(3) of the National Institute of Standards and Technology Act (15 U.S.C. 278k(f)(3)) is amended—

(1) by striking ''to develop'' in the first sentence and inserting ''to add capabilities to the MEP program, including the development of''; and

(2) by striking the last sentence and inserting ''Centers may be reimbursed for costs incurred under the program. These themes—

''(A) shall be related to projects designed to increase the viability both of traditional manufacturing sectors and other sectors, such as construction, that increasingly rely on manufacturing through the use of manufactured components and manufacturing techniques, including supply chain integration and quality management;

''(B) shall be related to projects related to the transfer of technology based on the technological needs of manufacturers and available technologies from institutions of higher education, laboratories, and other technology producing entities; and

''(C) may extend beyond these traditional areas to include projects related to construction industry modernization.''.

(b) SELECTION.—Section 25(f)(5) of the National Institute of Standards and Technology Act (15 U.S.C. 278k(f)(5)) is amended to read as follows:

''(5) SELECTION.—

''(A) IN GENERAL.—Awards under this section shall be peer reviewed and competitively awarded. The Director shall endeavor to select at least one proposal in each of the 9 statistical divisions of the United States (as designated by the Bureau of the Census). The Director shall select proposals to receive awards that will—

''(i) create jobs or train newly hired employees;

''(ii) promote technology transfer and commercialization of environmentally focused materials, products, and processes;

''(iii) increase energy efficiency; and

''(iv) improve the competitiveness of industries in the region in which the Center or Centers are located.

''(B) ADDITIONAL SELECTION CRITERIA.—The Director may select proposals to receive awards that will—

''(i) encourage greater cooperation and foster partnerships in the region with similar Federal, State, and locally funded programs to encourage energy efficiency and building technology; and

''(ii) collect data and analyze the increasing connection between manufactured products and manufacturing techniques, the future of construction practices, and the emerging application of products from the green energy industries.''.

(c) OTHER MODIFICATIONS.—Section 25(f) of the National Institute of Standards and Technology Act (15 U.S.C. 278k(f)) is amended—

(1) by adding at the end the following:

''(7) DURATION.—Awards under this section shall last no longer than 3 years.

''(8) ELIGIBLE PARTICIPANTS.—In addition to manufacturing firms eligible to participate in the Centers program, awards under this subsection may be used by the Centers to assist small- or medium-sized construction firms. Centers may be reimbursed under the program for working with such eligible participants.

''(9) AUTHORIZATION OF APPROPRIATIONS.—In addition to any amounts otherwise authorized or appropriated to carry out this section, there are authorized to be appropriated to the Secretary of Commerce $7,000,000 for each of the fiscal years 2011 through 2013 to carry out this subsection.''.

TITLE VIII—GENERAL PROVISIONS

SEC. 801. GOVERNMENT ACCOUNTABILITY OFFICE REVIEW.

Not later than May 31, 2013, the Comptroller General of the United States shall submit a report to the Senate Committee on Commerce, Science, and Transportation and the House of Representatives Committee on Science and Technology that evaluates the status of the programs authorized in this Act, including the extent to which such programs have been funded, implemented, and are contributing to achieving the goals of the Act.

SEC. 802. SALARY RESTRICTIONS.

(a) OBSCENE MATTER ON FEDERAL PROPERTY.—None of the funds authorized under this Act may be used to pay the salary of any individual who is convicted of violating section 1460 of title 18, United States Code.

(b) USE OF FEDERAL COMPUTERS FOR CHILD PORNOGRAPHY OR EXPLOITATION OF MINORS.—None of the funds authorized under this Act may be used to pay the salary of any individual who is convicted of a violation of section 2252 of title 18, United States Code.

SEC. 803. ADDITIONAL RESEARCH AUTHORITIES OF THE FCC.

Title I of the Communications Act of 1934 (47 U.S.C. 151 et seq.) is amended by adding at the end the following:

''SEC. 12. ADDITIONAL RESEARCH AUTHORITIES OF THE FCC.

''In order to carry out the purposes of this Act, the Commission may—

''(1) undertake research and development work in connection with any matter in relation to which the Commission has jurisdiction; and

''(2) promote the carrying out of such research and development by others, or otherwise to arrange for such research and development to be carried out by others.''.

TITLE IX—DEPARTMENT OF ENERGY

SEC. 901. SCIENCE, ENGINEERING, AND MATHEMATICS EDUCATION PROGRAMS.

(a) IN GENERAL.—Sections 3171, 3175, and 3191 of the Department of Energy Science Education Enhancement Act (42 U.S.C. 7381h, 7381j, 7381p) are repealed.

(b) AUTHORIZATION OF APPROPRIATIONS FOR SUMMER INSTITUTES.—Section 3185(f) of the Department of Energy Science Education Enhancement Act (42 U.S.C. 7381n(f)) is amended—

(1) in paragraph (2), by striking ''and'' at the end;

(2) in paragraph (3), by striking the period at the end and inserting ''; and''; and

(3) by adding at the end the following:

''(4) $25,000,000 for each of fiscal years 2011 through 2013.''.

(c) CONFORMING AMENDMENTS.—

(1) Subpart B of the Department of Energy Science Education Enhancement Act (42 U.S.C. 7381g et seq.) is amended by striking chapters 1, 2, and 5 (42 U.S.C. 7381h, 7381j, 7381p).

(2) Section 3195 of the Department of Energy Science Education Enhancement Act (42 U.S.C. 7381r) is amended by striking ''chapters 1, 3, and 4'' each place it appears and inserting ''chapters 3 and 4''.

SEC. 902. ENERGY RESEARCH PROGRAMS.

(a) NUCLEAR SCIENCE TALENT PROGRAM.—Section 5004(f) of the America COMPETES Act (42 U.S.C. 16532(f)) is amended—

(1) in paragraph (1)—

(A) in subparagraph (B), by striking ''and'' at the end;

(B) in subparagraph (C), by striking the period at the end and inserting a semicolon; and

(C) by adding at the end the following:

''(D) $9,800,000 for fiscal year 2011;

''(E) $10,100,000 for fiscal year 2012; and

''(F) $10,400,000 for fiscal year 2013.''; and

(2) in paragraph (2)—

(A) in subparagraph (B), by striking ''and'' at the end;

(B) in subparagraph (C), by striking the period at the end and inserting a semicolon; and

(C) by adding at the end the following:

''(D) $8,240,000 for fiscal year 2011;

''(E) $8,500,000 for fiscal year 2012; and

''(F) $8,750,000 for fiscal year 2013.''.

(b) HYDROCARBON SYSTEMS SCIENCE TALENT PROGRAM.—Section 5005 of the America COMPETES Act (42 U.S.C. 16533) is amended—

(1) in subsection (b)(2)—

(A) in subparagraph (H), by striking ''and'' at the end;

(B) in subparagraph (I), by striking the period at the end and inserting ''; and''; and

(C) by adding at the end the following:

''(J) hydrocarbon spill response and remediation.''; and

(2) in subsection (f)(1)—

(A) in subparagraph (B), by striking ''and'';

(B) in subparagraph (C), by striking the period at the end and inserting a semicolon; and

(C) by adding at the end the following:

''(D) $9,800,000 for fiscal year 2011;

''(E) $10,000,000 for fiscal year 2012; and

''(F) $10,400,000 for fiscal year 2013.''.

(c) EARLY CAREER AWARDS.—Section 5006(h) of the America COMPETES Act (42 U.S.C. 16534(h)) is amended by striking ''2010'' and inserting ''2013''.

(d) PROTECTING AMERICA'S COMPETITIVE EDGE (PACE) GRADUATE FELLOWSHIP PROGRAM.—Section 5009(f) of the America COMPETES Act (42 U.S.C. 16536(f)) is amended—

(1) in paragraph (2), by striking ''and'' at the end;

(2) in paragraph (3), by striking the period at the end and inserting a semicolon; and

(3) by adding at the end the following:

''(4) $20,600,000 for fiscal year 2011;

''(5) $21,200,000 for fiscal year 2012; and

''(6) $21,900,000 for fiscal year 2013.''.

(e) DISTINGUISHED SCIENTIST PROGRAM.—Section 5011(j) of the America COMPETES Act (42 U.S.C. 16537(j)) is amended—

(1) in paragraph (2), by striking ''and'' at the end;

(2) in paragraph (3), by striking the period at the end and inserting a semicolon; and

(3) by adding at the end the following:

''(4) $31,000,000 for fiscal year 2011;

''(5) $32,000,000 for fiscal year 2012; and

''(6) $33,000,000 for fiscal year 2013.''.

SEC. 903. BASIC RESEARCH.

Section 971(b) of the Energy Policy Act of 2005 (42 U.S.C. 16311(b)) is amended—

(1) in paragraph (3), by striking ''and'' at the end;

(2) in paragraph (4), by striking the period at the end and inserting a semicolon; and

(3) by adding at the end the following:

''(5) $5,247,000,000 for fiscal year 2011;

''(6) $5,614,000,000 for fiscal year 2012; and

''(7) $6,007,000,000 for fiscal year 2013.''.

SEC. 904. ADVANCED RESEARCH PROJECTS AGENCY-ENERGY.

Section 5012 of the America COMPETES Act (42 U.S.C. 16538) is amended—

(1) in subsection (a)(3), by striking ''subsection (m)(1)'' and inserting ''subsection (n)(1)'';

(2) in subsection (c)(2)(A), by inserting ''and applied'' after ''advances in fundamental'';

(3) in subsection (e)—

(A) in paragraph (3)—

(i) by striking subparagraph (C) and inserting the following:

''(C) research and development of advanced manufacturing process and technologies for the domestic manufacturing of novel energy technologies; and''; and

(ii) in subparagraph (D), by striking ''and'' after the semicolon at the end;

(B) in paragraph (4), by striking the period at the end and inserting ''; and''; and

(C) by adding at the end the following:

''(5) pursuant to subsection (c)(2)(C)—

''(A) ensuring that applications for funding disclose the extent of current and prior efforts, including monetary investments as appropriate, in pursuit of the technology area for which funding is being requested;

''(B) adopting measures to ensure that, in making awards, program managers adhere to the purposes of subsection (c)(2)(C); and

''(C) providing as part of the annual report required by subsection (h)(1) a summary of the instances of and reasons for ARPA–E funding projects in technology areas already being undertaken by industry.'';

(4) by redesignating subsections (f) through (m) as subsections (g) through (n), respectively;

(5) by inserting after subsection (e) the following:

''(f) AWARDS.—In carrying out this section, the Director may provide awards in the form of grants, contracts, cooperative agreements, cash prizes, and other transactions.'';

(6) in subsection (g) (as redesignated by paragraph (4))—

(A) by redesignating paragraphs (1) and (2) as paragraphs (2) and (3), respectively;

(B) by inserting before paragraph (2) (as redesignated by subparagraph (A)) the following:

''(1) IN GENERAL.—The Director shall establish and maintain within ARPA–E a staff with sufficient qualifications and expertise to enable ARPA–E to carry out the responsibilities of ARPA–E under this section in conjunction with other operations of the Department.'';

(C) in paragraph (2) (as redesignated by subparagraph (A))—

(i) in the paragraph heading, by striking ''PROGRAM MANAGERS'' and inserting ''PROGRAM DIRECTORS'';

(ii) in subparagraph (A), by striking ''program managers for each of'' and inserting ''program directors for'';

(iii) in subparagraph (B)—

(I) in the matter preceding clause (i), by striking ''program manager'' and inserting ''program director'';

(II) in clause (iv), by striking '', with advice under subsection (j) as appropriate,'';

(III) by redesignating clauses (v) and (vi) as clauses (vi) and (viii), respectively;

(IV) by inserting after clause (iv) the following:

''(v) identifying innovative cost-sharing arrangements for ARPA–E projects, including through use of the authority provided under section 988(b)(3) of the Energy Policy Act of 2005 (42 U.S.C. 16352(b)(3));'';

(V) in clause (vi) (as redesignated by subclause (III)), by striking ''; and'' and inserting a semicolon; and

(VI) by inserting after clause (vi) (as redesignated by subclause (III)) the following:

''(vii) identifying mechanisms for commercial application of successful energy technology development projects, including through establishment of partnerships between awardees and commercial entities; and'';

(iv) in subparagraph (C), by inserting ''not more than'' after ''shall be''; and

(D) in paragraph (3) (as redesignated by subparagraph (A))—

(i) in subparagraph (A)—

(I) in clause (i), by striking ''and'' after the semicolon at the end; and

(II) by striking clause (ii) and inserting the following:

''(ii) fix the basic pay of such personnel at a rate to be determined by the Director at rates not in excess of Level II of the Executive Schedule (EX–II) without regard to the civil service laws; and

''(iii) pay any employee appointed under this subpart payments in addition to basic pay, except that the total amount of additional payments paid to an employee under this subpart for any 12-month period shall not exceed the least of the following amounts:

''(I) $25,000.

