30 & 1000 : A Progress Report : Our Knowledge-based Economy Development Strategy

Maine State Planning Office

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What is the origin of 30 and 1000?

Public, non-profit and private leaders with a shared interest in economic development have worked collaboratively since 2000 to create and implement Maine's 30 & 1000 Strategy. They include representatives from our higher education institutions, non-profit research laboratories, business community, Legislature and government. The strategy contains three goals:

1. create, retain and attract knowledge workers;
2. conduct world-class research;
3. create new products and services.

This knowledge-based strategy is nested within two key documents: 1) the state's economic development strategy, and 2) Maine's science and technology plan.

For more information:
- www.econdevmaine.com/admin.htm

Introduction

Advanced education and investment in research and development strongly correlate with a state's per capita income. Analysis shows that if Maine improves its performance in these two areas, we can increase per capita income to the national average or above in 10 years.

Based on a review of 10 years of data in all 50 states, two factors consistently appear in states with high per capita incomes: 1) the percentage of adults with at least 4-year college degrees, and 2) the dollars per employed worker in the state spent on research and development.

This is the basis for the 30 and 1000 campaign.

The goal is to increase the percentage of Maine's adults with 4-year college degrees to 30% and increase the amount of R&D spending (by all parties, from all sources) to $1000 per employed worker in the state.

Climbing toward and hitting these thresholds will release economic activity that leads to widespread prosperity in our new economy. Conversely, if we don't work toward these thresholds, there is almost no other combination of things that will raise Maine's per capita income to this level. Regardless of what else we do, our incomes will lag.

Major Accomplishments Achieved - In three short years Maine's business community, higher education and research institutions, and government have created unprecedented partnerships and made significant progress toward achieving the 30 & 1000 goals. While this Progress Report is not exhaustive it does document the creation of new jobs, the development of new business products and services, and the remarkable leveraging (in some instances of $6 external dollars for every $1 dollar in state funds). We are making good progress in creating a knowledge economy in Maine.

Nothing could make it clearer that the nation's economy is now knowledge-based.
Goal I. Create, retain and attract knowledge workers

Create Governor's Academy for Science & Mathematics Education.

**Status:** In 2000 the Governor's Academy for Science and Mathematics Education Leadership was launched by the Maine Mathematics and Science Alliance with assistance from the Department of Education. Twenty-three K-12 science teachers completed 180 hours of professional development. These teachers are now providing online seminars, teaching university courses, offering non-credit courses to teachers, and working with staff in their schools. A second group of 30 teachers will be formed in fall 2003 and the content expanded to include math.

Address shortage of teachers in math, science, and technology.

**Status:** In 2001 the Department of Education received a one-time $1.3 million federal grant to provide mentor training for teachers statewide. The University of Maine initiated work in the mid-coast with 20 teachers and has expanded this to Aroostook County. In 2002 the University of Maine System announced implementation of the Public Education Partnership.

The 5-year Maine Mathematics and Science Teaching Excellence project is a $4.1 million National Science Foundation effort to increase the supply and quality of teachers. In 2002 the 3-year Northern New England Co-mentoring Network (e.g., Maine, New Hampshire and Vermont) was initiated. Over forty Maine teacher-mentors will impact 400 teachers statewide. Between 2001-03 over 120 new K-8 math and science teachers in seven districts were mentored. USM received $750,000 from the National Science Foundation to work with high school science teachers on research projects.

Increase student aid for higher education.

**Status:** Since 2001 General Fund support for the Finance Authority of Maine's State Grant Program has been reduced. Although fewer students are being helped, individual awards remain the same.

In FY01 the Legislature provided $1 million in matching funds to support the Osher Scholarships. In 2000 the Maine Mathematics and Science Alliance received $950,000 from the National Science Foundation for scholarship funds for students that want to teach math or science. In 2001 USM raised $1 million for their scholarship programs.

Expand college student and teacher internships.

**Status:** The University, several private colleges, Maine Technical College System, and state agencies formed a work group, led by the Maine Development Foundation, and developed a Maine Internship Network proposal in fall 2002.

Make Maine's graduate fellowships and assistantships nationally competitive.

**Status:** In 2001 the Integrative Graduate Research and Education Traineeship award was funded by the National Science Foundation. The award supports interdisciplinary training in functional genomics and amounts to almost $2.7 million over 5 years. The grant supports 14 graduate students each year with a stipend, tuition, fees, and insurance.

