

Report

07/23/2007

Addendum: Recent State Initiatives to Promote Innovation

State Respondents

<u>Colorado</u>	<u>Connecticut</u>
<u>Delaware</u>	<u>Florida</u>
<u>Georgia</u>	<u>Hawaii</u>
<u>Indiana</u>	<u>Iowa</u>
<u>Kansas</u>	<u>Kentucky</u>
<u>Louisiana</u>	<u>Massachusetts</u>
<u>Michigan</u>	<u>Minnesota</u>
<u>Missouri</u>	<u>Montana</u>
<u>Nevada</u>	<u>North Carolina</u>
<u>Pennsylvania</u>	<u>Puerto Rico</u>
<u>Rhode Island</u>	<u>South Dakota</u>
<u>Texas</u>	<u>Utah</u>
<u>Virginia</u>	<u>Washington</u>
<u>West Virginia</u>	<u>Wisconsin</u>
<u>Wyoming</u>	

COLORADO

STEM Education

Governor Bill Ritter has created a P-20 Education Coordinating Council in Colorado. The P-20 Council is a statewide, multisector body, charged with designing recommendations to halve the high school dropout rate and double the production of postsecondary degrees and technical certificates in the state.

[Governor Ritter's P-20 Council](#)

Postsecondary Education

Governor Ritter has proposed creating a statewide Jobs Cabinet that would align regional workforce development efforts and education organizations with the needs of local industries. This cabinet would piggyback on and broaden the efforts of the Denver Metro Chamber of Commerce's Workforce Innovation in Regional Economic Development (WIRED) initiative, to improve the Denver Metro region's capacity to expand its college-educated workforce. In addition, Governor Ritter created a statewide advisory committee to review current high school graduation requirements and make recommendations to the State Board of Education regarding the creation and adoption of graduation standards that align with workforce needs and prepare students for postsecondary education.

Regional Growth

Governor Ritter is in the process of planning initiatives to promote innovation-centered regional economic growth, specifically through the proposed Jobs Cabinet. Efforts will adopt best practices from the Denver Metro Chamber of Commerce's WIRED initiative.

[Metro Denver WIRED](#)

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CONNECTICUT

STEM Education

In October 2005, Governor M. Jodi Rell hosted academic and business leaders to launch a statewide initiative to encourage student interest in STEM. Policymakers and business and educational leaders identified critical issues related to advancing STEM education. This dialogue resulted in a coordinated and comprehensive plan designed to measurably improve student achievement to better meet Connecticut's 21st century workforce needs. Governor Rell also established the Early Childhood Research and Policy Council, noting that global competitiveness begins even before school starts.

[Evaluating the Impact of Supplementary Science, Technology, Math and Engineering Educational Programs](#)

Postsecondary Education

Under Governor Rell's leadership, and in partnership with business, utilities, and educational institutions, Connecticut has embarked on numerous initiatives designed to spur innovation, investment, and economic growth by leveraging the state's significant postsecondary education assets. Included among these efforts are initiatives in the areas of alternative and clean energy, stem cell research, innovation networks, and technology transfer. In addition, Connecticut is a leader in bridging the gap between what is being taught to students and what is needed by industry through its Business and Industry Services Network, a collaborative program that links business, state government, and education to train and produce a highly skilled workforce.

[Business and Industry Services Network](#)

Regional Growth

Governor Rell and the General Assembly recently passed legislation calling for a state economic strategic plan and regional development plans that promote responsible growth and regional cooperation and that target and support 21st century engines of growth. The law complements recent Brownfield Remediation legislation, which calls for five pilot projects for remediation and development. It also builds on Connecticut's initiatives to promote innovation-centered regional economic growth by bolstering STEM education, leveraging its institutions of higher learning. In addition, Connecticut is making significant investments in transportation and identifying locations for transit-oriented development to further regional linkages and to open new markets for Connecticut's goods and services.

[Responsible Growth Act: HB 7090](#)

[Brownfields Remediation Act](#)

[Comprehensive Transportation Strategy](#)

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DELAWARE

STEM Education

Delaware Governor Ruth Minner directed the Career and Technology Education workgroup to create a five-year plan that revises standards and develops pathways aligned with industry and postsecondary institutions in coordination with the state's work on the NGA Honors State Grant. With the governor, the University of Delaware and the New Castle County Vocational and Technical School District instituted a Graduate Teaching Fellows Program in K-12 Education. Fellows are paired with district high school science teachers to form a learning community that examines and reflects on current issues in education while addressing critical needs in science education.

[Graduate Teaching Fellows Program](#)

Postsecondary Education

In 2006, Governor Minner created the Student Excellence Equals Degrees (SEED) merit-based scholarship as an incentive for high school students to stay in school and to succeed inside and outside the classroom. The SEED program provides students with financial support to acquire an associate's degree at a state college or university. In 2003, Governor Minner established the P-20 Council by Executive Order to improve communication and cooperation among all of Delaware's education providers. The council's Dual Enrollment Task Force is establishing policy for dual enrollment partnerships between high schools and postsecondary institutions to increase access to higher education.

[SEED Scholarship](#)
[P-20 Council](#)

Regional Growth

Recognizing the need and opportunity to foster high-wage small businesses in emerging technology fields, Governor Minner created the Technology-Based Seed Fund Program. Part of the New Economy Initiative, this seed program funds technology-based small business start-ups, provides equity financing for start-up and later-stage expenses, and ensures a commitment from the company to grow in Delaware. Another piece of the New Economy Initiative, the Delaware Intellectual Property Business Creation Program is the first of its kind to stimulate and accelerate entrepreneurial ventures and promote new business creation. The program allows for the transfer of emergent technology from private corporations to encourage new business creation by entrepreneurs in Delaware.