''(II) The amount equal to 25 percent of the annual rate of basic pay of the employee.

''(III) The amount of the limitation that is applicable for a calendar year under section 5307(a)(1) of title 5, United States Code.'';

(ii) in subparagraph (B), by striking ''not less than 70, and not more than 120,'' and inserting ''not more than 120'';

(7) in subsection (h)(2) (as redesignated by paragraph (4))—

(A) by striking ''2008'' and inserting ''2010''; and

(B) by striking ''2011'' and inserting''2013'';

(8) by striking subsection (j) (as redesignated by paragraph (4)) and inserting the following:

''(j) FEDERAL DEMONSTRATION OF TECHNOLOGIES.—The Director shall seek opportunities to partner with purchasing and procurement programs of Federal agencies to demonstrate energy technologies resulting from activities funded through ARPA–E.'';

(9) in subsection (l) (as redesignated by paragraph (4))—

(A) in paragraph (1), by striking ''4 years'' and inserting'' 6 years''; and

(B) in paragraph (2)(B), by inserting '', and the manner in which those lessons may apply to the operation of other programs of the Department'' after ''ARPA–E''; and

(10) in subsection (n) (as redesignated by paragraph (4))—

(A) in paragraph (2)—

(i) in subparagraph (A), by striking ''and'' after the semicolon at the end;

(ii) in subparagraph (B), by striking the period at the end and inserting a semicolon; and

(iii) by adding at the end the following:

''(C) $300,000,000 for fiscal year 2011;

''(D) $306,000,000 for fiscal year 2012; and

''(E) $312,000,000 for fiscal year 2013.'';

(B) by striking paragraph (4);

(C) by redesignating paragraph (5) as paragraph (4); and

(D) in paragraph (4)(B) (as redesignated by subparagraph (C))—

(i) by striking ''2.5 percent'' and inserting ''5 percent''; and

(ii) by inserting '', consistent with the goal described in subsection (c)(2)(D) and within the responsibilities of program directors described in subsection (g)(2)(B)(vii)'' after ''outreach activities''.

TITLE X—EDUCATION

SEC. 1001. REFERENCES.

Except as otherwise expressly provided, wherever in this title an amendment or repeal is expressed in terms of an amendment to, or repeal of, a section or other provision, the reference shall be considered to be made to a section or other provision of the America COMPETES Act (Public Law 110–69).

SEC. 1002. REPEALS AND CONFORMING AMENDMENTS.

(a) REPEALS.—The following provisions of the Act are repealed:

(1) Section 6001 (20 U.S.C. 9801).

(2) Part III of subtitle A of title VI (20 U.S.C. 9841).

(3) Subtitle B of title VI (20 U.S.C. 9851 et seq.)

(4) Subtitle C of title VI (20 U.S.C. 9861 et seq.).

(5) Subtitle E of title VI (20 U.S.C. 9881 et seq.).

(b) CONFORMING AMENDMENTS.—The Act is amended—

(1) by redesignating section 6002 (20 U.S.C. 9802) as section 6001;

(2) by redesignating subtitle D of title VI (20 U.S.C. 9871) as subtitle B of title VI; and

(3) by redesignating section 6401 (20 U.S.C. 9871) as section 6201.

SEC. 1003. AUTHORIZATIONS OF APPROPRIATIONS AND MATCHING REQUIREMENT.

(a) TEACHERS FOR A COMPETITIVE TOMORROW.—Section 6116 (20 U.S.C. 9816) is amended to read as follows:

''SEC. 6116. AUTHORIZATION OF APPROPRIATIONS.

''There are authorized to be appropriated to carry out this part $4,000,000 for each of fiscal years 2011 through 2013, of which—

''(1) $2,000,000 shall be available to carry out section 6113 for each of fiscal years 2011 through 2013; and

''(2) $2,000,000 shall be available to carry out section 6114 for each of fiscal years 2011 through 2013.''.

(b) ADVANCED PLACEMENT AND INTERNATIONAL BACCALAUREATE PROGRAMS AND MATCHING REQUIREMENT.—Section 6123 (20 U.S.C. 9833) is amended—

(1) in subsection (h)(1)—

(A) by striking ''100'' and inserting ''50''; and

(B) by striking ''200'' and inserting ''100''; and

(2) by striking subsection (l) and inserting the following:

''(l) AUTHORIZATION OF APPROPRIATIONS.—There are authorized to be appropriated to carry out this section $75,000,000 for each of fiscal years 2011 through 2013.''.

(c) ALIGNMENT OF EDUCATION PROGRAMS.—Section 6201(j), as redesignated by section 1002(b)(3), is amended to read as follows:

''(j) AUTHORIZATION OF APPROPRIATIONS.—There are authorized to be appropriated to carry out this section $120,000,000 for each of fiscal years 2011 and 2012.''.

MOTION TO CONCUR

The SPEAKER pro tempore. The Clerk will report the motion.

The Clerk read as follows:

Mr. Gordon of Tennessee moves that the House concur in the Senate amendment to H.R. 5116.

The SPEAKER pro tempore. Pursuant to House Resolution 1781, the motion shall be debatable for 1 hour, equally divided and controlled by the chair and ranking minority member of the Committee on Science and Technology.

The gentleman from Tennessee (Mr. GORDON) and the gentleman from Texas (Mr. HALL) each will control 30 minutes.

The Chair recognizes the gentleman from Tennessee.

□ 1340

GENERAL LEAVE

Mr. GORDON of Tennessee. Mr. Speaker, I ask unanimous consent that all Members may have 5 legislative days within which to revise and extend their remarks and include extraneous material on the bill, H.R. 5116.

The SPEAKER pro tempore. Is there objection to the request of the gentleman from Tennessee?

There was no objection.

Mr. GORDON of Tennessee. Mr. Speaker, I yield myself such time as I may consume.

On October 12, 2005, in response to a bipartisan request by the Science and Technology Committee and some of our colleagues in the Senate, LAMAR ALEXANDER and JEFF BINGAMAN, the National Academies released their report, ''Rising Above the Gathering Storm.'' The distinguished panel painted a very scary picture. The report made it clear that, without action, the future was bleak for our children and grandchildren. This report was, without question, a call to arms.

September of this year, Norm Augustine released, ''Rising Above the Gathering Storm, Revisited: Rapidly Approaching Category 5.'' The updated report highlights progress that has been made in the past 5 years, including enactment of the original America COMPETES Act, but he underscores that America's competitive position in the world now faces greater challenges and that research investments are even more critical today.

The message from the report is clear: We need to double-down on our investments in science and technology. The worst thing we could do would be to downshift while the rest of the world kicks it into high gear.

As chairman of the Gathering Storm Committee and former chairman and CEO of Lockheed Martin, Norm Augustine said, in all the years he was an aircraft engineer and dealing with the common dilemma of trying to make an overweight aircraft fly, the solution was never to lop off an engine. Science funding is the engine of a knowledge-based economy. If we remove it, our economy will crash and burn.

More than half of our economic growth since World War II can be attributed to development and adoption of new technologies. These investments are the path towards sustained economic recovery and growth and the path toward prosperity for the next 50 years. There is an undeniable relationship between investment in R&D and the creation of jobs, the creation of companies, and economic growth.

The Science Coalition, a nonprofit, nonpartisan organization of the Nation's leading research universities, released a report entitled, ''Sparking Economic Growth: How Federally Funded University Research Creates Innovation, New Companies and Jobs.'' This report tells the stories of 100 companies, including Google, Cisco, SAS, Genentech, Orbital Sciences, Sun Power, Medtronic, Hewlett Packard, and many others, that were all created based on research funded with Federal dollars.

The U.S. Chamber of Commerce, the Business Roundtable, the National Association of Manufacturers, the Council on Competitiveness, and the Task Force on American Innovation all understand the benefits to U.S. companies of making a sustained commitment to research and STEM education. We have a huge opportunity before us to make progress toward that goal.

While there have been concessions made in light of the economic environment, this bill preserves the intent of the ''Rising Above the Gathering Storm'' report and the original COMPETES. It keeps our basic research agencies on a doubling path. It continues to invest in high-risk, high-reward energy technology development. It will help improve STEM education, and it will help unleash the American spirit of innovation. COMPETES is, and will continue to be, a bipartisan, bicameral effort about which every Member can feel proud.

I applaud all of the people who have worked on this bill, including all the members of the Science and Technology Committee and my dear friend, RALPH HALL. This has been a team effort, across the aisle and across the Capitol.

I also want to take a moment to extend a sincere and heartfelt thank you to the staff of the Committee on Science and Technology, both minority and majority. Their tireless efforts in crafting the House version of this legislation, working through the tough spots, and shepherding it to final passage today deserves special acknowledgment. Without them, this reauthorization of COMPETES would not have been possible.

We are all familiar with the legions of smart, talented professionals who grace the corridors of this institution, and I am sure each of us is impressed on a regular basis with the knowledge and expertise of the staff we work with most closely. However, I am always amazed by the wealth of knowledge lodged with the staff of the Science and Technology Committee. I simply can't say enough about the staff's talent, insight, and institutional knowledge. Their hard work has made the Science Committee more productive, and it has made me a better chairman.

Mr. Speaker, I am proud that, in the two terms that I have had the privilege to lead the Science and Technology Committee, the committee has had 151 bills and resolutions pass the House, all with bipartisan support. But there is nothing that I am more proud of than the America COMPETES Act. There is nothing that we have done that will have deeper, longer lasting, and more positive impacts on our Nation than this bill.

I cannot think of anything I would rather be doing, on what is likely my final act on this House floor after 26 years of service, than sending this bill to the President's desk. It's important to me personally because I have a 9-year-old daughter, and if we do not want our children and grandchildren to inherit a national standard of living less than their parents, a reversal of the American Dream, we need to support research, foster innovation, and improve education.

The business community has urged us to pass this bill to support research, foster innovation, and improve education. The academic community has urged us to pass this bill to support research, foster innovation, and improve education. The scientific community has urged us to pass this bill to support research, foster innovation, and improve education. And every one of our colleagues in the Senate has agreed that this bill needs to be sent to the President's desk so the U.S. can support research, foster innovation, and improve education and create 21st century jobs.

