

Second to None in Attainment, Discovery, and Innovation: The National Agenda for Higher Education

The 44th President of the United States will have the greatest opportunity – and face the greatest necessity – since the 1950s to lead the nation to sustainable prosperity. In the knowledge economy of the 21st century America’s intellectual edge, creative ingenuity, and adaptive workforce are and will remain the most important components of national strength and economic security.

Strong leadership and relatively modest investment can restore U. S. pre-eminence as the best educated and most competitive country on earth. In the difficult times we face, embracing this goal – achieving the top rank in education – as a centerpiece of your campaign and your presidency can lift the spirit and the aspirations of the American people. America’s colleges and universities stand ready – with the right mix of reforms and resources – to meet the competitive challenges facing the nation.

By the end of the next President’s first term:

- the United States will have 3 million more jobs requiring a bachelor’s degree and not enough college graduates to fill them;
- ninety percent of the fastest-growing jobs, 60 percent of all new jobs, and 40 percent of manufacturing jobs will require some form of postsecondary education; and
- global competition will demand research and innovation on a scale that even the U.S. is not yet prepared to sustain.

It is far easier to make such projections than to do something about them. Presidential leadership is needed to articulate the needs and achieve the necessary commitment. Economic security, a top priority for the American people, requires access to good jobs providing stable incomes to support families and build better futures. National security, in turn, requires the educational infrastructure on which a healthy, competitive economy is built. To achieve and sustain both economic and national security, the U.S. system of higher education must be second to that of no other nation. We pledge our own commitment and we ask you, in your campaign and your administration, to lead us toward that end.

Why is higher education so important?

More than ever before the innovative and productive capacity of the United States depends on the knowledge and skills of our people. During the postwar years from 1948 to 1973, economists estimate that two-thirds of U.S. economic growth was driven by education and the innovation it produced.¹ Education has become even more essential in the 21st Century when low-skilled, well-paying jobs are scarce and higher skills, adaptability, and the capacity to add value in the workplace are essential for economic security. For individuals, as well as the nation as a whole, higher education and preparation for success in higher education have become urgent priorities.

At the very time jobs with modest knowledge and skill requirements have been moving rapidly to lower-wage countries, the United States has slipped from first to tenth in the percentage of young adults with a postsecondary credential. Although we still lead the world in scientific discoveries and innovative applications of knowledge, our lead is narrowing. We must be second to no other nation in educational attainment and in discovery and innovation, or economic security and the quality of life in our communities will deteriorate.

Why have we lost ground?

Our system of higher education has not deteriorated, but it has not kept pace with the rising global standard of excellence. People everywhere aspire to the prosperity and quality of life in the United States, and other nations around the world are rapidly providing postsecondary education to more young adults and developing more competitive scientific and technical capacity.

A decade ago the research universities of the United States were virtually unchallenged in attracting the world's most gifted scholars. A decade ago our adult population led the world in educational attainment.

Today universities in the European Union and Asia are improving rapidly. They now provide competitive educational and research opportunities for brilliant scholars, without requiring them to travel to the U.S. Today 55 percent of young adults in the leading countries have an associate degree or higher. In almost *all* countries in the Organization for Economic Cooperation and Development, young adults are better educated than older adults. But in the United States only 40 percent of adults aged 25 to 34 have an associate degree or higher; no improvement over the soon-to-retire baby boom generation.² Other countries will almost surely continue to improve. A decade from now, unless we accelerate educational progress, the United States will be far down the list in educational attainment.

What are the key issues?

In the past four years a series of high profile national Commissions have focused attention on postsecondary education. (Their members and the titles of their reports follow this paper.) Recognizing that better higher education performance is essential for economic and civic well-being, these reports call for a national commitment to address key issues and offer useful counsel about national priorities and the means for achieving them.