[New Economy Initiative](#)

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FLORIDA

STEM Education

Governor Charlie Crist has created the Florida Center for Research in Science, Technology, Engineering, and Mathematics to improve student achievement through research, technical assistance, and dissemination of research-based practices. One of the center's major roles is to enhance the rigor of secondary programs to better prepare high school graduates for postsecondary education and the workforce. Governor Crist also has charged the new Office

of Mathematics and Science with overseeing the implementation of new world-class K-12 mathematics and science standards, as well as invigorating professional development and coordinating state and federally funded programs in these subject areas.

[Florida Center for Research in Science, Technology, Engineering, and Mathematics](#)
[Florida Department of Education Office of Mathematics and Science](#)

Regional Growth

The Florida Innovation Economy initiative was passed in 2006 to expand the state's knowledge foundations for science- and technology-based economic development. The initiative included the Innovation Incentive Fund to attract research and development opportunities and innovative business projects that support high-technology clusters and high-wage jobs. The initiative also enhanced the state's Centers of Excellence program to establish research and commercialization centers that support emerging technologies, driving inventions and innovations from the lab to the marketplace. Finally, the Innovation Economy Initiative created the Quick Action Closing Fund to respond to economic opportunities for business expansion, recruitment, and retention. All of these programs have continued to receive state support in 2007.

[Scripps Florida](#)

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GEORGIA

STEM Education

Georgia has significantly strengthened its K-12 STEM curriculum with the new Georgia Performance Standards, which have received high praise from Georgia educators as well as national policy institutes. In 2006, the Fordham Foundation rated Georgia's curriculum one of the top 5 in the nation. It also rated Georgia's science curriculum a 'B' in 2006, up from an 'F' in 2000.

[Georgia Performance Standards](#)

Postsecondary Education

Georgia's Work Ready initiative is a statewide program that matches job seekers and employers through a skills assessment system powered by ACT WorkKeys. Statewide service delivery of the voluntary, free credential and job profiling is handled by the technical college system of Georgia. The Work Ready initiative enables Georgia businesses to easily communicate to the education community the skills needed to fill jobs.

[Georgia Work Ready](#)

Regional Growth

Governor Sonny Purdue's Broadband Rural Initiative to Develop Georgia's Economy (BRIDGE) brings high-speed internet connectivity to rural Georgia. BRIDGE focuses on rural

counties without adequate Internet access to spur economic development, educational opportunities, and enrich the quality of life. The Georgia Centers of Innovation, opened in 2005 and 2006, provide resources and services to foster growth in [aerospace](#), [agriculture](#), [life sciences](#), [maritime logistics](#), and advanced [manufacturing](#). The centers provide services including access to university research and development, industry-specific business incubator space, training, business management services, and matching research grants for qualified companies.

[Broadband Rural Initiative to Develop Georgia's Economy](#)
[Georgia Centers of Innovation](#)

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HAWAII

STEM Education

Governor Linda Lingle and the state legislature worked together to create two new programs to promote STEM education. The Fostering Inspiration and Relevance from Science and Technology (FIRST) Academies engage middle-school students with math, science, engineering, problem-solving, and teamwork concepts in a project-based, contextual learning environment. In addition, the Hawaii Excellence through Science and Technology (HiEST) Academies increase the readiness and motivation of high school graduates to pursue postsecondary training and career options in STEM disciplines. Courses will be taught by instructors certified for the community-college level and are designed to provide both high school and university academic credit. Also in support of STEM, Hawaii will host a FIRST Robotics Regional Competition in March 2008, increasing participation by Hawaii high schools in STEM disciplines.

[STEM Legislation: SB 885](#)

Postsecondary Education

Governor Lingle has proposed several initiatives to align postsecondary education with Hawaii's economic needs. Among these is recruiting distinguished faculty to Hawaii colleges and universities by providing a state match to private-sector endowment of faculty chairs in STEM disciplines. In addition, the governor has recommended increasing technology licensing and commercialization by encouraging industry partnerships with the Office of Technology Transfer and Economic Development at the University of Hawaii. Finally, Governor Lingle has proposed providing scholarships to in-state colleges for secondary school students completing the FIRST and HiEST Academy programs and pursuing studies in STEM disciplines.

Regional Growth

The Hawaii Legislature adopted several of Governor Lingle's key economic growth proposals, including a private-sector-led life sciences and biotech research facility and technology incubator in Honolulu. The state also recently made funding available to measure key indicators in moving Hawaii to an Innovation Economy. Hawaii has also invested in its creative industry by developing a Music Enterprise Learning Experience, which will apply the successful "Nashville" model from Belmont University to build the technical and business skills of native musicians. Lastly, Hawaii is encouraging its State Employee Retirement Fund

to allocate up to \$100 million of its assets to provide capital for emerging Hawaii companies.

[Hawaii Innovation Initiative](#)

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INDIANA

STEM Education

Governor Mitch Daniels' work with the NGA Honor States Grant is focused on STEM education. Through this program, the state has provided sub-grants to six high schools that are implementing the New Tech High model. Sub-grants have also been provided to 10 high schools to become early college high schools and two universities in southwest Indiana to spur early college in that region. Indiana has also formed the Indiana-STEM Resource Network to improve STEM education. The network utilizes techniques developed at state higher education institutions to provide professional development to middle-school algebra teachers.

Postsecondary Education

Governor Daniels provided a budget allocation of \$15 million to Indiana's two research universities for the attraction of top researchers and scientist in the life-sciences whose knowledge and discoveries will help create Hoosier jobs and drive the state's future economic growth. The governor and the Indiana Commission for Higher Education have also modified the formula for state funding to public institutions of higher education: The new formula provides incentives for increasing graduation rates and speeding the time to degree completion. This will discourage a tendency to focus on enrollment numbers and reward universities for producing talented graduates to strengthen the state's workforce.