I urge my colleagues to stand with the business community, the academic community, the scientific community, and to send a strong message that the U.S. must maintain its scientific and economic leadership.

With that, I reserve the balance of my time.

Mr. HALL of Texas. Mr. Speaker, I rise today in support of a very robust basic research and yield myself as much time as I may consume.

This COMPETES Act is back again. It's been here before, and it's living proof that Billy Graham was right when he said you can hate the sin but love the sinner. I'm fond of BART GORDON, have worked with him. We're going to miss him when he leaves here. But I've never really liked to have a great bill like COMPETES with so much piled on it, so many hundreds of thousands and millions of dollars piled on it that has never really been debated on either floor.

I've stated on this floor a lot of times this year, I remain committed to the goals of the original America COMPETES. Unfortunately, the Senate omnibus language before us today includes a hodgepodge of so many extraneous measures that it is indeed most surprising that we are considering this 5 days before Christmas. Like the House-passed version, it continues to take us off track from what he set out to do, in a bipartisan fashion, more than 5 years ago.

In 2007, Congress responded to the recommendations of many experts that the Federal Government must increase its investment in basic research and in science and math education by developing the America COMPETES Act. The principles behind the legislation were sound, bipartisan, and well-understood.

When COMPETES first passed, our budget deficit was projected at $160 billion, and the national debt was $8 trillion. Sadly, today, just 3 years later, the deficit's projected not $160 billion but $1.5 trillion, and the national debt is over $13 trillion, a 60 percent increase in less than 3 years. This dramatic collapse in our fiscal condition demands that we get spending under control and work harder than ever to patronize taxpayer dollars.

Before I delve into the depths of the bill, let me discuss the process that brought us to this point.

The Senate negotiated amongst themselves and hotlined a bill, then passed it via unanimous consent, that is much different than the bill reported out of even the Senate conference committee back in July. The report on that bill was not filed until December 10, and we didn't see the actual text of the amendment before us until last Friday, this past Friday. We still don't have a complete CBO cost estimate.

□ 1350

Now as we are under a closed rule, we are considering a measure that the Senate has spoken on; but the House as a body, both Democrats and Republicans alike, are having to either accept or reject the Senate's desire in whole, with no opportunity to offer amendments. This is not the way the American people want us to do their business.

They told us in November that they want us to do things differently, and this lame duck Congress is going against those wishes and denying us opportunity to carefully review the items in this $46 billion amendment.

Men who are much smarter than me and whom I greatly respect, like Norm Augustine and Peter O'Donnell, Jr., have encouraged me to support this bill. But, Mr. Speaker, it is hard for me to say that I just can't support this version of COMPETES. If this Senate COMPETES amendment is defeated today, I pledge as the incoming chairman of the Science and Technology Committee to reintroduce the good, fiscally responsible pieces of this comprehensive legislation agency by agency and issue by issue, giving each individual piece the opportunity to be reviewed and voted on by every Member.

Science and technology are the fundamental movers of our economy, and if we want to remain globally competitive, this bill should be considered in smaller pieces and not on the last day of a lame duck congressional session.

Yes, our friends in the Senate have made it a 3-year reauthorization bill, and, yes, they have nearly cut the cost in half; but this $46 billion bill still contains $7.4 billion in new spending.

My good friend and chairman of the committee will tell you that the Senate stripped a number of provisions from the version previously passed and trimmed the bill considerably. I, too, think the Senate missed an opportunity to retain some of the House-passed language, particularly language to assist institutions serving our Nation's veterans and those with disabilities, and language to eliminate pay for Federal employees officially disciplined for viewing, downloading, or exchanging pornography on their work computers.

Unfortunately, it also does not include two bipartisan interagency bills

that passed the House as standalone legislation, bills that would reauthorize our Nation's nanotechnology program and our networking information technology R&D program, NITRD.

On the other hand, I am heartened to see that the Senate removed a number of expensive and in many cases duplicative initiatives added by the House both in committee and on the floor: among them energy hubs, a clean energy consortium, never-before-funded STEM programs at the Department of Education, a laboratory science program, and a decades-old infrastructure construction program at the National Science Foundation.

Alas, it is the items that they did not remove or have not removed on their own, without our input, that cause me the most heartburn. I still have great concern that we are authorizing ARPA-E to the tune of $900 million. This program was never voted on by the House or Senate outside of a conference report, nor has it ever received appropriate funding outside of the stimulus bill. Yet we are going to authorize $900 million to a program that focuses on late-stage technology development and commercialization activities often already supported by the private sector. The amendment before us also keeps and expands a loan guarantee program to build or renovate science parks and develop ''regional innovation clusters,'' alters the MEP program for NIST to make grants to construction and green energy companies, and puts NSF in the business of replicating university programming for future STEM teachers.

Mr. Speaker, correct me if I'm wrong, but America COMPETES is about making this Nation more competitive and ensuring that our basic research agencies have the funding they need to pursue the unknown and scientific and engineering breakthroughs that propel us into the future. It is not about turning these agencies into infrastructure contractors and leaders or oracles, for that matter, who pick winners and losers.

As much as I want to support COMPETES and see NSF, NIST, and the DOE Office of Science reauthorized, I simply can't support this version.

Just like I stated when the House took up the measure on all three previous occasions, this measure continues to be far too expensive, particularly in light of the new and duplicative programs it creates. Further, we have not had the opportunity to give proper oversight to the programs we put in motion in the first COMPETES before authorizing new, additional programs. And, unfortunately, this bill still goes way beyond the goals and direction of the original America COMPETES, taking us from good, solid fundamental research and much too far into the world of commercialization, which many of us on this side of the aisle do not believe is the proper role of the Federal Government.

I want to again thank BART GORDON for the good services he's rendered and for the good service he'll render as a civilian over in the great State of Tennessee.

I reserve the balance of my time.

Mr. GORDON of Tennessee. Mr. Speaker, I yield 2 minutes to the gentleman from Illinois (Mr. LIPINSKI), the chairman of the Subcommittee on Research and Science Education.

Mr. LIPINSKI. Mr. Speaker, as unemployment remains painfully high, and we see our students falling behind in math and science, Americans are asking: What can be done to make our future better?

Although today's bill won't gain big headlines, it is a critical step forward. This approach to research, education, and innovation will lead to a better prepared and better educated domestic workforce and an economy built for long-term success.

I am particularly grateful for the leadership of Chairman BART GORDON, the driving force behind the original COMPETES bill and this reauthorization. He has accomplished much in his 26 years in Congress and has fought tirelessly to make Congress and all Americans realize that science and engineering advancements mean economic growth.

As a former college professor, an engineer, and an advocate for American manufacturing, I firmly believe that this bill will help create jobs and ensure a higher standard of living for future generations.

Much of the National Science Foundation title of this bill comes from my bill in the Research and Science Education Subcommittee. Although not as much as I would like to see, this compromise authorizes a steady, responsible increase in research and STEM education funding and properly emphasizes commercialization. The bill also includes language based on the GENIUS Act I introduced with FRANK WOLF to authorize offering cash prizes for solutions to our most difficult scientific problems.

Perhaps most important are the provisions that will help reinvigorate American manufacturing, including the newly created NSF manufacturing research program, and an initiative to help smaller manufacturers reduce costs and increase quality through high-performance computing.

The bill calls for a national competitiveness strategy that includes some elements from my National Manufacturing Strategy Act that the House passed this past summer.

I urge my colleagues to join me not only in voting for this today, but also fighting to fully fund it. If we want to maintain our economic strength, we cannot shortchange critical investments made in this bill for our people or for our research infrastructure. I urge passage of this bill, and I want to especially thank Chairman BART GORDON for all of his work in Congress and all that he has accomplished. This bill is a great testament to his leadership.

Mr. HALL of Texas. Mr. Speaker, I yield 5 minutes to the gentleman from Michigan (Mr. EHLERS).

Mr. EHLERS. Mr. Speaker, I thank the gentleman for yielding. I did not expect to speak, and I do not have any prepared comments or notes; but I am going to speak on issues of science which I feel qualified to speak on because I am a scientist, specifically a nuclear physicist. I also want to make it clear I have never received any grant money from the NSF. When I did research, I was supported by the Federal Government directly through the Department of Energy or by the U.S. Navy.

The Federal Government plays an important role in guiding the economy of our Nation. Much of that role is carried forth by the National Science Foundation and some of the other funding agencies.

Let me just give one specific example which I am very familiar with because it is related to my area of research. My good friend, Charlie Townes, who won a Nobel Prize for developing the laser, discovered some years ago that he could make a maser—microwave amplification by stimulated emission of radiation. He decided he could do it with microwaves, and he could do it with light.

So he developed a laser and won the Nobel Prize. How much money did he get from the Federal Government for his research, I don't really know, but I would guess probably not more than $50,000. How much has that contributed to the economy of this Nation? Billions and billions of dollars. Just look at the laser industry and the use of lasers today in so many ways—a huge payoff on government investment in research.

□ 1400

Also, we tend to fund the National Institutes of Health with a healthy amount every year because we are very interested in improving health. How many in this body know that some of the greatest discoveries in health were done by physicists, many of whom were supported by the National Science Foundation? X rays, how would we get along without x rays? Discovered by a physicist, a gentleman by the name of Rontgen in Germany. What about the MRI? The basic concepts developed by physicists. The same for the CAT scan. The basic idea was developed by physicists—not by doctors, not by M.D.'s, but physicists doing basic research. And that's what the National Science Foundation is all about, and that's what keeps our economy stimulated in this Nation.

We have a great deal to fear from the nation of China. China is investing huge amounts of money and is training more engineers and scientists far more than we are producing. They are spending a lot of money on research. And if we wonder why they are doing better than we are in the Nation's economy, it is largely because they are supporting the people who contribute to the development of technology, science, et cetera.

Now, I worked on this issue several years ago. I do not claim credit for the

COMPETES Act. But I did work with Sherry Boehlert, a Congressman who was chairing the Science Committee; FRANK WOLF, who was the chair of the Appropriations Committee dealing with science, and at the suggestion of FRANK WOLF, I arranged for a meeting with the White House. I tried to meet with President Bush. Instead, I met with the Director of the Office of Management and Budget. And over breakfast, I explained, in far more detail than I can do here, precisely what this country needed if we are going to compete in the international marketplace. And the Director of Management and Budget said afterwards, You sold me, but where are we going to get the money? I said, I have ideas for that, too, and presented my ideas.

Out of that, in the next State of the Union speech, President George W. Bush developed the idea of the COMPETES Act. And it was a delight to work with the White House, with the President and with the Office of Management and Budget in developing the COMPETES Act.

Now, I know some of you are concerned about some aspects of the COMPETES Act as it is before us today. I share some of those concerns but certainly not all of them. But the basic point here is that, if we do not act, we are letting down the manufacturers of America.

I was here for the debate on the rule, and I noticed a gentleman from Oklahoma commenting against this act, we should not be supporting this sort of thing. That is very easy to say if you are representing a State where you simply drill holes in the ground and pull out money in the form of oil. Michigan does not have that. Michigan has to work very, very hard to manufacture cars that will sell to the public and get its money, and we all know what has happened there over the last few years.

I think it's very important that we recognize we are not going to compete successfully in the international marketplace unless we invest more money in research, research which is then used by manufacturers to develop new products and to make money and provide jobs.