Without reiterating the detailed recommendations of these reports, they collectively address four key issues:

- The U.S. has the world's leading research universities and many high-quality undergraduate institutions, but we no longer lead the world in educational attainment.
- Despite high participation and enrollment rates, the U.S. has the worst degree completion rates among developed nations, especially for low-income students and minorities.
- Despite justifiable prestige and pride in our undergraduate programs, we are losing confidence that all graduates emerge with the knowledge and skills required in the 21st century.
- We spend more per capita and a higher percentage of GNP on higher education than any other country, yet nine other nations have moved ahead of us in the proportion of young adults obtaining a postsecondary degree or certificate.

These contradictions in the American higher education system reflect an imbalance between the pursuit of excellence and the pursuit of widespread educational attainment. We need both, but we are not getting both. Why not?

In many respects the U.S. higher education system still reflects the goals and conditions of the 20th century. It was designed to provide excellence in higher education along with access to opportunity at a time when our economy offered many well-paying jobs that didn't require postsecondary education. While justly priding ourselves on widespread educational opportunity, we have honored more highly, expected more from, and spent considerably more on students who have the highest probability of success. As an artifact of the past century, we place lower expectations on average students and we allocate considerably fewer resources to the less-selective institutions where they enroll.

The higher education system of the last century no longer meets the needs of the American people. First, it has become less affordable, in part because competition within higher education for able students and faculty and for graduate programs and research funding has tended to push up costs without commensurate increases in quality. Second, even the quality of its strongest components is unsustainable because excellence in discovery and

innovation depends substantially on the underlying strength of the entire American educational system and our economy.

Excellence in discovery and innovation and widespread educational attainment must be a unified national agenda, a partnership, not a tradeoff. We must have both, or in the long run we will have neither. The energy, commitment, and creativity of our research universities in advancing scientific and technological frontiers must be applied as well to the challenge of increasing educational attainment, or in both we will falter and fall behind.

While we dare not rest on our laurels in discovery and innovation, the evidence suggests the larger challenge and more urgent need is to achieve more widespread educational attainment and greater productivity from our higher education system. Without higher levels of educational attainment, our people, the enterprises which employ them, and our research universities cannot remain competitive in the global economy. We must focus on and remove the barriers to more widespread educational attainment.

Our Goals

Second to None in Educational Attainment – One million more degrees and certificates per year

To match today's leading nations (Canada and Japan), 55 percent of our young adults must have an associate or bachelors postsecondary credential. By 2025 the U.S. will fall 16 million degrees short of a 55 percent attainment rate if we fail to increase degree production above the current rate of about 2 million per year.³ An average of three million postsecondary degrees and certificates every year is needed to reach that current international standard. While population growth will help the U.S. reach this target, our future depends on raising the rate of participation and success in higher education from the current level of 40 percent of young adults to a competitive level of 55 percent or greater. Setting and meeting this ambitious target is the right strategy for sustaining and improving prosperity and the quality of life in our communities.

Second to None in Discovery and Innovation – World leader in science, technology, and the advancement of knowledge

The achievements of the United States in discovery and the application of knowledge have been built largely through competitive federal research programs combined with state and private investment in research infrastructure and talent. To be a world leader in the future will require building on those investments and raising our expectations for quality and innovation.

Higher expectations and levels of educational attainment in our schools and colleges are critical for developing the talented pool of diversified professionals required to sustain world-class faculties in our colleges, universities, and research institutes. Increasingly, the

basic research that undergirds innovation and creative application occurs almost exclusively in colleges and universities. Within universities, faculty talent must be deployed more broadly – not just to advancing scientific discovery, but also to applying knowledge to key problems, improving pedagogy, and synthesizing knowledge in every field.⁴ In short, we must both replenish our intellectual leaders and learn how to employ them more effectively.

We must face the fact that our past accomplishments, in substantial measure, have come from attracting many of the world's most talented and creative people to work in our colleges and universities. The human capital of the United States has been greatly enriched by talented immigrants for which other nations are now competing more effectively and vigorously. Effective security screening is essential, but being second to none in discovery and innovation will require well-designed immigration policies that continue to attract and retain talent from other parts of the world.