Regional Growth

Governor Daniels and the Indiana Economic Development Corporation have created the Regional Economic Development Partnership Program to encourage communities to think, plan, and act regionally and to provide additional resources for regional initiatives. The objective is to define regional economies, develop regional growth strategies, accelerate effective regional economic development planning, and encourage the development of regional leadership networks, which are featured prominently in the state's economic development plan, *Accelerating Growth*.

[Regional Economic Development Partnership Program](#)
[Accelerating Growth, Indiana's Economic Development Plan](#)

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IOWA

STEM Education

Iowa has developed Project Lead the Way, a four-year sequence of courses that introduces students to the scope, rigor, and discipline of engineering and engineering technology before entering college. The curriculum uses cutting-edge technology and software requiring

specialized teacher training. Ongoing training supports the teachers as they implement the program and provides for continuous improvement of skills.

[Iowa Project Lead the Way](#)

Postsecondary Education

Governor Chet Culver has provided investment to improve Iowa's biorenewable research infrastructure and accelerate its economic opportunities in this growing sector. The governor championed a biofuels building at Iowa State University, one of the nation's premier institutions for biorenewable research. Additionally, Governor Culver has funded worker training at the state's community colleges for jobs in the renewable energy field. The governor also created the Generation Iowa Commission to further Iowa's investment in activities and practices that attract young adults to the state. The members of the commission represent a variety of different geographic, professional, and educational backgrounds as well as cultural differences. The commission's goal is to create a more innovative, vibrant, and exciting Iowa now and for future generations.

[Office of Biorenewable Programs at Iowa State University](#)

Regional Growth

Governor Culver recently launched the Iowa Power Fund, which established the Office of Energy Independence and supplies grants and loans for research, development, and commercialization of advanced biofuels, renewable energy, and energy efficiency. Presided over by a board of directors that includes 11 voting members and seven ex officio members, the Fund will make grants and loans to assist and promote innovation in biologically based fuel development, new approaches to improvement of existing renewable energy sources, and better approaches to enhanced energy efficiency.

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KANSAS

STEM Education

In 2006, Governor Kathleen Sebelius signed into law the Kansas Academy of Mathematics and Science. The academy provides an accelerated program for Kansas high school juniors and seniors who are academically talented in science or math. The two-year curriculum includes coursework designed to meet both high school graduation requirements and requirements for associate of arts or associate of science degrees and is conducted by faculty of a Kansas postsecondary educational institution. KansasBio is developing a strategy to enhance bioscience education and training that includes supporting workforce development programs, establishing KansasBio student chapters at state and private universities, and working with educators to develop K-12 bioscience curriculum.

Postsecondary Education

In 2007, Governor Sebelius signed into law the Kansas Technical Education Authority. This 12-member body will coordinate the state's technical education programs to ensure that students are receiving the education they need and that schools are operating efficiently and effectively. Several state agencies have cooperated to initiate an alignment study for postsecondary education. The alignment study seeks to identify the potential disconnects between the outputs of postsecondary education and the occupational and skill demands of

Kansas industries. Results of the study will identify best practices for educational institutions, enhancing their ability to offer programs that will produce graduates with the skills to enter high-wage, high-tech occupations that drive the Kansas economy.

Regional Growth

Established in February 2006, the OneKC WIRED initiative represents a dynamic, entrepreneurial and innovative partnership strategically designed to drive significant economic and workforce development transformation within a bi-state region in the Kansas City area. A similar proposal was recently submitted for the South central Kansas region to maintain the competitiveness of the area's aviation industry. The following activities have been initiated to prepare for this change:

- Significant investment in the National Institute for Aviation Research.
- Development of a regional manufacturing skills certificate to train 4,000 aviation workers.
- Investment in a technical training and education center in Wichita.

[OneKC WIRED](#)
[National Institute for Aviation Research](#)

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KENTUCKY

STEM Education

Governor Ernie Fletcher's Council on Postsecondary Education (CPE) convened a STEM Task Force comprised of 110 members from the K-12, higher education, business and industry, and government sectors to develop a strategic action plan to improve STEM performance in Kentucky. The governor has overseen funding and implementation of KY Project Lead the Way to enhance engineering performance and the engineering pipeline. Kentucky also has established KySat—a joint enterprise involving public organizations, private companies, colleges, and universities in the student-driven design, building, launching, and on-orbit operation of small satellites for innovation and learning purposes.

[Council on Postsecondary Education](#)
[Kentucky Science and Technology Corporation](#)

Postsecondary Education

Governor Fletcher's Regional Stewardship Initiative was funded and implemented in spring 2007. Under this initiative, public higher education institutions may apply for funding to create projects focused on economic development and workforce needs within each region. Through CPE, adult education and GED completion have been better aligned with higher education attainment and workplace skills certification.

Regional Growth

Governor Fletcher has increased the accountability of **management at Kentucky's 12 Innovation and Commercialization Centers, which provide** comprehensive business accelerator services for entrepreneurs, scientists, and engineers. Each center is a gateway to the **Kentucky Gap Fund**, which helps companies bridge the gap between the time they receive early-stage seed funding and when they become viable for venture capital funding.

The governor also has implemented the first state-matching program for federal Small Business Innovation Research and Small Business Technology Transfer Research (SBIR/STTR) Phase 2 grants.

[SBIR/STTR Matching Funds Program](#)
[Kentucky Enterprise Fund](#)

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LOUISIANA

STEM Education

Governor Kathleen Blanco has aligned high school graduation requirements with university admissions requirements to make math and science requirements more rigorous. As part of this alignment, end-of-course exams in both subjects will be phased in over three years. The initiative is supported by continuing professional development programs provided by the Louisiana Department of Education and the Louisiana Systemic Initiatives Program, which will also initiate online tutoring programs for students.