I strongly urge us to pass this bill. I know it has shortcomings. There are a lot of things I am not happy with either. But the Republicans are taking over next year, and we can then proceed to write the bill precisely the way we want it. But I urge that we do not kill this bill at this time but, rather, that we pass it.

Mr. GORDON of Tennessee. Mr. Speaker, let me first congratulate Dr. EHLERS on a stellar congressional career. His contribution to the Science Committee was enormous, and he will be missed. And having spent as much time as I have on the Science Committee, you develop affection for the committee, for the people, for the Members, and for the staff.

So it is with, really, gratitude that I know that the gentlelady from Texas (Ms. EDDIE BERNICE JOHNSON) is going to be the ranking member in the coming 112th Congress, and I yield to her 5 minutes.

Ms. EDDIE BERNICE JOHNSON of Texas. Mr. Speaker, I do rise in support of H.R. 5116, the America COMPETES Reauthorization Act. And I am proud to say that I have worked with Dr. EHLERS, with our incoming chairman, Mr. HALL, as well as our outgoing chairman.

We all know that the reauthorization of America COMPETES is to ensure that our future is more prosperous than our past. It is about ensuring America's memories are honored by investing in dreams that are even higher. The legislation before the U.S. Congress today is a message, a message that makes America understand that we are not here just to compete but to lead the 21st century.

As a member of the House Science and Technology Committee for over 18 years, I am proud to be an author of this bipartisan legislation. As it returns from the Senate, it is not the same bill that we sent over. But nothing is perfect around here, and we are not headed in the future to be perfect. But we must stand up and make sure that our responsibilities to our country and to our future will be intact. Therefore, I will support this legislation and hope that we can improve it at another time.

I am eager to serve with Mr. HALL, as ranking member on the committee, and I hope that we can continue to look at what this country needs to do to educate its young people so that we can be in the future. We are losing ground, and I hope that we will find ways to regain it. I have in mind to try to bring with the chairman a group of CEOs, superintendents, teachers together around the table so we can all understand what we must do to educate our young people for the future if we want to be anywhere near competing with the rest of the world.

I am pleased that this bill reauthorized the Noyce Teacher Scholarship Program, a program which I helped to shape. This program helps to prepare thousands of qualified new teachers and provides current teachers with academic and development courses. Every bit of our research shows that that's one of our major problems. We have teachers teaching courses where they have never majored. Seventy percent of them, as a matter of fact, in this country are teaching courses where they never majored.

It is never going to be what we want as long as we have teachers teaching math, science, engineering that have never majored in it in college. We have to have teachers who are more prepared. And as women and minorities continue to be underrepresented in the sciences, it is unfortunate that the Senate chose to cut out the Fulfilling the Potential of Women in Academic Science and Engineering Act. I have sponsored that for two sessions. I will again. I do not believe that we, as a Nation, can compete ever with ignoring the fact that 50 percent of its brainpower is left behind. I am pleased that this bill does prohibit the consolidation of programs that serve minority institutions and students in the National Science Foundation.

We must be proactive. We have more work to ensure that all Americans are afforded the same chance to compete in the 21st century. It is not an in-your-face. It is not a civil rights act. It is to make sure that the majority of the students in this Nation become prepared to save this Nation.

We cannot sit around and think that it is going to happen without effort. We need to help our schools around the Nation to elevate their math and science programs so that they can achieve the standard exemplified by the School of Science and Engineering at Townview, a high school in my district, in Dallas, Texas, which is rated one of the best public schools in the Nation. But that's only 20 percent of the students in the District. We must make sure that that quality of education is offered to all of our students.

I want to commend Chairman GORDON and Ranking Member, soon-to-be chairman, Mr. HALL for their hard work on the legislation. And I believe that if nothing else gels us as a committee, looking out for our young people and the future of our Nation will become a real goal to achieve because it represents what is bipartisan; it represents a concerted effort to create a more competitive science and engineering workforce.

I support this bill, Mr. Speaker. It is not perfect. But we have got to move on and look to the future.

□ 1410

Mr. HALL of Texas. Mr. Speaker, I say to my colleague who will be working side by side with me for the next 2 years, my neighbor from Dallas and Rockwall County, that I appreciate her, look forward to working with her. She was the very first person, when I switched parties, to call me and say it didn't matter one iota to her. I've always appreciated her for that, and I still do and I will.

And thank you, Dr. EHLERS, a man who's always educated for us. That's his thrust, and he's done a good job. But for him, we'd have gone the wrong way a lot of times.

I now yield 5 minutes to the gentleman from Georgia (Mr. BROUN).

Mr. BROUN of Georgia. Mr. Speaker, I rise today in opposition to the Senate amendment to H.R. 5116, the American COMPETES Reauthorization Act of 2010.

But before sharing my views on this COMPETES reauthorization, I want to take this opportunity to share my frustration and express the frustration of my constituents. I know that I'm not alone in the view that working on consequential pieces of legislation in a lame duck session, outside of the proper legislative process, is simply wrong.

In fact, it could be argued that it's unconstitutional.

The 20th amendment of the Constitution moved the start date of new Congresses from March to January to stop exactly what we're doing here today, passing important legislation in a lame duck session. In 1932, Democratic Representative Wilburn Cartwright of Oklahoma stated, ''This amendment will free Congress of the dead hand of the so-called lame duck.'' Sadly, he could not have been more wrong.

The Democrats are using this lame duck session to continue pursuing their rejected agenda. This is no different than a CEO being fired and continuing to make major decisions for the company that he was just fired from for another 2 months. We must stop this end-run around the electoral process and the U.S. Constitution by prohibiting further lame duck legislation.

Now, this COMPETES reauthorization is the perfect example of why we need to end lame duck legislation. It contains reckless spending and misguided policy initiatives. The closed-door process through which it was developed is irresponsible at a time when the Federal deficit has ballooned to $1.5 trillion, and our national debt will soon eclipse $14 trillion. These unprecedented figures are not deterring our Democratic colleagues from authorizing over $45 billion of spending, $7 billion of which is new spending in this bill.

Beyond the out-of-control spending, a clear shift in policy priorities away from those envisioned in the original COMPETES process now exists in this bill.

When the National Academy of Sciences unveiled the ''Gathering Storm'' report in 2005, it identified funding for long-term basic research as the top priority for science and technology. Today's reauthorization emphasizes late-stage technology commercialization activities and beyond to manufacturing and construction activities, priorities that should not be the responsibility of the Federal Government.

For example, title VI of this bill creates a loan guarantee program to stabilize innovative manufacturing, a loan guarantee program to subsidize construction and renovation of research parks, and a vaguely defined regional innovation program to support grants to create innovation clusters as well as construct and renovate research parks.

Finally, I want to note my disappointment associated with the process on this bill. Many Republican amendments that were incorporated in the House-passed bill were changed or deleted without any Member consultation. This was the case with an amendment I offered prohibiting any lobbying effort associated with the activities authorized in the bill.

This bill spends money that we don't have on things we don't need and, in some cases, on things the government simply should not be involved in. It is the product of backroom dealings that excluded House Republicans, and it simply should not pass at this late stage of 111th Congress.

I urge opposition to this bill. I urge a ''no'' vote.

Mr. GORDON of Tennessee. Mr. Speaker, for the purposes of a unanimous consent request, I yield to a very important contributor to this bill, the gentleman from California (Mr. MILLER), chairman of the Education and Labor Committee.

(Mr. GEORGE MILLER of California asked and was given permission to revise and extend his remarks.)

Mr. GEORGE MILLER of California. I thank the chairman for yielding, and I thank him for all of his work on this legislation.

Mr. Speaker, I rise today in strong support of the America COMPETES Reauthorization Act.

This legislation makes strategic and smart investments in students pursuing degrees in the science, technology, engineering or math fields.

It continues the Noyce Teacher Scholarship Program, which encourages students studying in STEM fields to earn a teaching credential and enter the classroom.

It makes changes to encourage more colleges and universities to participate in these programs.

This will ensure we have prepared teachers in our nation's science and mathematics classrooms to educate and inspire the next generation of engineers and entrepreneurs.

The COMPETES Act also continues funding for the Advanced Placement and International Baccalaureate programs—programs that set high standards and give students the advanced skills they need for the workforce of tomorrow.

This legislation couldn't come at a more important time. It invests in our future competitiveness at a time when our global reputation is not where it should be.

Over just the past few years we have begun to reinvigorate and awaken the American drive to innovate, but we have much further to go.

Earlier this month, the results of the 2009 Program for International Student Assessment showed that the United States ranks average, or 17th out of the 33 other industrialized nations.

The difference between the countries at the top of these rankings and the U.S. is that the countries that are outperforming us have made developing the best education system in the world a national goal.

They've recognized that the strength of their economy will be inextricably tied to the strength of their education system in the 21st century.

It is time we decide as a nation that we can no longer afford to stay just average.

By passing this legislation, we will continue our efforts to strengthen the STEM fields. We will improve our global competitiveness and our economic stability.

I urge all my colleagues to support this bill.

Mr. GORDON of Tennessee. Mr. Speaker, I yield 2 minutes to the gentleman from Oregon (Mr. WU), the subcommittee chairman on Technology and Innovation, someone who made a great contribution to this bill.

Mr. WU. Mr. Speaker, I rise in strong support of this reauthorization bill, and I want to just point out to my friend from Georgia that not everything that one is opposed to is unconstitutional. And I share the gentleman's concern about this lame duck session. And if the gentleman wanted to propose a constitutional amendment to move our swearing-in date to the first Tuesday in November, perhaps his concerns would be addressed. But pending that, we have a lot of legitimate activity for very, very important legislation. And I can think of no greater tribute to the outgoing chairman, Mr. GORDON, and Mr. HALL, who has worked with the chairman for a long time on this legislation, than the passage of this bill.

I'm particularly proud of the contribution that my subcommittee, the Technology and Innovation Subcommittee, has made to this legislation, because long-term investment in innovation is absolutely crucial to our Nation's global competitiveness, and we have a responsibility to support the kind of economic environment that empowers our Nation's private sector to innovate and create high-wage, private-sector jobs.

The bipartisan legislation that we are considering today will strengthen our Nation's economic competitiveness by helping to create an environment that encourages innovation and which facilitates growth.

As the chairman rightfully pointed out, innovation accounted for greater than 50 percent of U.S. GDP growth from World War II to the year 2000, and innovation can help America grow our way out of our current anemic economic state.

Among other things, the bill makes crucial investments in the Manufacturing Extension Partnership, which will help us better address the needs of our Nation's small and medium-sized manufacturers.

The bill will also help ensure that students and trainees will have what is necessary to secure a good-paying job in their own community by requiring MEP centers to work with community colleges to train for the skills needed by local manufacturers.

The SPEAKER pro tempore (Mrs. HALVORSON). The time of the gentleman has expired.

Mr. GORDON of Tennessee. I yield the gentleman an additional 30 seconds.

Mr. WU. This is great legislation. The chairman has done a great job, and I urge passage.

Mr. HALL of Texas. Madam Speaker, I reserve the balance of my time.

Mr. GORDON of Tennessee. Madam Speaker, I yield 2 minutes to our resident authority on nuclear energy, the gentleman from California (Mr. GARAMENDI).

Mr. GARAMENDI. I want to commend you, Mr. Chairman, for an extraordinary piece of work, and Ranking Member HALL and the other members

of the committee. I came to this committee halfway through the year, and I was absolutely amazed and delighted to see the intensity of discussions—35 separate hearings.