What will it take to generate one million additional degrees each year?

The fastest, most effective way to generate one million more degrees per year is to focus policies and resources on the students who are not now succeeding in our colleges and universities. These students generally are low-income, first-generation, or working adults of all ethnic groups; African Americans, Hispanics, and recent immigrants or their children constitute a large part of the total. Most of these students attend college at state-supported two-year or regional four-year colleges or universities. Because of low rates of participation and success, low-income college students are much less likely to earn a college degree than similarly qualified higher income students. The number of school-age Hispanic children will double in the next two decades, but currently Hispanic students are one-third as likely as White students to graduate from college.⁵

Increasing degree completion rapidly and significantly requires addressing the barriers that prevent students from pursuing and obtaining a postsecondary credential: poor preparation in high school; a complex and poorly-targeted financial aid system; an overall lack of focus on student success; and inadequate resources at less-selective public institutions. All of these require more urgent attention.

Inadequate college preparation

Low expectations of high school students, and their own low aspirations in response, are major barriers to meeting the Second to None Challenge. Today too many high schools maintain general tracks for students which fail to give them the skills needed for success in either college or the workplace. Only one-third of high school students graduate on-time and ready for college and work.⁶ In many colleges across this country more than one-half of freshmen students take one – or more – remedial courses to learn skills that should have been acquired in high school.⁷

The federal government, the states, K-12 and postsecondary educators, philanthropy, and the business community all are working to improve preparation for college. With continued effort by educators and support from government and foundations, these efforts will bear fruit, but only if they are accompanied by improvements in other areas of policy and practice as well.

Complex and poorly-targeted financial aid

Common findings across numerous policy studies indicate that the financial aid application process is too complex, while policies and resources are not targeted sufficiently on helping the neediest students succeed. Despite overwhelming evidence about these problems, progress has been glacial at best. Each year, one million low-income students do not apply for financial aid because they lack information about or find the application process too difficult to navigate.⁸ Too often students, families, and counselors fail to cobble together enough funding from different sources, and students end up not enrolling, choosing part-time enrollment which often delays or thwarts degree completion, or working so many hours that a focus on academic achievement becomes impossible.

Inadequate commitment, insufficient support

Both low-income students and the institutions they attend must increase their aspirations, expectations, and commitment to successful, timely degree completion. Institutions must provide better support and more encouragement for students to complete degrees, and students must respond to the encouragement. Institutions must identify and change barriers to completion in their policies, programs, and practices. And states must re-examine state policies and funding to be certain their appropriations, tuition, and state financial aid policies provide adequate resources for a quality education, guarantee financial access to properly prepared low-income students, and place the necessary emphasis on student success.

While private non-profit and for-profit institutions are making an important contribution to these national goals, their scale is small in comparison to the student population at question. Most low-income, first-generation college students attend community colleges and less-selective public universities. These public institutions, which have the difficult job of educating many students with inadequate academic preparation, typically have much less money than selective institutions to invest in student success. In a careful analysis of the factors leading to declining graduation rates, researchers from the University of Michigan and the University of Virginia found more low-income students are enrolling, but inadequate preparation, excessive part-time work, and disproportionate enrollment in weakly financed institutions all have contributed to lower success rates.⁹

While we need to increase expectations, aspirations, and the commitment to student success at the institutions enrolling large numbers of low-income, first-generation students, we must also provide the resources necessary for better outcomes, along with greater accountability for results.

State and Institutional Roles

Presidential leadership is essential, but no President and no Congress can create the educational conditions necessary for economic security without commitment, initiative, and creativity from the leaders of our states, communities, schools and colleges. In that light we want to acknowledge our own responsibilities and commitments before turning to what we ask of the President and the federal government.

