

## Life sciences help economy

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By Stan Freeman

SPRINGFIELD - Life science companies could help lead Massachusetts out of recession, thanks to \$1 billion state investment.

No one doubts that out of the wreckage of this devastated economy, great new companies will emerge. It will only be history repeating itself, part of the natural business cycle.

While the state's \$1 billion life sciences initiative, signed into law in June by Gov. Deval Patrick, was not intended specifically as a vehicle to renew Massachusetts economically, that could well be how it is remembered.

The initiative, which will provide \$250 million in tax credits for companies, \$250 million in research grants and \$500 million in bonding funds for capital projects, is aimed at making the commonwealth the global epicenter for the life sciences, principally medical research.

"I'm not sure how the state would invest in this particular sector without the initiative. People would be far less willing to take on bold new projects if this program didn't exist," said Lawrence M. Schwartz, a University of Massachusetts biology professor and the science director of the Pioneer Valley Life Sciences Institute in Springfield.

"The initiative was not necessarily something to turn the economy around," said Susan Windham-Bannister, the president and CEO of the Massachusetts Life Sciences Center, a Boston-based, quasi-public agency created to carry out the state's life sciences initiative.

"The life sciences have always contributed aggressively to the economy of Massachusetts and it was always the intent to invest in these sectors now to keep them revved up, to keep them a driving engine for the economy. But the down economy makes these investments all the more important," she added.

The ambitious, 10-year initiative includes \$95 million in earmarked funds for a life sciences research center at the University of Massachusetts in Amherst and \$5.5 million in earmarked funds for a "business incubator" at the Pioneer Valley Life Sciences Institute. The incubator program will give fledgling, high-tech medical companies an inexpensive place to get their start.

Numerous states and nations are trying to attract life sciences companies. While Massachusetts' initiative came later than some other similar incentive packages, the state had a head-start in other ways, Schwartz said.

"I don't think we're in late. The state has been supporting biotech for a long time," Schwartz said. "The center of the biotech world is Cambridge. This initiative is specifically targeted to promote this sector with a statewide strategy."

"A small company coming into Cambridge has very little ability to get a seat at the table, since there

are so many large (life sciences) companies already there," he said. "But on the other hand, if a small company comes out to Western Massachusetts, not only is it cheaper to do business out here, and real estate is cheaper, and the cost of living is lower, and there is an educated workforce out here, but they are also going to be a significant contributor to the community. Any company that comes out here will be appreciated."

"People need to get over the idea that the world stops at (Route) 128. When they come out here and they have a look, they realize there is a lot to offer out here," Schwartz said.

Sometimes, companies have specific needs that can't be met in the valley, though. In December, Qteros, of Hadley, a company that began as a spinoff of ethanol research done at the University of Massachusetts at Amherst, announced that it was moving to Greater Worcester because no facility existed in the Pioneer Valley that met its particular needs, especially high-pressure steam lines and extra-large bay doors through which industrial-size vats could be moved.

The loss of a promising company like Qteros stung some area officials who are intent on developing the biotech sector in this region. However, the state initiative will aid that effort in the long-run.

While funds will be available for both the UMass Life Science Center and the business incubator in Springfield, no decision has been made yet about when the projects will be started, Windham Bannister said. The state has a limit to how much money it can raise in a given year through the sale of bonds, and life science projects compete with other projects in the state, such as new roads or schools, for those funds.

She said that the way the initiative is written, capital projects have to be ranked by their potential economic benefits per dollar spent. For example, how many jobs does a project create for each \$1 million spent?

"We also have to take into consideration where the projects stand in terms of their readiness. We're in conversations with both UMass and the Pioneer Valley Life Sciences Institute about that. So we haven't made any final decisions yet about the sequencing of projects," she said.

President Barack H. Obama is expected shortly to reverse restrictions on federal funds for human embryonic stem cell research put in place eight years ago by his predecessor, George W. Bush. Stem cell research is seen as a key to finding treatments for intractable disease like Alzheimer's and Parkinson's diseases.

The policy change is likely to alter the direction of quite a bit of medical research in the state, according to Schwartz.

"Three or four years from now, I'll be very curious to see what happens with stem cell therapy. There is tremendous power offered by stem cells. Right now, people are trying to understand the basic biology. But we're almost on the cusp of being able to develop new therapies with it," he said.

At the institute in Springfield, according to Schwartz, "We have a number of investigators interested in treating diabetes and they would like to work on developing an artificial pancreas. The availability of embryonic stem cells for that application will provide a new tool for that study."

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