[Louisiana Systemic Initiatives Program](#)

Postsecondary Education

Under Governor Blanco, Louisiana has launched LA ePortal, a state-of-the-art lifelong learning education portal. This online college- and career-planning tool expands student engagement and career exploration and aligns education with the needs of the state's economy. LA ePortal serves as Louisiana's one-stop solution for complete education and career information. The program is designed to facilitate academic and career pursuits along a workforce education and training continuum to assist users as they navigate through life.

[LA ePortal](#)

Regional Growth

The Post-Katrina Support Fund Initiative (P-KSFI) and the Research Commercialization and Educational Enhancement Program (RC/EEP) focus on promoting innovation-centered regional growth through research development, technology transfer opportunities, private-sector partnerships, student training, and workforce development. P-KSFI provides funding for STEM research groups to increase their productivity. RC/EEP, which was designed for storm-affected campuses only, serves as a pilot initiative for promoting the development of transferable research and student training programs that meet local and regional workforce needs. RC/EEP strategic planning will provide a focus for statewide efforts to increase commercialization of university research and integrated economic development.

[Louisiana Board of Regents](#)

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MASSACHUSETTS

STEM Education

Governor Deval Patrick has proposed at least three years of mandatory high school math and science. Additionally, Governor Patrick recognizes the key role that teachers play in developing successful citizens. Teachers should be qualified in the subject matter they are

assigned to teach, with regular opportunities for skills development. For instance, through the Professional Development Institute Program, 26 STEM institutes will offer professional growth opportunities for teachers during the school year.

[Professional Development Institutes for Educators](#)

Postsecondary Education

In the commonwealth, there are more than 20,000 unfilled jobs in high-growth, high-need sectors of the economy that require an associate's degree or above. Governor Patrick has therefore proposed that every child in the commonwealth have the opportunity to achieve an associate's degree or apprenticeship in a trade at the state's expense. Governor Patrick has also announced the new Life Sciences Initiative to mark a new partnership between state government, industry, academic medical centers, and public and private higher education. The initiative will fund academic research and start-up companies as well as create a stem cell bank at the University of Massachusetts for newly created lines of embryonic stem cells.

[University of Massachusetts' Life Sciences Initiative Press Release](#)

Regional Growth

In Massachusetts, the sector-strategy approach has been successful as a workforce development intervention that meets the needs of employers while creating access for workers to good jobs. Employers have realized cost savings, seen productivity improve, reduced turnover, and gained skilled employees. Meanwhile, workers have gained good-paying jobs, received opportunities for advancement, and seen wages increase. Additionally, case studies and evaluations have informed improvements to subsequent sector-based projects, and significant employer contributions have been supplemented by public investments. To support continued workforce development in the commonwealth, Governor Patrick is launching a Workforce Competitiveness Trust Fund, which will use this sector-based approach.

[Commonwealth Corporation Industry Sector Strategies](#)

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MICHIGAN

STEM Education

Under Governor Jennifer Granholm, Michigan has become one of 12 states to align its high school graduation requirements with college and workplace expectations. The state has also created the Michigan Merit Exam, a high school assessment that includes elements of the ACT college-readiness exam. Last year, Michigan became the first state in the nation to require all students to take an online course or have an online learning experience to graduate from high school. This year, with financial support from Microsoft's Learning Program, students in Michigan have access to *CareerForward*®, a powerful, free online course dealing with globalization, career planning, and entrepreneurship.

[Michigan Merit Curriculum](#)
[About the Michigan Merit Exam](#)

Postsecondary Education

Two years ago, Michigan established an unprecedented partnership with the Charles Stewart Mott Foundation and the Joyce Foundation, aimed at doubling the number of Michigan residents with a college degree or certificate. In February, Governor Granholm launched the No Worker Left Behind initiative, which provides an opportunity for thousands of residents to gain new work skills and greater educational attainment—tuition-free—in high-growth and high-demand occupations or entrepreneurship through a community college, university, or trade program.

[Commission on Higher Education & Economic Growth
No Worker Left Behind](#)

Regional Growth

Last year, Governor Granholm launched the 21st Century Workforce: Developing Coordinated Regional Strategies Initiative, which made awards to regional Michigan Works! agency coalitions across traditional geographic and agency boundaries to work with local partners on developing regional strategies to deal with worker dislocation. Michigan is encouraging partnerships among firms in specific industry sectors—defining workforce issues in recruitment, retention, and training—and developing solutions, all in collaboration with educators and workforce leaders.

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MINNESOTA

STEM Education

Governor Tim Pawlenty's new Achieve Scholarship program addresses two critical barriers to college attendance: lack of academic preparation and financial access. Under the program, Minnesota high school graduates who complete any one of four sets of courses defined as rigorous earn a one-time scholarship of \$1,200 to help pay for college at a public or private college or university. To qualify, students must be from a family with an adjusted gross income of less than \$75,000 for the previous tax year, file the Free Application for Federal Student Aid, and enroll in a postsecondary education within four years of high school graduation.

Postsecondary Education

At Governor Pawlenty's request, the Minnesota Office of Higher Education developed the state's first higher education accountability report. One of the main goals of this report is to include indicators that measure the state's effectiveness in producing graduates in STEM disciplines and health care.

[Minnesota Measures](#)

Regional Growth

Governor Pawlenty has expanded the influence of Minnesota's universities on the state's economy by expanding centers of excellence and higher education. The governor has presided over a new University of Minnesota campus in Rochester to expand high-demand instructional programs that focus on the life sciences disciplines, nanotechnology, and

entrepreneurship. The new campus builds on local partnerships with the Mayo Clinic and IBM. Two centers of excellence in manufacturing engineering have been established at Minnesota State University, Mankato and Bemidji State University. Each center will work with regional two-year colleges to build unique flagship programs to attract the participation of employers, students, and faculty from outside the region.