States and institutions carry the heaviest responsibility for meeting the *Second to None Challenge* for increasing educational attainment. States, through appointed or elected governing boards, are responsible for governing and operating K-12 schools and colleges and universities in ways that engage, inspire, and enable educators and students to achieve better results. States are the primary funders of community colleges and regional four-year institutions. States allocate public resources to the activities and programs necessary to achieve more widespread learning and degree attainment. And states must provide need-based financial assistance calibrated to their tuition policies in order to assure that families can afford to pay the bill for college.

Colleges and universities are the key players in meeting the *Second to None Challenge* for the United States. They have the ultimate responsibility for awarding and for assuring the quality of the postsecondary credentials so highly prized in the global economy. Through their policies and programs they must define learning objectives and assess learning outcomes more clearly so high schools know how to prepare students, so students have clear expectations, and so faculty and students can enjoy the satisfaction of demonstrated achievement and continuous improvement. Also colleges and universities must increase productivity by using their resources more effectively to achieve more degrees and higher quality learning outcomes.

The Federal Role

The commitment and leadership of the President are essential for the United States to be second to none in educational attainment, discovery, and innovation. Clearly the powers of the President and the federal government are limited in our system, but nobody else can better articulate a national priority and galvanize a national response. We can reach these goals only if the President, the federal government, the states, educational leaders, and civic leaders together recognize the urgency of the need and the importance of achieving results.

Our first recommendation is straightforward: *We ask you, clearly and explicitly, to commit your campaign and your administration to reestablishing and sustaining a higher education system that is second to no other nation in its quality and productivity.*

Toward that end we ask you to join us in committing to the achievement of two national goals – First, to increase by an additional 1 million the number of Americans who earn a postsecondary degree or credential each year, and then to sustain that level of degree production. Second, to assure that the United States continues to be second to no other nation in discovery and innovation.

Beyond that crucial first step, we urge you to commit to reevaluate and reshape federal policies and programs in order to help the nation reach these goals. The standard for good federal policy in higher education is simple: Does federal policy help states and institutions become more effective in meeting national goals? These specific areas warrant urgent attention.

1. Re-engineering Student Assistance

Simplification.

Pell Grants are the foundation for financial access to postsecondary education, but learning about and applying for financial aid is unnecessarily complex. Over two-thirds of the data elements sought on the Free Federal Financial Application for Student Aid (FAFSA) are derived from the federal income tax form, and students and families should be able to check on their annual tax forms that they would like to apply for federal financial aid. The FAFSA should then be revised to ask no more than one page of necessary supplemental questions. Modest changes in federal needs analysis would be required to accommodate these revisions, but numerous studies have demonstrated these changes will not negatively affect the neediest students or their families.

Communication.

Students and families should be able to understand more readily how average levels of aid from different programs can come together to finance a college education. They need a financial aid lookup table published with the annual tax form and in other prominent places such as schools and colleges. Like the lookup table estimating Social Security benefits upon retirement, this table would show estimated awards for students of different income levels. Such a table should integrate federal Pell Grants, federally guaranteed loans, federal tuition tax credits, and average state and institutional grants. While the pending reauthorization of the Higher Education Act is likely to advance this agenda, continuous improvement is essential.

Dependable financial aid: to raise aspirations and improve preparation.

The aspirations of low-income students will rise, and preparation for college will improve if we give students a dependable commitment while in middle or high school – “If you stay in school and complete the right college preparatory courses, you will be able to afford postsecondary education.” This commitment can be made real by continuing funding and promoting the Academic Competitiveness and SMART Grants (with changes to allow part-time students to receive them), maintaining the purchasing power of the Pell Grant, and supplementing federal aid with well-designed state programs.

A stable, logical target for the maximum Pell Grant.

The role of Pell Grants in providing basic access to higher education has been confused by the wide variation of tuition and fees among states and sectors. When Pell Grants are considered a source of funding for tuition and fees, the relatively modest Pell maximum award seems very inadequate at higher tuition institutions and deceptively more than adequate at low tuition institutions.