Involve business leaders, government officials, students, and educators in higher education.

**Status:** In early 2003 the Maine Development Foundation and the Maine Community Foundation prepared to launch the Compact for Maine's Future. This 25 member group will develop a long-range plan to enhance higher education achievement.

Expand graduate degree programs at USM.

**Status:** USM and UM are cooperatively offering a graduate program in Bioscience. In fall 2003, USM will implement a MS in Biology. USM is negotiating with UM to participate in the Computer Science PhD program and made new faculty hires to support bioscience and computer science programs.
Goal II. Conduct world-class research

Strengthen R&D at Maine’s principal knowledge-generating institutions.

We will measure our success in reaching this goal by:

- increasing R&D spending by universities and nonprofit research labs to $200 per worker (2001 dollars)

$6.84 in grants for every $1.00 of state investment.

Plans by Acadia National Park to redevelop the Schoodic Naval Base into a research facility generated $4 million in federal funds and $.4 million in state bond funds.

Establish the Virtual Maine Biomedical Research Institute.

Status: In 2002 the Maine Research Coalition was created by Maine’s leading academic and nonprofit research institutions (Bigelow Laboratory for Ocean Sciences, Jackson Laboratory, Maine Medical Center Research Institute, University of Maine, University of Southern Maine, and the University of Maine System). Its formation recognizes that increasingly complex research requires a depth and breadth of human and technological resources that can only be attained by Maine’s higher education and research institutions, working in concert, in bold and creative ways.

Recapitalize the successful Marine Technology Fund.

Status: In fall 2001, the Economic Development Bond contained $1 million for the Marine Technology Fund. Six non-profit research institutions were awarded these funds through a competitive process managed by the Maine Technology Institute.

Track performance of expanded R&D effort.

Status: In 2002 the Maine Science and Technology Foundation produced the Maine Innovation Index that tracks Maine’s progress on over 70 indicators important for building research and development capacity and an innovation economy.

How do we compare?

In Maine (2000):

19% of adults with 4yr. degrees and (46th in nation) $255 per worker spent on R&D = $23,529 in per capital income (37th in nation)

If we increased our performance:

30% of adults with 4yr. degrees $1000 per worker spent on R&D = $28,000 in per capital income
Goal III. Create new products and services

Articulate and codify a coherent vision for R&D.

Status: In 2002 the Legislature formally moved responsibility for research and development activities into the Business, Research and Economic Development Committee.

We will measure our success in reaching this goal by:

✓ increasing R&D spending by industry to $835 per worker (2001 dollars)

Strengthen the State’s commitment to the Maine Technology Institute.

Status: The Legislature has invested nearly $16 million through the Maine Technology Institute in 280 projects. These funds are used to match private investments for the commercialization of new technologies, products, and services.

Develop a strategy to grow industry clusters.

Status: USM released an assessment of the marine biotechnology industry in 2000. The Maine Science & Technology Foundation released Assessing Maine’s Technology Clusters in June 2002 and convened a series of stakeholder meetings. This report was subsequently used by the Maine Technology Institute to refine its cluster enhancement award program.

Encourage investment by industry in research and development.

Status: In FY02 the Maine Technology Institute funded 122 projects totaling $3 million in state funds and $3.3 million in private funds. Together with matching funds MTI is supporting over $37 million in research and development leading to commercialization of new products and services in the state’s 16 counties. In nearly half of these projects MTI-funded companies chose to involve faculty and staff of the University of Maine System.

Other highlights include:

• State funds provided to MTI have leveraged 14 times as much in additional public and private funds;
• These Maine companies purchased 61% of their raw materials and services from other Maine companies;
• MTI companies indicate that 57% of their revenues were derived from sales outside of Maine, demonstrating an ability to compete in national markets.

Provide ongoing support to the Maine Patent Program.

Status: The Program has provided intellectual property counseling and assistance to over 130 Maine inventors and entrepreneurs, with an average of ten new clients per month currently seeking services. In addition, its educational seminars have reached several hundred Mainers eager to learn about the patent process, trademark rights, intellectual property strategies and licensing, and product commercialization. The Program has active partnerships with the Maine Technology Institute, Maine Small Business Development Centers, Maine Applied Technology Development Centers and the Maine Manufacturing Extension Partnership.