[Minnesota Center for Engineering and Manufacturing Excellence](#)

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MISSOURI

STEM Education

In 2006, Governor Matt Blunt convened a statewide METS (mathematics, engineering, technology, and science) summit. The educators and business leaders in attendance produced a report that recommended how Missouri could improve METS offerings, and established a METS coalition to coordinate efforts in the state to support METS education. Governor Blunt has also successfully advocated for increased spending for improved classroom technology as well as METS after school programs.

Postsecondary Education

Missouri's newly created P-20 education council is charged with better linking the state's higher system with the public education system and the state's workforce needs. In addition, Governor Blunt has directed the state's Coordinating Board to develop a system of performance measures across public education as well as set of common competencies across entry level college coursework. These initiatives are designed to ensure that all students attending public institutes of higher education have the skills they need to meet the state's workforce needs.

Regional Growth

Missouri's Lewis and Clark Discovery Initiative (LCDI) has used \$325 million in state funding and an additional \$100 million in private funds, to support regional high growth industries. LCDI has funded research facilities for the public higher education system, helped develop business incubators and made funds available to align math and science curriculum with the workforce needs of high growth industries. LCDI has also provided \$15M for economic strategic planning and the implementation of regional innovation initiatives.

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MONTANA

STEM Education

The governor and first lady's Science and Math Initiative encourages Montana's youth to develop an interest in math and science and learn about related career opportunities in K-12 schools and higher education. The program includes early childhood programs to spark interest in science and promotes hands-on learning to encourage inquisitive young minds to take challenging courses. The initiative also engages Montana's university system to extend

innovative research and career opportunities while encouraging partnerships with leading-edge private research.

[Montana Math and Science Initiative](#)

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NEVADA

STEM Education

The Nevada Math Project is a grant-funded partnership among the Nevada Department of Education, the National Science Foundation, and the U.S. Department of Education. The project is one of only two in the United States. Through a select group of participating mathematics teachers, a team of educators provides instruction that promotes the incorporation of research advancements into mathematics teaching techniques. The immediate goal of the project is to train coaches within the state, who will work with teachers to better balance instruction and problem-solving in mathematics classrooms.

Postsecondary Education

In fall 2005, at the request of the local manufacturing community, Nevada's Truckee Meadows Community College created a Manufacturing Technology program. The program has two emphases to better respond to the need of different industries: The Machining Emphasis is competency-based, with hands-on learning exercises ranging from manually machined projects to more advanced computerized tasks; the Production Systems Emphasis provides training to students seeking employment as technicians or managers in industrial production, assembly, or fabrication.

[Applied Industrial Technologies at Truckee Meadows Community College](#)

Regional Growth

Nevada's Center for Entrepreneurship and Technology is designed to foster an environment in which high-growth entrepreneurial companies can succeed. The center was created jointly by the Nevada Commission on Economic Development and TechAlliance. Strong growth in recent years has created an understanding that the region must pursue continued economic vitality while maintaining the region's high quality of life for future generations. Toward this end, northern Nevada held the Target 2010 Summit to develop a strategy for the new economy that focuses on quality companies with better jobs and higher wages, uses environmentally sustainable methods, and gives back to the community.

[Nevada's Center for Entrepreneurship and Technology](#)
[Target 2010 Summit](#)

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NORTH CAROLINA

STEM Education

Governor Michael Easley launched an unprecedented high school innovation initiative with support from the Bill & Melinda Gates Foundation. During the last three years, the North Carolina legislature has created nearly 90 Learn & Earn Early College High Schools and redesigned other high schools organized around academic themes. The Learn & Earn Early College High School Initiative allows students to leave high school with a diploma and an associate's degree or two years of transferable college credit. The Learn & Earn program was implemented to be an economic development driver and many of the higher schools in the Learn and Earn program focus on STEM themes that are frequently tied to a community's economic development needs.

[Governor Easley's New Schools Project](#)

Postsecondary Education

As early as ninth grade, students can attend Learn & Earn schools, which are located on college or university campuses. The partnerships between local school districts and higher education make for a fuller pipeline of potential degree holders, which in turn helps the state speed up its transition to a more knowledge-based economy and make graduates more globally competitive.

Regional Growth

In 2006, North Carolina established the One North Carolina Small Business Program. The program expanded an existing program to include comprehensive financial support for growth companies within the state. The program makes small businesses eligible for state matching grants to support research projects funded through federal programs. In addition, the state recently released a report detailing how North Carolina can nurture the emerging nanotechnology field to make it an important part of the state's economy. The report includes 22 recommendations that deal not only with nanotechnology, but other important areas of economic growth for the state as well.

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PENNSYLVANIA

STEM Education

Pennsylvania Governor Ed Rendell has launched a three-year initiative, providing high school students with laptop computers in core classes. This investment is transforming teaching and learning in the state for the 21st century and helping to ensure all Pennsylvania students graduate from high school, college- and career-ready. The governor and Department of Education are also working with Penn State University to build a partnership between the colleges of Engineering and Education, respectively. The purpose is to infuse engineering content into teacher-preparation programs, combined with pedagogical strategies, so that graduates will be better prepared to help young children familiarize themselves with STEM fields, building an early STEM pipeline for the commonwealth.

[Classrooms for the Future](#)

Postsecondary Education

Governor Rendell's Keystone Innovation Grant program provides funding to higher education institutions that partner with the Keystone Innovation Zone (KIZ) program for seed capital, licensing, technology-transfer activities, placement of student internships, and operational expenses such as technical assistance to companies. To date, the Department of Community and Economic Development has awarded 33 grants totaling \$6.5 million through the program. Keystone Innovation Starter Kits also provide institutions of higher education with funds, but to assist in the recruitment of top-notch faculty in particular industry sectors.