A better approach would be to sharpen the differences between federal, state, and institutional responsibilities by targeting the Pell Grant on living costs plus non-tuition expenses (including books and supplies) which total approximately \$12,000 for full-time students at virtually all institutions. This approach would emphasize state and institutional responsibilities to moderate tuition increases and provide aid calibrated to their tuition policies to help low-income students pay tuition.

Full-time students would be expected to finance approximately \$5,000 of this amount with part-time work, and the remaining \$7,000, after taking into consideration what their parents can reasonably contribute, would be eligible for Pell Grant support. The budget for non-tuition costs, of course, should be adjusted annually for growth in the cost of living, and higher tuition costs should be considered in assessing need.

This approach also would better recognize the financial burdens faced by low-income, non-traditional students, which are underestimated in many need analysis formulas. The excessive hours such students must work to pay living costs has been demonstrated to be a formidable barrier to the completion of degrees and certificates.

Simpler, more valuable tax credits.

Federal tax credits for higher education need to be simplified, focused, and increased. The different provisions, including HOPE, Lifetime Learning, tuition and fees deductions, and student loan deductions, have different definitions of college costs and eligible schools and students. The income limits and phase-outs vary for each program, with some of the tax benefits lost by the alternative minimum tax and others not. Students and families would benefit from a single, refundable

tax credit. Above-the-line deductions could be eliminated in favor of this simpler and more valuable benefit. A tax credit focused on tuition charges for middle and lower-middle income students would nicely complement a Pell Grant focused on non-tuition costs for low-income students. States and institutions must bear the responsibility for helping low-income students who will not benefit from tax credits pay tuition costs.

2. Improving data and quality assurance systems.

In 1867 the nation's very first Department of Education (whose name was later changed to the "Office of Education") was charged with "...collecting such statistics and facts as shall show the progress of education in the several States and Territories." While the federal government is not and should not be on the front line of educational decision making, it plays a vital and irreplaceable role in data collection and also in quality assurance due to the scope and impact of federal financial assistance and research.

In addition to refining and improving its own data systems, the federal government should help states and institutions improve their effectiveness by investing in the development and refinement of state-based student level information systems and better instruments for measuring student learning. Student level data systems can provide colleges early warning signs of a student's likelihood to drop out; reward progression; and monitor completion more accurately. Because of student mobility across states and across institutions within a state, the federal government may help the states create common definitions and standards for data warehousing to protect privacy and facilitate appropriate analyses.

The federal Institute for Educational Sciences should invest in stronger tools for assessing the knowledge, skills, and competencies of our people. The federal government should finance state-level samples on learning assessments such as the National Assessment of Adult Literacy (NAAL), the Program for International Student Assessment (PISA), the 12th-Grade National Assessment of Educational Progress (NAEP), and the new Programme for the International Assessment of Adult Competencies (PIAAC). In the knowledge economy of the 21st century, it is vitally important for America and for each of the states to be able to assess the knowledge and skills of the population.

The nation's voluntary system of accreditation serves the federal government in assuring threshold quality control for federal programs and it serves all of higher education by providing a tool for institutional self-assessment and continuous quality improvement. The U.S. quality assurance system should not be federalized, but it can be improved by developing more consistent and rigorous standards and procedures. Its impact could be enhanced if accreditors were encouraged and enabled to provide sophisticated, rigorous, private feedback to boards of trustees about per-

formance and areas needing improvement when there is inadequate justification for withdrawing accreditation or publically threatening the withdrawal of accreditation.

3. Sustaining and advancing discovery and innovation.

Federal investments in research and in building the human capital necessary for world-class discovery and innovation have contributed enormously to America's economic health and leadership in the world. We defer, as the government generally has deferred, to the expert advice of the scientific community for recommendations concerning specific research priorities and the capacities of individual investigators. But we strongly support deeper federal investments in science and technology, and as suggested above, we believe the budget constraints facing the nation add urgency to the need for rigorous standards of quality. Other nation's are poised and motivated to challenge America's preeminence in this arena.