And my colleague from Georgia who thinks we ought to put this off, I cannot imagine leaving a job half done—not half done, but 99 percent done, and then let it go after all the work that's been put together here.

This is a good bill. I don't ever like what the other House does to my legislation, and I'm sure all of us feel the same way. But what I'd like to point out here in this bill is that there are basically five things that this Nation needs to do if we're going to succeed economically: best education, best research, make the things that come from that research, have the infrastructure, and then be international.

□ 1420

This is about three of those things, three very important things. The education, the STEM education is in this legislation. Without it, we will never be able to compete. And we ought not wait until next year to get that going.

Secondly, with regard to the research, it is fundamental. I come from California, the great Silicon Valley and all of those new technologies come from the research at the universities in the surrounding area. This legislation promotes that research agenda across the Nation, not just in California, but at every other research institution throughout the United States.

And finally, there is a major piece of this legislation that talks about making it in America. If we are going to have a strong middle class, a strong economy, we must once again make it in America. This legislation provides some fundamental elements necessary for us to do that. For example, the loan guarantee that was degraded just a few moments ago is exceedingly important because that's the valley of death. How does an entrepreneur, how does a new business get through the valley of death? That's what this is about.

This legislation also provides a way in which we can coordinate our manufacturing expertise. With that, we ought to pass this bill and acknowledge the enormous amount of work that was done over the last Congress.

Mr. HALL of Texas. I continue to reserve the balance of my time.

Mr. GORDON of Tennessee. Madam Speaker, may I inquire as to the amount of time that is remaining.

The SPEAKER pro tempore. The gentleman from Tennessee has 12½ minutes remaining and the gentleman from Texas has 13 minutes remaining.

Mr. GORDON of Tennessee. Madam Speaker, I yield 1 minute to the gentlelady from Maryland (Ms. EDWARDS), who has been a very active and articulate member of our committee.

Ms. EDWARDS of Maryland. Thank you to the chairman for your leadership and your vision. I rise today in strong support of the work that you have put in on America COMPETES. It's legislation that's going to usher in a new era of scientific and economic leadership and prosperity for the country.

In particular, I want to highlight an amendment I authored that will give special consideration to high-needs schools and underrepresented teachers and minorities when determining STEM fellowship grants. My colleagues, we often come together to discuss the importance of education, laying the groundwork for economic prosperity. And here, America COMPETES is an important step forward to laying that foundation, to ensuring that opportunities provided in this legislation will be available to all of our young people, regardless of race or economic circumstance.

This is a game changer; not a Hail Mary pass but a playoff strategy for the future and for the long term success of our children. And we need all of these players on the field. So today let's put our shared sentiments into action, send America COMPETES to the President's desk so we can continue to generate economic competitiveness, creating high-wage jobs, and educating and preparing all our young people for the future.

Mr. HALL of Texas. Madam Speaker, I continue to reserve the balance of my time.

Mr. GORDON of Tennessee. Madam Speaker, I yield 1 minute to another active member of our committee from Michigan (Mr. PETERS), who has been very active particularly in advanced vehicle technology.

Mr. PETERS. Madam Speaker, the America COMPETES Act supports American manufacturing, innovation, and global competitiveness. COMPETES recognizes the challenges facing America's 21st century manufacturers, as well as the importance of a healthy manufacturing base. The bill includes new manufacturing loan guarantees, improved research and development, and strengthens the Manufacturing Extension Partnership program. The bill also places a much-needed emphasis on science education, from grade schools to the university level. We need a highly educated workforce to create the next advanced vehicle technology or innovative product that will produce more high-quality jobs in America.

COMPETES also supports innovation clusters around the country and creates a focus on innovation within our Federal programs and agencies. America simply cannot afford to sacrifice its innovative edge to growing economies like China and India. The investments made by COMPETES are critical to America's long-term economic health, and I hope my colleagues will join me in supporting this bipartisan legislation.

Mr. HALL of Texas. Madam Speaker, I continue to reserve the balance of my time.

Mr. GORDON of Tennessee. Madam Speaker, I yield 1 minute to the gentleman from New York (Mr. TONKO), who has brought his energy expertise to our committee.

Mr. TONKO. I rise today in support of the America COMPETES Act, a debate that has continued for many months, and negotiations have followed, and we are finally one step away from this bipartisan victory. This legislation will create prosperity through science and innovation, reassert our economic and technological leadership throughout the world, and give future generations greater opportunity to achieve the American dream for decades to come.

I have seen firsthand the impact science and innovation can have on our communities. Recently, the Albany, New York, area in my district was named the third fastest high-tech job market in the country. This growth, coupled with today's legislation, is vital if the capital region of New York and the rest of our Nation are to continue on a path toward an innovation economy that, quote, ''Makes It In America.''

We must also educate the next generation of mathematicians and scientists. This bill does that by providing opportunities for STEM students to participate in hands-on scientific research.

Finally, I would like to thank Chairman GORDON for his leadership on this issue. Without his tireless work and that of the committee staff, along with Ranking Member HALL, we would not be here today.

Mr. Chair, you and your leadership will be sorely missed, and I wish you all the best.

Mr. HALL of Texas. Madam Speaker, I continue to reserve the balance of my time.

Mr. GORDON of Tennessee. Madam Speaker, I yield 2 minutes to an alumnus of our committee, the gentlelady from Texas (Ms. JACKSON LEE).

(Ms. JACKSON LEE of Texas asked and was given permission to revise and extend her remarks.)

Ms. JACKSON LEE of Texas. Madam Speaker, let me personally thank you for your leadership and continued focus on important issues here in this Congress.

I rise today to celebrate and to thank the chairman of the Science Committee, Chairman GORDON, for his years of commitment and intensity as it relates to the importance of this work. I also add my appreciation to Chairman-elect HALL, whom I have worked with, as I did Congressman GORDON, for some 12 years on the Science Committee. And once on the Science Committee, one can never leave its values and its importance.

As I sat on the Science Committee in the end of the 20th century, I always said that science was the work of the 21st century. And although bills are not perfect, and this bill that has come over from the other body is not, it is where we need to go. And I would simply remind my colleagues of the history of the Model T. When Henry Ford

developed the Model T, that technology generated into an enormous industry in the United States that created new technology and millions of jobs, I might say.

And so here we are today with a great need to reignite, restart our manufacturing journey. And I am delighted that this bill has seen the vision of getting elementary, middle school, high school students involved in the sciences. That's where our Achilles' heels are. That's where the vision comes to invent things, to make things to develop the next generation of jobs. And so it establishes an interagency with a STEM education coordination committee. It provides an interagency committee for coordination of manufacturing R&D.

And to listen to my colleagues talk about subsidies—do they realize that every country around the world is subsidizing their manufacturing to make them more competitive, to have a greater competitive edge? There is nothing wrong with creating jobs for America.

The SPEAKER pro tempore. The time of the gentlewoman has expired.

Mr. HALL of Texas. Madam Speaker, I yield the lady 2 more minutes.

Ms. JACKSON LEE of Texas. There is nothing wrong with us subsidizing good work, good science, the opportunity for jobs. I don't know what the structure was. Maybe I will go and research what happened with Henry Ford. I saw in those days he put together his family pennies, he made the Model T, and here we are today. But we live in a different economy. We live in a changing time of the dollar. And we live in a time when other countries have no shame in subsidizing business.

□ 1430

We were on the floor earlier today where Germany is subsidizing Airbus. That is their right. But the question is, What are we doing to promote manufacturing?

This reauthorizes the National Science Foundation. It authorizes grants and manufacturing, research and education. That is a good thing. It authorizes program grants for 21st-century graduate education, as well as authorizing a program dealing with research for undergraduates. That is exciting. Innovation is part of what happens here. Then, of course, it authorizes research experiences for high school students as part of the research grants.

So, overall, I guess my bottom line is I am ready to go. I am excited about the opportunities in the 21st century. I want us making things again, whether it is submarines, whether it is airplanes, whether it is new technology for our military personnel, whether or not it is a new space shuttle, a CEV. I want us to make things again. That is how you put people back to work. That is how you keep people's minds churning: What is the next invention we can get? There is no shame to subsidizing this work. And I am delighted that not only are we doing that, but we are expanding the manufacturing loan guarantee program to permit loan guarantees to small and medium-sized manufacturers.

I tell you, my colleagues, these companies are out here waiting. They want to get going. There is limited opportunity for access to credit; and I can tell you, they are excited about this opportunity. Government not involved in helping a country go forward in manufacturing? Whoever heard of that. That is what everybody is doing. It is time for us to stand up as well.

So let me thank you, Chairman GORDON, for your service. I know you are going on to great things. Thank you for allowing me to share some time with you on the Science Committee, and the same to Chairman HALL. Again, vote for this.

I rise in support of H.R. 5116 to invest in innovation through research and development, to improve the competitiveness of the United States, and for other purposes.

This legislation is crucial to our efforts to keep America number one by investing in modernizing our Nation's manufacturing, spurring American innovation through basic Research and Development, R&D, and high-risk, high-reward clean energy research, and strengthening math and science education to prepare students for the good jobs of the 21st century.

Today, we consider the Senate amendment to the America COMPETES Reauthorization Act, H.R. 5116, which passed the Senate by unanimous consent on Friday.

The Senate Amendment:

Keeps our Nation on a path to double funding for basic scientific research, which is crucial to some of our most innovative breakthroughs;

Creates jobs with innovative technology loan guarantees for small and mid-sized manufacturers and Regional Innovation Clusters to expand scientific and economic collaboration;

Promotes high-risk high-reward research to pioneer cutting edge discoveries through ARPA–E and promotes job creation in clean energy; and

Creates the next generation of scientists and entrepreneurs by improving science, math, technology, and engineering education at all levels

This bill:

Is a fiscally responsible compromise that reduces the authorization from 5 to 3 years, reducing the cost, and repeals the original COMPETES programs that have not been funded. The Bowles-Simpson deficit commission singled out basic scientific research as a long-term gain for the budget, as it is vital to our Nation's scientific and economic leadership. The bill also bans the use of funds to pay the salary of Federal employees convicted of looking at pornography on Federal property.

The bill is supported by the Chamber of Commerce, National Association of Manufacturers, Business Roundtable, TechAmerica, TechNet, American Association for the Advancement of Science, National Venture Capital Association, Information Technology Industry Council, Association of Public and Land-grant Universities, and Association of American Universities.

It is imperative for us to demonstrate our firm commitment to creating economic prosperity and maintaining the status of the United States as a worldwide leader in science and technology throughout the decades to come, and to give future generations a greater opportunity to achieve the American Dream. Therefore, I urge my colleagues to join me in supporting the passage of this important legislation.

Mr. GORDON of Tennessee. Madam Speaker, I yield 1½ minutes to our example of the benefits of STEM education, the gentleman from New Jersey (Mr. HOLT).

Mr. HOLT. I thank the chairman.

Madam Speaker, for decades, it's been clear that our investments in scientific research and education underwrite our national prosperity, yet we've continued to underinvest in these economic drivers. The National Academy issued a call for action 5 years ago with ''Rising Above the Gathering Storm,'' and Congress responded by holding a number of national town meetings arranged by then-Minority Leader Pelosi and then passing the America COMPETES Act under the chairmanship of Chairman GORDON. That legislation is now set to expire, and the National Academies has issued an update on our progress. It is an ominous warning. It says bluntly: ''Our Nation's outlook has worsened.''

Now, as a Member who has conducted NSF-funded research and who continually argues that our economic health depends on investment and research, I would have preferred the more robust funding authorization levels passed by this House earlier this year. However, this legislation does maintain a 10-year doubling path for funding for our basic research agencies.