[NewPA.com](#)

Regional Growth

Governor Rendell has worked toward aligning the state's workforce and education spending with the needs of the economy. The Governor's Workforce Development Task Force defined nine industry clusters with competitive advantages and potential for long-term economic growth. These clusters account for 69 percent of the state's employment base and have served as the basis for industry-driven workforce, economic, and education development across Pennsylvania. The commonwealth has also developed the High Priority Occupation process to meet employer demand for high-growth, high-demand jobs in industries vital to the stability and growth of Pennsylvania's economy.

[Pennsylvania's Industry Cluster Analysis](#)

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Puerto Rico

STEM Education

Operación Éxito (Operation Success) is an educational technology tool that helps students in grades 10 through 12 test their math and science knowledge through a system of online competitions. Students compete for prizes, including scholarships, computers, and cars. Teachers have reported increases in student motivation, attendance, academic performance, and renewed classroom cohesion. More than 10,000 students have participated in the program over the past two years. For the next school year, Operation Success will include Puerto Rico's biotechnology curriculum.

[Operación Éxito](#)

Postsecondary Education

Governor Aníbal Acevedo-Vilá broke ground last year on the Bioprocess Complex, a facility that combines a biotechnology pilot plant with a workforce training center to provide hands-on research opportunities. The research and development wing consists of state-of-the-art suites to house corporate-sponsored research and to serve as classrooms for teachers administering simulations of production-plant environments [AQ: Please clarify—the plant environment or work experience in production plants?]. This public-private partnership will prepare Puerto Rico's students to join the workforce in scientific research and development roles. The complex is a joint project supported by the Puerto Rico Industrial Development

Company, the University of Puerto Rico, and the U.S. Department of Commerce.

Regional Growth

The Science and Technology Trust was established to secure new investment and financing activities that strengthen Puerto Rico's science and technology sectors. The Trust will promote collaboration among government, academia, and business, bringing together the best minds from these worlds to concentrate on pharmaceuticals, biotechnology, medical instruments, and information technology. Puerto Rico is also developing its Knowledge Corridor, home of the Rio Piedras Campus and the Medical Science Campus of the University of Puerto Rico, where more than 1,000 acres of land is dedicated to technology, education, science, and research institutions.

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RHODE ISLAND

STEM Education

Project Making the Grade is Governor Don Carcieri's action plan for STEM education, higher education preparation, and successful careers in a technology-driven workplace. The project's blue ribbon panel report identifies 12 core strategies targeting systemic, comprehensive, and sustainable actions to improve STEM education and training. Working with Vermont and New Hampshire, Rhode Island has implemented new mathematics and science standards and drafted engineering and technology standards. The state has launched a high school science curriculum pilot, Physics First Rhode Island, requiring all students take physics, chemistry and biology and has invested in e-classroom learning and a STEM Center to improve teacher preparation and student outcomes.

[Project Making the Grade Blue Ribbon Panel Report](#)
[Rhode Island Department of Elementary and Secondary Education](#)

Postsecondary Education

Governor Carcieri's PK-16 Council has overseen the adoption of new college-ready and work-ready standards in English, mathematics, and science for all Rhode Island high school students. Rhode Island's Office of Higher Education has called on the state's public higher education institutions to specify student learning outcomes for each program of study that outline what skills graduates must possess to thrive in today's economy. The Office of Higher Education is also in the process of aligning databases with the Department of Labor & Training to track graduates' salaries and wages. The state has recently expanded nursing programs in partnership with the hospital industry.

[Governor Carcieri's Executive Order Creating the PK-16 Council](#)
[Rhode Island Department of Education](#)

Regional Growth

Governor Carcieri has introduced two major initiatives to enhance the state's innovative capacity. The Rhode Island Science & Technology Advisory Council (STAC) is a coalition of academic, industry, and health care leaders charged with making public policy recommendations to strengthen Rhode Island's collaborative research platform and increase entrepreneurial activity. The Business Innovation Factory (BIF) is a nonprofit that has created the nation's first laboratory for testing real-world business models. It has launched

RI-WINs, an initiative to make Rhode Island the first state to have a border-to-border wireless broadband data network as a platform for statewide innovation.

[Rhode Island Science & Technology Advisory Council](#)
[Business Innovation Factory](#)

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SOUTH DAKOTA

STEM Education

In January of 2006, Governor Mike Rounds announced the Classroom Connections program. The program is designed to give laptops to every high school student in the state. 41 school districts, made up of 9,600 students, have already been selected to pilot the program before it is expanded to the rest of the state. Teachers will also receive laptops and specialized professional development to help them effectively integrate greater use of technology into the classroom.

[Classroom Connections](#)

Postsecondary Education

As part of the governor's 2010 Research Initiative, South Dakota has developed six research centers within the state's Regental system of higher education and workforce development institutions. These centers are focused on commercialization of higher education research and the acquisition of federal grants and other sources of funding. Already, the four original research centers have leveraged \$40 million in non-state funds in just two years. The National Science Foundation has reported that their most recent statistics show South Dakota leading the nation in the rate of growth in federal research funding

[Governor Rounds' 2010 Initiative](#)

Regional Growth

South Dakota is reopening the Homestake Mine in Lead South Dakota for consideration as the National Science Foundation's Deep Underground Science and Engineering Laboratory (DUSEL). Selection as the DUSEL will bring scientists, engineers, and mathematicians to South Dakota for a variety of experiments. DUSEL will include a world-class science education center. South Dakota is also expanding its value-added agriculture products, particularly with beef and turkey commodities. As part of Governor Rounds' 2010 Initiative on energy, South Dakota is actively promoting the production of ethanol and biodiesel as well as the development of wind energy.