We also urge federal policies that recognize the critical need for refreshing the nation's pool of talented scientific investigators. Our recommendations for increasing educational attainment will help develop new talent among citizens and immigrants already within the United States. In addition, we strongly advocate immigration policies that will enable our country, as we have over past centuries, to attract more gifted people from abroad to strengthen our scientific and technological prowess.

In Conclusion

We are grateful for your willingness to offer yourself as a candidate for President at this critical time, and we have written because we believe our responsibilities as postsecondary educators are vitally important to the future of our country. We look forward to working with you on these urgent issues. Thank you for considering our views.

Officers, Members, and Past Members of
The National Association of
State Higher Education Executive Officers (SHEEO)

Appendix

Recent National Reports on Higher Education

Accountability For Better Results, A National Imperative For Higher Education

National Commission on Accountability in Higher Education
State Higher Education Executive Officers, Boulder, Colorado. 2005

Commission Members, their titles and positions at the time of publication:

The Honorable Frank Keating, President, American Council of Life Insurers; Former Governor of Oklahoma; Co-Chair		The Honorable Richard W. Riley, Senior Partner, Nelson Mullins Riley & Scarborough, LLP; Former Governor of South Carolina; Former U.S. Secretary of Education; Co-Chair
Kenneth H. Ashworth; Adjunct Professor, Public Affairs & Government, University of Texas and Texas A&M University; Former Texas Commissioner of Higher Education	Dwight Evans, President, External Affairs Group, Southern Company	Stanley O. Ikenberry, President Emeritus, Professor of Education, University of Illinois; Former President, American Council on Education
Robert T. Jones, Former President, National Alliance of Business	Thomas D. Layzell, President, Kentucky Council on Postsecondary Education	The Honorable Carol Liu, Chair, California Assembly Committee on Higher Education
The Honorable Dave Nething, Senator, North Dakota Legislature; Former President, National Conference of State Legislatures	The Honorable Lana Oleen, Former Kansas Senate Majority Leader	Richard Pattenaude, President, University of Southern Maine
Martha Romero, Senior Scholar, Claremont Graduate University; Former President, Siskiyou Joint Community College	Blenda J. Wilson, President & CEO, Nellie Mae Education Foundation; Former Executive Director, Colorado Commission on Higher Education	

A Test of Leadership, Charting the Future of U.S. Higher Education

A Report of the Commission Appointed by Secretary of Education Margaret Spellings
U.S. Department of Education. Washington, D.C. 2006

Commission Members, their titles and positions at the time of publication:

<p>Charles Miller, Private Investor; Former Chairman of the Board of Regents, University of Texas System; Chair</p>		
<p>Nicholas Donofrio, Executive Vice President, Innovation and Technology, IBM Corporation</p>	<p>James J. Duderstadt, President Emeritus, University Professor of Science and Engineering; Director, The Millenium Project, University of Michigan</p>	<p>Gerri Elliott, Corporate Vice President, Worldwide Public Sector, Microsoft Corporation</p>
<p>Jonathan N. Grayer, Chairman and CEO, Kaplan, Inc.</p>	<p>Kati Haycock, Director, The Education Trust</p>	<p>James B. Hunt, Jr., Chairman, Hunt Institute for Educational Policy and Leadership; Former Governor of North Carolina</p>
<p>Arturo Madrid, Murchison Distinguished Professor of Humanities, Department of Modern Languages and Literatures, Trinity University</p>	<p>Robert Mendenhall, President, Western Governors University</p>	<p>Charlene R. Nunley, President, Montgomery College</p>
<p>Catherine B. Reynolds, Chairman and CEO, Catherine B. Reynolds Foundation, Educap, Inc.</p>	<p>Arthur J. Rothkopf, Senior Vice President and Counselor to the President, U.S. Chamber of Commerce; President Emeritus, Lafayette College</p>	<p>Richard (Rick) Stephens, Senior Vice President, Human Resources and Administration, Boeing</p>
<p>Louis W. Sullivan, President Emeritus, Morehouse School of Medicine; Former Secretary of the U.S. Department of Health and Human Services</p>	<p>Sara Martinez Tucker, President and CEO, Hispanic Scholarship Fund</p>	<p>Richard Vedder, Adjunct Scholar, American Enterprise Institute, Distinguished Professor of Economics, Ohio University</p>
<p>Charles M. Vest, President Emeritus, Professor of Mechanical Engineering, Massachusetts Institute of Technology</p>	<p>Robert M. Zemsky, Chair and Professor, The Learning Alliance for Higher Education, University of Pennsylvania</p>	