I am especially pleased that the bill requires the development of a comprehensive national competitiveness and innovation strategy, a provision I wrote. The nations that are outcompeting us already have national innovation strategies in place. We should too. To guarantee a secure economic future for our children and in our Nation, we must not fail to provide robust funding for the programs in this legislation.

I want to commend Chairman GORDON for writing and taking action on this legislation. It is another part of a good legacy of his distinguished career.

Madam Speaker, I rise today in support of the America COMPETES Reauthorization Act of 2010 (H.R 5116). Our investments in scientific research and education underwrite our national prosperity and success. Economists attribute over half of the growth in our gross domestic product (GDP) since World War II to progress in science and technology. Yet for decades, we have underinvested in our nation's tools for advancing innovation and competitiveness. In 2005, the National Academies issued a call for action in the Rising Above the Gathering Storm report. Two years later, following a series of national town halls arranged by the then Majority Leader PELOSI, Congress responded by implementing many of the report's recommendations in the America COMPETES Act.

Yet now we are faced with the impending expiration of the COMPETES Act, and the National Academies has released an update on our progress since the original Rising Above the Gathering Storm report. It tells us that we have not done enough. It says bluntly, ''Our nation's outlook has worsened.'' Other countries are implementing many of the changes suggested five years ago while we continue to hold back on the necessary investments to rebuild, restructure, and renew our national innovation infrastructure. The reauthorization of the America COMPETES Act is essential if we are to maintain our competitive edge in the global economy.

Basic research is a powerful source of new and unexpected discoveries that can transform our economy. While I would have preferred the more robust funding authorization levels passed by the House earlier this year, this legislation maintains a 10-year doubling path for funding at our nation's basic research agencies—the National Science Foundation (NSF), the National Institutes of Standards and Technology (NIST), and the Department of Energy's Office of Science. These funds support fundamental research in every discipline, maintain our national laboratories, and provide vital training for the next generation of scientists and engineers. The dividends from our investments in research and development are the breakthroughs that yield new industries, drive job growth, and sustain our future economic and technological competitiveness.

The America COMPETES Reauthorization Act includes a number of new programs and initiatives to foster innovation. The Regional Innovation Program will help create and expand science parks and Regional Innovation Clusters to leverage collaboration between businesses, academic institutions, and other participants to facilitate the transfer of technologies from the laboratory to the commercial sector. The Office of Innovation and Entrepreneurship at the Department of Commerce will accelerate the commercialization of research and development by identifying ways to overcome existing barriers and providing access to relevant data and technical assistance. The legislation authorizes the Partnerships for Innovation program to help move research out of the lab and into the marketplace by strengthening ties between institutions of higher education and private sector entities.

Additional assistance for manufacturers and other businesses would promote the adoption of new technologies and improve productivity. The legislation requires NSF to support research in transformative advances in manufacturing, and it ensures that the Manufacturing Extension Partnership (MEP) program will inform regional community colleges of the skill sets needed by local manufacturers. A newly established Innovative Services Initiative will assist small- and medium-sized manufacturers in implementing energy and waste reduction technologies, including renewable energy systems. A loan guarantee program will allow manufacturers to access capital for the installation of innovative technologies and processes that will help increase their efficiency and maintain their competitiveness. A new interagency committee under the National Science and Technology Council will establish goals and coordinate federal programs in advanced manufacturing research and development.

To preserve our leadership in scientific and technical fields and strengthen our competitiveness in the twenty-first century economy, the U.S. must continue to produce the world's best scientists, and we must ensure that every student is exposed to the fundamentals of science, technology, engineering, and math, STEM. The America COMPETES Reauthorization Act will establish an interagency committee to coordinate federal STEM education programs and report to Congress annually on implementation of the STEM education strategic plan. Updates to the NSF's Robert Noyce Scholarship program will allow more schools to participate and more qualified STEM educators to reach high-need schools. Undergraduates will have more opportunities to participate in research, and support for graduate students will be strengthened. Women and minorities remain underrepresented in STEM fields, and this legislation continues programs to help expand the STEM talent pool and increase the diversity of our nation's future scientists.

In the energy field, this legislation reauthorizes programs at the Department of Energy's Office of Science, which is the nation's largest supporter of physical sciences research. In addition, the reauthorization of the Advanced Research Projects agency for Energy, ARPA–E, which is modeled on the successful Defense Advanced Research Projects Agency, DARPA, will help us pursue high-risk, high-reward energy technology develop that might not receive support otherwise.

Finally, I am pleased that this legislation incorporates two provisions that I offered and the House passed when it considered a previous version of this bill. The first requires the working group responsible for coordinating policies related to the dissemination and long-term stewardship of unclassified federally funded research to take into consideration the importance of peer-review and the role of scientific publishers in the peer-review process.

The second requires the Secretary of Commerce to prepare a comprehensive national competitiveness and innovation strategy. For decades, U.S. leadership in science, technology, engineering, and innovation was unquestionable. But we cannot pretend this is a given. In 2009, the Information Technology and Innovation Foundation found that among 40 major nations or regions, the U.S. ranks sixth in overall innovation and competitiveness. More importantly, over the last decade, every one of our competitors has improved their innovation capacity faster than us. Each of the five nations ranked by ITIF as ''out-competing'' the U.S. already has a national competitiveness or innovation strategy in place. All together, at least thirty other countries have implemented plans to boost their economic competitiveness through innovation and technological development. The United States has yet to put forward a similarly comprehensive roadmap for success. Our competitors are making plans to grow their economies by competing in the global marketplace. We should be too.

The America COMPETES Reauthorization Act makes long overdue investments in the foundations of our national innovation system. It will create jobs in both the short- and long-term, support manufacturers and businesses in commercializing new technologies, help us pursue a clean energy economy, improve STEM education, and strengthen our international competitiveness. Yet authorizing the programs in this legislation is only the first step in keeping the United States competitive. To guarantee a secure economic future for our children and for our nation, we must not fail to provide robust funding for these programs. Even as we face budgetary challenges and political pressure, we must ensure that our scientists, engineers, innovators, and entrepreneurs have the tools and resources they need to renew our economy and help us truly rise above the gathering storm. I commend the United States Senate for taking action on this bill, and I urge my colleagues to support this important piece of legislation.

Mr. HALL of Texas. Madam Speaker, I continue to reserve the balance of my time.

Mr. GORDON of Tennessee. Madam Speaker, I yield 1 minute to our great majority leader and my great friend, Steny Hoyer.

The SPEAKER pro tempore. The gentleman from Maryland is recognized.

Mr. HOYER. Thank you very much, Speaker Halvorson. I appreciate your presiding over this historic piece of legislation.

I want to thank my friend BART GORDON. Chairman GORDON has been an extraordinary leader of this committee, an extraordinary member of the Energy and Commerce Committee; and in both of those venues he has focused on making sure that America could in fact compete and compete successfully and be the great Nation it has been, is now, and will continue to be as long as we keep investing in that which grows an economy—education, science, mathematics and engineering.

I know that he has worked with some of the great industrial leaders of our Nation on this legislation. Mr. Augustine comes to mind. We're very proud of him in Maryland.

But I want you to know how proud I am of BART GORDON. He said that I was one of his close friends. I think BART GORDON is one of my closest friends, not just in Congress, but in life. He and I have been here for a long time together.

The good news is the ranking—used to be Democrat, now Republican—RALPH HALL, is also a very close and dear friend of mine whom I have known all of my service here. He and I came together in the same class. He is a very good friend of Bob Slagle, who is a good friend of mine as well, and I want to thank him for his service to our country.

The America COMPETES Act expands support for research and development, helping the United States to remain the world's innovation leader. It creates jobs for the short-term and lays a foundation for long-term prosperity. That is its key, of course. And it is an important part of the Make It In America agenda, a series of important bills designed to help America regain its manufacturing strength.

Let me say just a word about Make It In America. We heard a lot about made in America, things that were made yesterday in America, things that we did in the past. Make It In America is about what we are going to do in the future.

Make It In America is a non-ideological, non-party, nonpartisan premise; and that premise is shared widely by the American public: that if we are going to be successful in the future and continue to grow our economy, it is going to be in part because we make it in America; we make things in America, we manufacture things in America, we grow it in America, and we sell it abroad. Our products, whether they be hard products or soft products, we sell them throughout the world.

America is the innovative center of the world, one of the enterprising nations of the world. We invent things, innovate and bring to scale. Strike that. We don't bring them to scale often enough.

Andy Grove, who was one of the cofounders of Intel, wrote an excellent article in the New Yorker. I tell my friends on the Republican side and on the Democratic side, this is an issue that can bring us together to make America better, to grow America, to provide the kinds of jobs that Americans need.

Make It In America not only means manufacturing in America, but that we make it, that we succeed, that people believe and have the confidence that there will be an American economy which will provide them with jobs and they will be able to provide for themselves and their families. This is a significant step in making sure that America makes it in America.

One of the things that Andy Grove said in his article in the New Yorker was that the problem we have is innovation, invention, enterprise exists here more than any other place in the world; but what we are doing is we are inventing, innovating and enterprising, and then we are taking it overseas to take it to scale, to manufacture it.

The Kindle, I bought a Kindle for my grandson last Christmas, about $185. About 40 to 45 of those dollars are U.S. The rest is overseas. Andy Grove's premise is if we do that, what is essentially going to happen over the years is the innovators and the ''enterprisers'' and the inventors are going to follow where we're making it, whether it's in China or any other place. America, we cannot let that happen. This bill is a critical step in ensuring America's prosperity and job creating capacity in the long term.

BART GORDON, congratulations to you. You will leave here in a few days. You will not be a Member of the Congress of the United States. You will never leave here in the sense you will always be in our hearts, and you are going to be on this floor, and we're going to see you regularly. But you will leave an extraordinary legacy for your country for decades and a century to come in this bill.

The bill establishes innovative technology and Federal loan guarantees for small and medium-sized manufacturers. Make It In America. Those loans will help American businesses respond to the needs of a changing economy, increase productivity, and keep pace with overseas competition.

Further, the COMPETES Act makes important investments in science, technology, engineering and math, as I said earlier, because helping our children excel in these fields is absolutely crucial to our economic competitiveness.

□ 1440

Finally, the bill strengthens the crucial national Science Foundation, which funds cutting-edge research in fields from computer science and mathematics to genomics. That's our future. America does it well. Let's do it here. Let's make sure that we're investing so that that will be the future as well as the present.

Federal support for research and innovation is one of the best investments we can make. Federal support helped create GPS, the computer mouse, computer-aided design, and the Internet; and there's no telling the ways in which it might shape our lives in the years to come. But, surely, there is no doubt that shape it, it will. And that's why we must invest. I urge my colleagues to boost American innovation by supporting this bill.

I end again as I started, by congratulating BART GORDON, my good friend, an individual who's given so much to his country for so long, an individual that makes us proud to be his colleague and who has given added luster to service in this House by his own service.

Mr. HALL of Texas. Madam Speaker, I continue to reserve the balance of my time.

Mr. GORDON of Tennessee. Madam Speaker, we sometimes throw the term ''friend'' around here a lot. I do thank very much the majority leader for his friendship.

I yield 1½ minutes to the cochair of the New Dems, who are our leaders in innovation policy, the gentleman from Wisconsin, Mr. RON KIND.

(Mr. KIND asked and was given permission to revise and extend his remarks.)