[Sanford Laboratory at Homestake](#)

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TEXAS

STEM Education

Texas is the second state to raise the standards for graduating high school seniors in the areas of math and science by adding a fourth year of required study to the curriculum. This has improved students' college and workplace readiness. The state has also created six Texas-Science, Technology, Engineering, and Math (T-STEM) centers and 35 T-STEM academies. T-STEM centers are partnerships among public education, business, and community groups, which collectively develop innovative teaching materials that integrate engineering and technology concepts into the curriculum and provide training for teachers and administrators.

[T-STEM Initiative](#)
[Texas High School Project](#)

Postsecondary Education

The Texas Industry Cluster Initiative establishes state and regional partnerships with organizations, state agencies, higher education, and others to foster growth and development of industry-based strategies for business recruitment and expansion within the state. Also, Texas is preparing a high-tech workforce through the Nanoelectronics Workforce Development Initiative. This novel and transferable program demonstrates the feasibility of immersing large numbers of associate, undergraduate, and graduate interns in a real-world, leading-edge nanotechnology facility. The program allows students to engage directly with industry scientists and engineers for 3 to 12 months. The program is designed to improve student employment opportunities and inspire more students to focus on high-tech careers.

[Texas Industry Cluster Initiative](#)
[Nanoelectronics Workforce Development Initiative](#)
www.emergingtechfund.com

Regional Growth

Texas has advanced regional economic growth to assist with the commercialization of new technologies through the Emerging Technology Fund. This \$200-million program is a research collaboration between public- and private-sector entities to develop new Regional Centers of Innovation and Commercialization, where ideas can be developed in university labs and eventually grow into new products marketed by new firms. The fund is used to expedite innovation and commercialization; attract, create, or expand private-sector entities that will drive a substantial increase in high-quality jobs; and increase applied-technology research capabilities in higher education institutions.

[Texas Emerging Technology Fund](#)

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UTAH

STEM Education

Governor Jon Huntsman, his state science advisor, and the Governor's Office of Economic Development (GOED) have led the push to create and expand seventh- through 12th-grade science and technology programs that expose students to a college-level science and technology curriculum. Applied Science, Technology, and Engineering Camps will be held across the state for youth in grades seven through 12. The camps will motivate middle- and high-school students to take additional science, technology, and math classes in hopes that

they will eventually pursue higher education in those fields. At the same time, through the Science Olympiad Teacher Training Camp, the state's science teachers will also have access to content-based professional development opportunities.

[Utah Applied Science, Technology, and Engineering Camps](#)

Postsecondary Education

In the 2007 legislative session, Governor Huntsman signed a bill that authorized funding for an engineering partnership between Weber State University and Utah State University. This partnership will help to meet the demands for electrical engineers in the state, specifically at Hill Air Force Base, a prime air force maintenance facility. Utah also has a strong K-16 Alliance, bridging public education, higher education, the Office of the Governor, legislators, and the state's workforce. The K-16 Alliance is working at the state, regional, and local levels to prepare students for STEM workforce demands.

Regional Growth

Governor Huntsman has supported Utah's Workforce Innovation for Regional Economic Development (WIRED) grant from the U.S. Department of Labor for education and training in the life sciences, based around the biotechnology program at Salt Lake Community College. This initiative ties closely with Governor Huntsman's recent Life Sciences Trade Mission to Canada. Utah also passed the Utah Science, Technology and Research initiative in 2005 to assist research institutions in creating the workforce necessary to meet growing demand for high-tech workers.

[Utah Science Technology and Research](#)

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VIRGINIA

STEM Education

Governor Timothy Kaine has worked with the state legislature to establish a joint subcommittee to study STEM education in conjunction with members of the K-12, higher education, and business communities. Virginia has also joined the American Diploma Project (ADP) and is in the process of aligning state Mathematics and English/Language Arts Standards of Learning with ADP benchmarks. The state is partnering with NASA to conduct a gap analysis of K-12 science and engineering standards against industry, federal lab, and postsecondary expectations. Finally, Virginia is providing \$2,000 annual grants to community-college graduates who have associate's degrees in STEM disciplines to continue their education at four-year colleges.

Postsecondary Education

Virginia recently implemented the Higher Education Restructuring Act to provide greater autonomy and accountability of universities. The act requires that universities actively contribute to efforts to stimulate economic development. Additionally, they must increase externally funded research and facilitate the transfer of technology from university research centers to the private sector. Governor Kaine strongly supported the reestablishment of the Commonwealth Technology Research Fund to attract funding for research institutions and increase technological and economic development in the state. All awards from the fund are

matched at least dollar-for-dollar by private or institutional contributions.

[State Council of Higher Education for Virginia](#)
[Virginia Research and Technology Advisory Commission](#)

Regional Growth

Governor Kaine and West Virginia Governor Joe Manchin are collaborating to develop regional cooperation efforts, especially in areas of workforce development and access to affordable health care. Their last roundtable included a discussion of strategies to improve workforce shortages in critical medical professions and ways the two states could cooperate to improve health care. Virginia's Region 2000 initiative is forming regional cooperatives for economic development where counties and cities have combined their efforts in economic development and workforce development.

[Governors' Bluefield Partnership Roundtable](#)
[Region 2000](#)

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WASHINGTON

STEM Education

Governor Christine Gregoire has established the GET Ready for Math and Science Scholarship program, which offers four-year scholarships to students who score in level 4 of the 10th-grade math or science Washington Assessment of Student Learning, or who finish in the top 5 percent on the SAT or ACT. Students receiving the scholarship must enter and complete a math- or science-related degree program and work in a related field in Washington for three years following graduation. For teachers, Washington is offering expanded professional development time for math and science teachers, particularly to bring new and rigorous STEM courses to their schools. Washington has also created a Department of Early Learning to recognize the importance of teaching math and science to young children. In addition, state universities recently expanded their training programs for educators to increase the focus on early math and science awareness.