Innovation America, A Compact for Postsecondary Education

National Governors Association. Washington, D.C. 2006

Governor Janet Napolitano, Arizona
Co-Chair, Innovation America Task Force

Governor Tim Pawlenty, Minnesota
Co-Chair, Innovation America Task Force

Governor Members of the Innovation America Task Force:

Governor Kathleen Sebelius, Kansas

Governor Matt Blunt, Missouri

Governor Jon Huntsman, Jr., Utah

Governor Edward G. Rendell, Pennsylvania

Business and Academic Leaders of the Innovation America Task Force, their positions and titles at the time of publication

Dr. Craig R. Barrett,
Chairman of the Board, Intel Corporation

Dr. G. Wayne Clough,
President, Georgia Institute of Technology

Dr. Michael M. Crow,
President, Arizona State University

Jamie Dimon,
CEO, JPMorganChase

Charles O. Holliday, Jr.,
Chairman and CEO, DuPont

Dr. Shirley Ann Jackson,
President, Rensselaer Polytechnic Institute

Dr. Judith A. Ramaley,
President, Winona State University

Dr. Mary Spangler,
Chancellor, Houston Community College

John Thompson,
Chairman of the Board and CEO,
Symantec

Kevin Turner,
COO, Microsoft

Margaret C. Whitman,
President and CEO, eBay

Public Accountability for Student Learning in Higher Education, Issues and Options

Position Paper From The Business-Higher Education Forum.

American Council on Education. Washington, D.C. 2004.

Initiative Working Group Members:

Report also signed by fifty-five other members of the Business-Higher Education Forum

Edward B. Rust, Jr.,
Chairman and Chief Executive Officer, State Farm
Insurance Companies; Co-Chair

Charles B. Reed,
Chancellor, California State University; Co-Chair

Lawrence S. Bacow,
President, Tufts University

Warren J. Baker,
President, California Polytechnic
State University

Ralph E. Christoffersen,
Partner, Morgenthaler Ventures

Michael J. Emmi,
President and Chief Executive Officer,
IPR International

Roberts T. Jones,
President, Education and
Workforce Policy, LLC

C. Peter Magrath,
President, National Association of State
Universities and Land-Grant Colleges

Constantine Papadakis,
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William J. Pesce,
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John Wiley & Sons, Inc.

W. Randolph Smith,
President, Western Division,
Tenet Healthcare Corporation

Betty L. Siegel,
President, Kennesaw State University

L. Dennis Smith,
President, University of Nebraska

David Ward ,
President, American Council on Education

Rising Above the Gathering Storm: Energizing and Employing America for a Brighter Economic Future

The National Academies. Washington, D.C. 2007.