Mr. KIND. Madam Speaker, as one of the co-chairs of the New Democratic Coalition, I rise in strong support of the reauthorization of the America COMPETES Act and commend the chairman of the Science Committee, our good friend and colleague, Mr. GORDON, for his tenacious focus on making sure that America COMPETES gets reauthorized in this session of Congress and working with the Senate in the waning days of this session to get it done. And we're sorely going to miss his leadership on this subject, as well as the leadership of our colleague from the State of Michigan (Mr. EHLERS), who has given tremendous guidance on what it means for the United States to remain the most innovative and creative Nation in the world.

And that's what America COMPETES is all about. It's answering the question of whether or not we will remain the most innovative and on the cutting edge of scientific, medical, technological, and manufacturing discoveries and breakthroughs or whether we will continue our slide in second-rate status compared to other nations in the investments that we are seeing taking place overseas.

It builds on seminal studies by the National Academy of Sciences' ''Rising Above the Gathering Storm,'' and even before that, the John Glenn Commission, ''Before it's Too Late,'' warning us of the peril of losing our innovation and competitiveness if we continue to underinvest in those crucial STEM studies of science, technology, engineering, and math, or the investments we have to make in basic and applied research, which we accomplish in this bill through the National Science Foundation; National Institute of Science and Technology; the ARPA–E program at the Department of Energy; new programs now at NOAA and NASA; and now directing the Department of Commerce to come up after 1 year with an actionable plan of how all this comes together.

The SPEAKER pro tempore. The time of the gentleman has expired.

Mr. HALL of Texas. I yield the gentleman 2 minutes.

Mr. KIND. I thank my colleague for yielding me the time.

It really speaks to the question many Americans have on their minds as we continue our slow emergence of the worse economic recession since the Great Depression, and that is where are we going as a Nation economically and how are we going to get there. America COMPETES Act is a part of that equation of not only spurring the innovation that we need in this country, but helping to make sure that we make those products in this country, along with the good-paying jobs that come from it.

Will this be the end of the innovation agenda? I think not. But it's an important step forward—one that received huge bipartisan support in the previous Congress with 357 of our colleagues supporting the original authorization of America COMPETES.

I commend former President Bush and current President Obama for recognizing the need for this type of legislation and all of the members on the Science and Education Committee that had a tremendous say in the product that's before us today. It's worthy of our support; but, more importantly, it's worthy of a great Nation and a great economy that we can build upon.

I encourage my colleagues to support the America COMPETES reauthorization and the work that we have before us.

Mr. GORDON of Tennessee. Madam Speaker, may I inquire how much time I have remaining.

The SPEAKER pro tempore. The gentleman from Tennessee has 3½ minutes remaining.

Mr. GORDON of Tennessee. Madam Speaker, on many occasions I have

heard speaker NANCY PELOSI talk about the future of our Nation. And when she talks about the future of our Nation, she says there's three things we need to do: science, science, science. She believes it. She has led us in that direction.

I yield 1 minute to the Speaker of the House of Representatives, NANCY PELOSI.

Ms. PELOSI. Madam Speaker, I thank the gentleman for yielding and for his kind words. More especially, I thank him for his great leadership. Few people who have served in this Congress and outside the Congress have done more to promote that ''science, science, science'' agenda than BART GORDON.

Sadly, for Mr. GORDON, this will be the last bill that he will bring to the floor. I want to take the occasion to thank him for his tremendous leadership as chair of the Science and Technology Committee and for being a leader on these issues. When the report came out about the gathering storm, he was the first to say we need to not only respond to it, but he had already taken initiatives, recognizing what would be in that report, seeing what was happening to science, technology, engineering, math, and all the rest of it in our country. His departure from the Congress is a loss for us, but I know he takes with him this passion that he has for science. It is something that has served our country well in the Congress, and I know he will continue to do so outside the Congress.

So, Mr. GORDON, thank you for your tremendous leadership. I know I speak for everyone here when I say it is an honor to call you colleague, and that today would be a day, toward the end of the session, that we would be taking up your bill—this is your bill, Mr. Chairman.

On these occasions I am reminded, Madam Speaker, that nearly 50 years ago, in launching the initiative to send a man to the Moon and back safely within 10 years, President Kennedy summed up America's common commitment to innovation and competitiveness when he said, ''The vows of this Nation can be fulfilled only if we are first, and therefore we intend to be first. Our leadership in science and in industry, our hopes for peace and security, our obligations to ourselves, as well as others, all require us to make this effort.''

Since then, Americans have lived up to those words. Science and technological innovation have formed the backbone of our progress as a people and our prosperity as a Nation. And today we have the opportunity to play one more part in that same tradition to support the COMPETES Act, to reaffirm our leadership in science and technology, to keep America first.

Again, few have done more for this Congress than Chairman BART GORDON, who recognized the urgency of this challenge early on and has never stopped fighting to keep science and technology at the top of our agenda. And to the distinguished ranking member, one of the beauties of this agenda, this innovation agenda, is there's really nothing partisan about it. It isn't ideological. It's scientific. It is about keeping America number one and using the best resources technologically in our country to have us be competitive in the world economy.

In acting to update and extend the COMPETES Act, we will spur innovation, invest in cutting-edge research, modernize manufacturing, and increase opportunity. You know the provisions. Others have spoken to them. The gentleman from Wisconsin (Mr. KIND) has talked about the importance of the STEM—education, science, technology, engineering and math—and how important that is not only to the fulfillment of our students but to competitiveness internationally and the success of our economy.

With this bill, we will lay the foundation for new industries that provide good jobs for our workers; that open new markets for our American products; that offer more students, more young people, and entrepreneurs a better chance to live out the American Dream.

□ 1450

Simply put, we will continue to ''rise above the gathering storm'' and keep America number one.

The COMPETES Act is a central component of our innovation agenda, rolled out by Democrats 5 years ago to ensure our Nation's economic competitiveness around the globe and double basic research funding.

Yes, as has been mentioned, the COMPETES Act was signed by President Bush and now will be signed by President Obama; but I wish to acknowledge that it was only when we got into the Recovery Act that we were able to get the substantial funding to move forward with these initiatives. We had a little downpayment before that, but we got serious about our commitment in the Recovery Act.

As part of that effort, again, we passed the Recovery Act, investing $17 billion for basic research and $19 billion to promote the adoption of health IT. We dedicated $11 billion to improve our smart grid capabilities and provided more than $7 billion to expand broadband access nationwide. It is very important for us to do so in rural areas. Through a series of actions, the Democrat-led Congress has extended broadband to rural and underserved areas, invested in clean energy jobs and energy independence, and helped spur the development of new technologies.

The America COMPETES Act builds on that record of achievement. This bill is about good-paying jobs for American workers, strong American leadership in the global economy, an investment in America's students, and long-term prosperity for America's families and businesses.

As I have said, as was mentioned by Mr. KIND, this bill passed the first time with overwhelming bipartisan support. I think the majority of Republicans voted for the bill the first time it was put forth, and now we are reauthorizing it.

What we are doing today is about echoing President Kennedy's call once more to fulfill the vows of our Nation, to make the effort to strengthen America's future, to be first. In voting ''aye'' today, we can come together for innovation, for competitiveness, and for our prosperity. I urge all of my colleagues to support the reauthorization of the America COMPETES Act.

As I close, I once again want to salute Chairman BART GORDON for his tremendous, tremendous leadership. He has a wealth of knowledge, a depth of understanding, a boundless commitment to the future.

Thank you, Mr. Chairman.

Mr. HALL of Texas. Madam Speaker, I continue to reserve the balance of my time.

Mr. GORDON of Tennessee. Madam Speaker, I yield 1½ minutes to the gentleman from Texas (Mr. HINOJOSA).

Mr. HINOJOSA. Madam Speaker, I rise today to urge my colleagues to support the Senate amendment to H.R. 5116, the America COMPETES Act.

Chairman BART GORDON and Congressman RALPH HALL, I commend you for bringing this legislation to the floor.

More than ever, our Nation must invest in the scientific and technological building blocks that bolster American competitiveness in a 21st century global economy. The America COMPETES Reauthorization Act of 2010 achieves this and more by fostering innovation, supporting manufacturers and industry, preparing a STEM workforce, and creating jobs. This bill takes bold steps in broadening the participation of underrepresented minorities and women in the STEM fields.

I want to recognize Representatives EDDIE BERNICE JOHNSON, BEN RAY LUJÁN, SILVESTRE REYES, the Diversity and Innovation Caucus, and other members of the Tri-Caucus for their outstanding leadership in championing diversity issues in the reauthorization of this act.

As Subcommittee chairman for Higher Education, Lifelong Learning, and Competitiveness, I am pleased that America COMPETES will more fully integrate our Nation's minority-serving institutions into research partnerships and Federal programs and promote the inclusion and success of minorities in the STEM fields. Establishing strong regional university and industry partnerships in research and innovation at the National Science Foundation will spur economic growth and connect students to high-tech jobs.

The SPEAKER pro tempore. The time of the gentleman has expired.

Mr. HALL of Texas. Madam Speaker, I yield 2 minutes to the gentleman from Texas.

Mr. HINOJOSA. This bill will expand undergraduate research opportunities

for women, minorities, and persons with disabilities at the National Science Foundation. Hands-on learning experiences are key to improving the recruitment and retention of underrepresented students in the STEM fields and in preparing a new generation of scientists who will contribute to our Nation's technological innovation and competitiveness.

This bill complements our work on the Student Aid and Fiscal Responsibility Act, known as SAFRA, enacted as part of the Health Care and Education Reconciliation Act of 2010, and our efforts to improve science and math literacy in our Nation's public schools.

I strongly urge my colleagues to support the Senate amendment to H.R. 5116.

Again, I compliment our chairman, BART GORDON, for his tremendous leadership.

Mr. HALL of Texas. I yield myself the balance of my time.

Madam Speaker, I reiterate that I remain committed to the underlying goals of the America COMPETES Act, and believe that we ought to continue to prioritize investments in basic science, technology, engineering, and mathematics—STEM research and development.

These long-term investments, coupled with policies that reduce tax burdens, streamline Federal regulations, and balance the Federal budget are necessary steps for our Nation to remain competitive in the global marketplace. I hope my colleagues will join with me in seeking to do just that when the 112th Congress convenes.

In the meantime, I thank everybody involved; but for the reasons I have previously outlined, I must regretfully oppose this amendment.

I yield back the balance of my time.

Mr. GORDON of Tennessee. Madam Speaker, in closing, let me just once again thank the members and staff on a bicameral, bipartisan basis who have done so much to bring this excellent piece of legislation to the floor.

I doubt there has ever been a piece of legislation that has had as much outward support for the business community, the academic community, the scientific community. It is a good bill. It is going to help move our country forward.

Mr. GARAMENDI. Madam Speaker, I spoke on the House floor in strong support of the COMPETES Reauthorization. I wish to reinforce these comments. America is in a Global Race to innovate. COMPETES propels us forward, helping us win this race through smart investments. Improvements in science, technology, engineering, and mathematics education will result in an educated workforce, who will develop the technology of the future. A strengthening of our research capacity is inherently valuable and will pay huge dividends when this knowledge is leveraged towards technological development. COMPETES helps turn these lab bench discoveries into products that we can buy and sell on the market. By strengthening American manufacturing, COMPETES helps us to make it in America again. Improvements in R&D will grow America's economy and increase our ability to export our products around the world.

I express strong support for the COMPETES Reauthorization Act of 2010, H.R. 5116.