[GET Ready for Math and Science Scholarship, House Bill Report as passed](#)

Postsecondary Education

Governor Gregoire, with the help of the state legislature, targeted thousands of new enrollment slots at state universities to high-demand math- and science-related programs for construction, engineering, and allied health professions. Additionally, the state is planning a new University of Washington campus that will emphasize math, science, and technology programs.

Regional Growth

Governor Gregoire signed Innovation Partnership Zone legislation that identified five zones with competitive and linked research-based companies and research institutions. The legislation created an academic "star" recruitment plan through the Economic Development Commission and the Higher Education Coordinating Board to build intellectual and research capacity in the state. It also provides competitively awarded infrastructure funds to the five

zones. Additionally, Washington has updated and improved funding for its network of 36 associate development organizations, which deliver economic development services to companies. The bill directs these organizations to work with regional partners to improve regional economic planning, particularly around industry clusters.

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WEST VIRGINIA

STEM Education

In November 2005, Governor Joe Manchin III and State Superintendent of Schools Steve Paine announced that West Virginia was the second state to become a 21st Century Skills Partner State. Through this partnership, West Virginia has increased its high school graduation requirements to include four math credits, at least three of which must be Algebra I and above. West Virginia is also working to increase the rigor of math and science standards to ensure that its students are prepared for the workplace.

[West Virginia's 21st Century Skills Initiative](#)

Postsecondary Education

In 2006, the Advisory Council for West Virginia EPSCoR (Experimental Program to Stimulate Competitive Research) issued *Vision 2015*, West Virginia's science and technology strategic plan. This plan aligns postsecondary education and economic development around 16 goals in five categories. It also identifies specific outcomes measures. Building on the goals of the *Vision 2015* plan, the governor and legislature have expanded the Research Challenge Program at West Virginia University and Marshall University, respectively. Included in changes to the program is a requirement that review panels consider a research project's impact on the state's economy as a key criterion when evaluating research proposals.

[West Virginia EPSCoR Vision 2015
Research Challenge Program](#)

Regional Growth

Governor Manchin established the 21st Century Jobs Cabinet to serve as West Virginia's P-20 Council and ensure that all levels of education, from preschool through graduate study, are aligned with the state's economic development priorities. Some of these priorities, including innovations in clean coal technology, are statewide in scope. Other priorities are regional, such as biometrics and forensic science in north-central West Virginia and biomanufacturing in the southwestern part of the state. The Jobs Cabinet's charge is to create a seamless educational system that produces graduates capable of working in these high-tech, innovative fields.

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WISCONSIN

STEM Education

Governor Jim Doyle has called for a mandatory third year of mathematics and science as a

graduation requirement. In addition, Governor Doyle has increased Wisconsin's commitment to STEM education by proposing funding for mathematics in Milwaukee, Wisconsin's largest urban school district, and to create a new aid program to assist public schools in implementing innovative, instructional programming in STEM education.

Postsecondary Education

Governor Doyle has partnered with the Department of Public Instruction and the three postsecondary systems in Wisconsin to launch the Wisconsin Covenant. Under the covenant, eighth-grade students who pledge to work hard, maintain a B average, participate in their community, and be good citizens will be guaranteed a spot in one of Wisconsin's universities or technical colleges as well as receive financial aid.

[Wisconsin Covenant](#)

Regional Growth

Building on Governor Doyle's Grow Wisconsin plan, the state's biotechnology/stem cell initiative will maintain Wisconsin's leadership in this area of research by capturing 10 percent of the stem cell technology market by 2015 and expanding Wisconsin's \$7 billion biotechnology industry. The initiative includes support for stem cell companies and for the Institute for Discovery at the University of Wisconsin–Madison, a research collaboration facility. The Governor's Business Council, created in April 2007, brings together government and regional business development groups to promote innovation, streamline regulation, enhance entrepreneurial spirit, and make Wisconsin a national leader in workforce skills and efficient manufacturing.

[Grow Wisconsin Initiative](#)

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WYOMING

STEM Education

Wyoming has initiated the Hathaway Scholarship program to improve the rigor of the high school curriculum through an emphasis on math and science while helping more students achieve their college dreams. The scholarships can be used at the University of Wyoming and the state's seven community colleges and are funded by interest from the Federal Mineral Royalties. State aid of up to \$1,600 per student per semester depends on high school grades, college entrance exams scores, financial need, and, beginning in fall 2007, on high school curriculum. The top funding level will go to students who will have taken four years of math and science.

[Hathaway Scholarship](#)

Postsecondary Education

Governor Dave Freudenthal has appointed a blue-ribbon panel to explore the governance, mission, and funding of the state's community colleges, with a specific charge of recommending ways in which workforce development and career and technical education can be better integrated into the existing system. Additionally, since 2001, the state has appropriated grants to the University of Wyoming that match private donations. These grants have been used to leverage the private sector for donations that are improving

research, attracting top-level faculty, enriching academic programs, and building new, state-of-the-art facilities.

Regional Growth

Wyoming is underwriting the construction costs of a data facility for the National Center for Atmospheric Research. The supercomputer center will attract entrepreneurs, top-flight scientists, professors, and researchers who can benefit from one of the world's most powerful computers. The information this facility produces will benefit a variety of disciplines and promote innovation throughout the state. Additionally, the Business Ready Communities Program provides grants and loans for physical infrastructure in support of primary economic development for communities that want infrastructure to promote a more pro-business climate and improve aesthetics and quality of life to encourage economic growth.

[University Corporation for Atmospheric Research](#)
[Wyoming Business Council](#)

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