Committee on Prospering in the Global Economy of the 21st Century:
An Agenda for American Science and Technology:

Norman R. Augustine,
Retired Chairman and CEO, Lockheed Martin Corporation, Bethesda, MD; Chair

<p>Craig R. Barrett, Chairman of the Board, Intel Corporation, Chandler, AZ</p>	<p>Gail Cassell, Vice President, Scientific Affairs, and Distinguished Lilly Research Scholar for Infectious Diseases, Eli Lilly and Company, Indianapolis, IN</p>	<p>Steven Chu, Director, E. O. Lawrence Berkeley National Laboratory, Berkeley, CA</p>
<p>Shirley Ann Jackson, President, Rensselaer Polytechnic Institute, Troy, NY</p>	<p>Nancy S. Grasmick, Maryland State Superintendent of Schools, Baltimore, MD</p>	<p>Charles O. Holliday, Jr., Chairman of the Board and CEO, DuPont Company, Wilmington, DE</p>
<p>Senator Robert Plymale, West Virginia; Chair, Senate Education Committee</p>	<p>Anita K. Jones, Lawrence R. Quarles Professor of Engineering and Applied Science, University of Virginia, Charlottesville, VA</p>	<p>Joshua Lederberg, Sackler Foundation Scholar, Rockefeller University, New York, NY</p>
<p>Richard Levin, President, Yale University, New Haven, CT</p>	<p>C. D. (Dan) Mote, Jr., President, University of Maryland, College Park, MD</p>	<p>Cherry Murray, Deputy Director for Science and Technology, Lawrence Livermore National Laboratory, Livermore, CA</p>
<p>Peter O'Donnell, Jr., President, O'Donnell Foundation, Dallas, TX</p>	<p>Lee R. Raymond, Chairman and CEO, Exxon Mobil Corporation, Irving, TX</p>	<p>Robert C. Richardson, F. R. Newman Professor of Physics and Vice Provost for Research, Cornell University, Ithaca, NY</p>
<p>P. Roy Vagelos, Retired Chairman and CEO, Merck, Whitehouse Station, NJ</p>	<p>Charles M. Vest, President Emeritus, Massachusetts Institute of Technology, Cambridge, MA</p>	<p>George M. Whitesides, Woodford L. & Ann A. Flowers University Professor, Harvard University, Cambridge, MA</p>
<p>Richard N. Zare, Marguerite Blake Wilbur Professor in Natural Science, Stanford University, Stanford, CA</p>		

Rising Above the Gathering Storm: Energizing and Employing America for a Brighter Economic Future (cont.)

The National Academies. Washington, D.C. 2007.

Committee on Science, Engineering, and Public Policy. National Academy of Sciences,
National Academy of Engineering, and Institute of Medicine of the National Academies:

George M. Whitesides,
Woodford L. & Ann A. Flowers University Professor, Harvard University, Cambridge, MA; Chair

Ralph J. Cicerone, (Ex officio), President, National Academy of Sciences, Washington, DC	Uma Chowdhry, Vice President, Central Research and Development, DuPont Company, Wilmington, DE	R. James Cook, Interim Dean, College of Agriculture and Home Economics, Washington State University, Pullman, WA
Haile Debas, Executive Director, Global Health Sciences, and Maurice Galante Distinguished Professor of Surgery, University of California, San Francisco, CA	Harvey Fineberg, (Ex officio), President, Institute of Medicine, Washington, DC	Marye Anne Fox, (Ex officio), Chancellor, University of California, San Diego, CA
Elsa Garmire, Professor, School of Engineering, Dartmouth College, Hanover, NH	M. R. C. Greenwood, (Ex officio), Provost and Senior Vice President for Academic Affairs, University of California, Oakland, CA	Nancy Hopkins, Amgen Professor of Biology, Massachusetts Institute of Technology, Cambridge, MA
Williams H. Joyce, (Ex officio), Chairman and CEO, Nalco, Naperville, IL	Mary-Claire King, American Cancer Society Professor of Medicine and Genetics, University of Washington, Seattle, WA	W. Carl Lineberger, Professor of Chemistry, Joint Institute for Laboratory Astrophysics, University of Colorado, Boulder, CO
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Recommendations of the National Conference of State Legislatures.
Blue Ribbon Commission on Higher Education. Washington, D.C. 2006

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End Notes

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