Mr. DINGELL. Madam Speaker, as a cosponsor of the America COMPETES Reauthorization Act, I rise today in strong support of this legislation, and I commend the United States Senate for passing this legislation before the end of 111th Congress. Today's consideration shows Congress's commitment to ensuring our children and grandchildren receive the education they need to compete in a global marketplace in the 21st Century.

While our country and our children have not lost the spirit of innovation and creativity, we have in recent years watched as our country has fallen woefully behind in educating our children. Passage of the America COMPETES Reauthorization Act will help to reverse this trend by making the strong investments necessary in research, education and manufacturing.

This bipartisan legislation reauthorizes our basic research programs, making needed increased investments in the National Science Foundation, the Department of Energy Office of Science, and the National Institute of Standards and Technology and laying the groundwork for doubling the authorized funding levels for these programs. Funding through these programs has been critical to hundreds of the faculty, staff, scientists and investigators in my district who rely on opportunities from these agencies to support their research. America COMPETES also reauthorizes the Advanced Research Projects Agency for Energy, which has made great efforts at developing the energy technology of the future.

The America COMPETES Reauthorization Act investment in research cannot be fulfilled without a renewed focus in our education system on STEM education. H.R. 5116 will coordinate STEM education across the federal government to increase and bolster effective programs, increase graduate fellowships at NSF and DOE, support research and internship opportunities for high school and undergraduate students in STEM fields, and encourage students to enter into the education system as teachers to continue to build the next generation of scientists, educators, and researchers.

And of particular importance to my district, the America COMPETES legislation will provide critically needed help to our small- and medium-sized manufacturers who have been hard hit by the financial downturn. In order to improve competitiveness and access to capital, America COMPETES will create a new program that will provide Innovative Technology Federal Loan Guarantees for these manufacturers. To help manufacturers modernize and green their manufacturing practices, this legislation directs NIST to develop sustainability metrics and practices for manufacturers. To ensure manufacturers have a well-trained workforce, this legislation directs NSF to award competitive grants to strengthen and expand scientific and technical education and training in advanced manufacturing practices. To continue the success of the Manufacturing Extension Partnership program centers, this legislation will also reduce the cost share contribution, ensuring access to invaluable assistance that increases technological capabilities, institutes green or lean manufacturing techniques, and promotes increased sales.

Madam Speaker, I believe strongly that it is our moral duty to prepare our children and grandchildren with the education and training necessary to be successful in a highly competitive, and increasingly globalized marketplace. By allowing our education system to fall behind our peers, we have slipped in this duty. The America COMPETES legislation will once again put us on the path towards a strengthened education system, and a talented and competitive workforce that will continue the high-risk, high-reward research, innovations and technology development that this country is renowned for. The America COMPETES Reauthorization Act will allow the United States to truly compete with our neighbors abroad, which is why I urge my colleagues to vote "yes".

Mr. COSTELLO. Madam Speaker, I rise today in support of H.R. 5116, the America COMPETES Reauthorization Act of 2010.

I commend Chairman GORDON for his leadership in developing this important legislation, passing it through the House, and working with our colleagues in the Senate to move the measure forward.

In 2005, the National Academy of Sciences (NAS) released its landmark report, Rising Above the Gathering Storm, which recommended Congress and the administration more heavily invest in science education, research, and technology to preserve the U.S. role as the world leader in innovation.

In response to this report, Congress passed the America COMPETES Act with bipartisan support in 2007.

In the three years since COMPETES was signed into law, we have made great strides in innovation, education, and technology.

However, a 2010 follow-up report, Rising Above the Gathering Storm, Revisited, clearly indicates the U.S. remains at risk of falling behind in developing and patenting new technology; publishing cutting edge research; training the next generation of scientists and engineers; and maintaining the most competitive workforce in the world.

H.R. 5116 builds upon the accomplishments of the 2007 America COMPETES in a fiscally responsible manner.

The bill reauthorizes ongoing federal research and development programs for three years at a lower authorization level than what the House passed in May, creates opportunities for innovation in the private sector through programs like ARPA–E, and trains the most innovative, competitive workforce in the world.

In addition, I am pleased the bill contains important investments in two STEM education programs.

First, the bill invests in community colleges and other two-year institutions of higher education by building connections between community colleges and Manufacturing Extension Partnerships, other institutions of higher education, research institutions, and regional innovation hubs. These investments will ensure that students have the job training necessary to secure good-paying jobs in their communities and manufacturers have a workforce with the right skill set to promote innovation.

Second, the bill ensures the U.S. Department of Energy (DOE) STEM education programs mirror the important research being conducted by the agency on carbon capture

and sequestration (CCS) technology, the future of coal-powered energy; which is the nation's most abundant and affordable energy source and a vital part of Illinois' economy. Including CCS in DOE's STEM education programming will ensure that we continue to expand deployment of this important technology and train a new generation of CCS scientists.

I urge my colleagues to support the Senate Amendment to H.R. 5116.

Mr. HONDA. Madam Speaker, I regret that illness prevents me from casting my vote in favor of H.R. 5116 today, but I would like to express my strong support for H.R 5116, America COMPETES Reauthorization Act of 2010, for the record.

I commend Chairman BART GORDON and the other members of the Science and Technology Committee, on which I am proud to have once served, for the hard work and thoughtful consideration that went into this bill.

The America COMPETES Act of 2007 significantly bolstered American innovation, the most fundamental hope for sustainable economic growth and competitiveness in the United States and a critical driver of the economy in my Silicon Valley district. It helped drive new research and its commercialization, encouraged the creation of a more dynamic business environment, and made improvements to science, technology, engineering and math (STEM) education that are important for our nation's long term economic health.

It is critical that we sustain proper support for scientific research and STEM education, or our ability to compete in the global economy will be put in jeopardy. As the Business Roundtable noted in its Roadmap for Growth, a new report released last week, investing in scientific research and math and science education will create sustained, long-term economic competiveness and growth. That is why I am proud to support H.R. 5116, which authorizes those much needed investments.

Although the Senate's amendment to H.R. 5116 is a significantly trimmed down version of the House bill, it maintains the key principles of investment and innovation, ensuring America remains competitive in the 21st century global economy.

I am pleased that the bill includes provisions to ensure coordination of federal STEM education activities by elevating an existing committee under the National Science and Technology (NSTC). Providing this coordinating mechanism for the federal STEM education programs is long overdue.

According to the Academic Competitiveness Council's (ACC) report, in 2006 the U.S. sponsored 105 STEM education programs at more than a dozen different federal agencies. These programs devoted approximately $3.12 billion to STEM education activities spanning prekindergarten through postgraduate education and outreach. The report notes that many of these agencies do not share information or work collaboratively on similar programs, demonstrating a need for better coordination.

The STEM education coordination provisions of this bill are similar to those included in my own bill, the Enhancing Science, Technology, Engineering, and Mathematics Education (E–STEM) Act, H.R. 2710. Both bills seek to ensure that the various agencies involved in STEM education efforts are aware of what is being done and what has already been done elsewhere so agencies can strategically invest in programs and activities.

Again, I congratulate the Science and Technology Committee and Chairman GORDON for their work on this bill. I urge my colleagues to support this important legislation to ensure that our nation leads the world in innovation and science and technology.

Mr. VAN HOLLEN. Madam Speaker, I rise to support the America COMPETES Reauthorization Act.

As the United States faces increasing competition in the global economy, we will only maintain our advantage by fostering our ability to innovate. America COMPETES makes the investments necessary to ensure that we remain at the cutting edge of research and development.

The America COMPETES Reauthorization Act is a comprehensive approach to invest in education, research, and small business to grow America's innovation economy. By providing resources for basic research, facilitating the use of new technologies by American manufacturers, and training a new generation of science, technology, math, and engineering (STEM) workers, we can create good, sustainable jobs at home and ensure that the United States remains competitive.

The America COMPETES Reauthorization Act creates a path to double basic research funding at NSF, NIST, and DOE's Office of Science over the next ten years. It supports important programs to expand American energy technology and fosters regional innovation clusters and research parks for economic development across the country. And it coordinates STEM education activities across the Federal Government so we can focus resources on our most effective programs.

Madam Speaker, every dollar that we invest in science and technology pays dividends in economic growth and ensures that the United States remains at the forefront of discovery. I thank Chairman GORDON for his work on this issue and urge my colleagues to vote to pass this bill.

Mr. GORDON of Tennessee. I yield back the balance of my time.

The SPEAKER pro tempore. All time for debate has expired.

Pursuant to House Resolution 1781, the previous question is ordered.

Pursuant to clause 1(c) of rule XIX, further proceedings on this motion will be postponed.

FURTHER MESSAGE FROM THE SENATE

A further message from the Senate by Ms. Curtis, one of its clerks, announced that the Senate has passed a bill of the following title in which the concurrence of the House is requested.

S. 3481. An act to amend the Federal Water Pollution Control Act to clarify Federal responsibility for stormwater pollution.

APPOINTMENT—NATIONAL COMMITTEE ON VITAL AND HEALTH STATISTICS

The SPEAKER pro tempore (Ms. BALDWIN). Pursuant to section 306(k) of the Public Health Service Act (42 U.S.C. 242k), and the order of the House of January 6, 2009, the Chair announces the Speaker's appointment of the following member to the National Committee on Vital and Health Statistics for a term of 4 years:

Dr. Vickie M. Mays, Los Angeles, California.

APPOINTMENTS—COMMISSION ON KEY NATIONAL INDICATORS

The SPEAKER pro tempore. Pursuant to section 5605 of the Patient Protection and Affordable Care Act (P.L. 111–148), and the order of the House of January 6, 2009, the Chair announces the Speaker's appointment of the following members to the Commission on Key National Indicators:

Dr. Stephen Heintz, New York, New York,

and in addition,

Dr. Marta Tienda, Princeton, New Jersey.

□ 1500

PERMISSION TO POSTPONE FURTHER PROCEEDINGS ON CERTAIN MEASURES

Mr. CUELLAR. Madam Speaker, I ask unanimous consent that the Speaker may postpone further proceedings on the following measures as though under clause 8(a)(1)(A) of rule XX: motion to concur in Senate amendment to H.R. 2142, and motion to concur in Senate amendments to H.R. 2751.

The SPEAKER pro tempore. Is there objection to the request of the gentleman from Texas?

There was no objection.

GPRA MODERNIZATION ACT OF 2010

Mr. CUELLAR. Madam Speaker, pursuant to House Resolution 1781, I call up the bill (H.R. 2142) to require the review of Government programs at least once every 5 years for purposes of assessing their performance and improving their operations, and to establish the Performance Improvement Council, with the Senate amendment thereto, and I have a motion at the desk.

The Clerk read the title of the bill.

The SPEAKER pro tempore. The Clerk will designate the Senate amendment.

The text of the Senate amendment is as follows:

Senate amendment:

SECTION 1. SHORT TITLE; TABLE OF CONTENTS.

(a) SHORT TITLE.—This Act may be cited as the ''GPRA Modernization Act of 2010''.

(b) TABLE OF CONTENTS.—The table of contents for this Act is as follows:

Sec. 1. Short title; table of contents.
Sec. 2. Strategic planning amendments.
Sec. 3. Performance planning amendments.
Sec. 4. Performance reporting amendments.
Sec. 5. Federal Government and agency priority goals.
Sec. 6. Quarterly priority progress reviews and use of performance information.
Sec. 7. Transparency of Federal Government programs, priority goals, and results.
Sec. 8. Agency Chief Operating Officers.