



## TEXAS POLICIES AND PROGRAMS

### HIGHLIGHTS

- *The Life Sciences is one of six industry clusters targeted by the state for development since 2004*
- *Texas' biopharmaceutical industry employed 166,000 workers and contributed \$35.7 billion to the state economy in 2006, including its direct, indirect and induced impacts*
- *The Texas Emerging Technology Fund invests approximately \$200 million per biennium to build R&D capacity, invest in commercialization, and support university-industry collaborations, almost half of these investments have been in the life sciences*
- *The Cancer Prevention and Research Institute of Texas is a \$3 billion, 10-year initiative that will support cancer research and attract senior and junior scientists to the state*

### Texas's Biopharmaceutical Industry

Texas has a sizable biopharmaceutical sector with a broad reach in terms of its impacts.<sup>1</sup> Biopharmaceutical firms in Texas employed nearly 25,000 in 2006 in a sector that has seen a compound annual growth rate of 2.5 percent in the 10 years through 1996.<sup>2</sup> Including its direct, indirect, and induced impacts, the state biopharmaceutical sector contributed \$35.7 billion in output in 2006 and is among the leading states in total output. Texas' capacity for biomedical research is evident in its large base of active clinical trials, 4,777 in 2008.

According to a cluster study commissioned by the Texas Healthcare and Bioscience Institute, the life science sector

Biopharmaceutical Sector Performance Measures	TX	US
Direct Employment, 2006	24,808	686,442
Direct Employment Growth (CAGR), 1996-2006	2.5%	3.1%
Average Annual Wages (Direct Employment), 2006	\$80,096	\$88,929
Total Supported Employment (incl. Direct), 2006	165,982	3,233,920
Total Economic Output, 2006 (\$ billions)	\$35.7	\$294.6
Direct Output per Direct Employee, 2006	\$335,629	\$128,925
Active Clinical Trials, 2008	4,777	21,795

Source: Archstone Consulting, *The Biopharmaceutical Sector's Impact on the U.S. Economy*, prepared for PhRMA, 2009.

CAGR = Compound Annual Growth Rate

overall, which includes medical devices and agricultural feedstock and chemicals and a number of other industry sectors in addition to biopharmaceuticals, employed 71,000 in 2008 and has created 8,600 new jobs in the 5 years since 2003, for a 5-year growth rate of 14 percent.<sup>3</sup> The report counted \$179 million in life-science venture capital investment in 2008, or \$800 million over the same 5-year period.<sup>4</sup>

"This cluster initiative is important because for the first time in the history of this state, we will have a coordinated, market-driven economic development strategy that focuses on areas where we have the greatest growth potential and focuses on fostering that potential."

Governor Rick Perry  
Texas Workforce Web Site

<http://www.twc.state.tx.us/news/ticluster.html>

### Texas's Approach to Growing the Biopharmaceutical Industry

In 2004, Governor Rick Perry announced that the state would focus its economic development efforts to grow six industry clusters, one of which was biotechnology and life sciences. A cluster, as defined by the National Governor's Association, is "a group of firms, related economic actors and institutions that are located near one another that draw productive advantage from their mutual proximity and connections."<sup>5</sup>

In 2005, legislation was passed creating the Emerging Technology Fund (ETF), which was designed to increase and better coordinate investments in R&D capacity and academic-industrial collaborations in support of the industry clusters. The ETF funds partnerships between state government, institutions of higher education and private industry to support development and commercialization of emerging technologies. Prior to creation of the ETF, the state had had only small matching-grant programs run by the Texas Higher Education Coordinating Board and generally relied on ad hoc appropriations made by the Legislature to any of the several campuses with life-science interests in two statewide systems of higher education (University of Texas and Texas A&M University).

The cluster strategy has been monitored and fine-tuned by regular reports issued by the Governor's office and most recently revisited by a Governor's Competitiveness Council, chartered in 2007 and reporting in 2008.<sup>6</sup> These have

generally endorsed the ETF strategy and called for continuation, expansion, and further elaboration.

Inside the major statewide university systems, there have also been efforts to bolster commercialization capacity. Statewide there are several major bioscience-oriented research and technology park projects on the drawing boards or proceeding toward fuller development.

Texas' efforts to build its life science sector received a boost in 2007 when Texas voters approved Proposition 15—House Joint Resolution 90, a constitutional amendment that allowed the state to create and fund the Cancer Prevention and Research Institute of Texas (CPRIT) that is described below.

### Major State Initiatives to Attract and Grow the Biopharmaceutical Industry

#### *Texas Emerging Technology Fund*

In the latest cycle—across all fields including the life sciences—the ETF allocated \$50 million to Research Superiority Awards, \$100 million to commercialization investments in early-stage companies with near-term potential, and \$50 million to university-industry matching awards for commercialization. Applications in the life sciences are received either through one of several Regional Centers for Innovation and Commercialization or through a single central Texas Life Science Center for Innovation and Commercialization. Either way, they are reviewed by a central ETF advisory committee with substantive expertise and formally approved by an ETF board composed of executive and legislative-branch officials. Of the 33 life-science companies in the ETF's multisector commercialization-grant portfolio, a significant fraction—probably about one-third—are in the biopharmaceutical sector. An example of a recent award is a \$50 million investment to help fund a planned National Center for Therapeutics Manufacturing at Texas A&M.

As of February 2009, ETF has allocated \$56 million to create 16 research centers at 12 universities, attracting more than 45 researchers and their teams to the state and creating more than \$69 million of industry capital investment.<sup>7</sup>

#### *Cancer Prevention and Research Institute of Texas (CPRIT)*

CPRIT is a state agency charged with creating and expediting innovation in cancer research, expanding the state's cancer research capabilities, creating high-quality new jobs, and developing and implementing the Texas Cancer Plan. The institute, which began operations in 2008, will award grants to fund innovative high-risk, high-reward cancer research projects and to recruit senior and junior scientists to Texas. The criteria for awarding grants include

"Since its inception, the ETF has galvanized the research environment in our state by harnessing Texans' amazing ideas and encouraging even greater efforts to inquire, innovate and invest," Gov. Perry said. "These investments make a difference not only by creating cures for diseases, therapies for afflictions and technologies that make life easier, but also by growing our economy and creating jobs that allow Texans to earn a living and support their families."

Office of the Governor  
Press Release  
10/21/2009

having demonstrable economic development to the state; expediting innovations and commercialization; and attracting, creating, or expanding private sector entities that will drive a substantial increase in high-quality jobs. The legislation that created the institute authorizes it to issue \$3 billion in general obligation bonds over a 10-year period to fund grants for cancer research. In 2009, the Legislature appropriated \$450 million to fund the institute for the next 2 years. The institute issued its first Request for Applications for its research programs and faculty recruitment programs in August 2009. The first research grant awards are due to be announced in early 2010. Eligible applicants include Texas-based public or private institutions of higher education, academic health institutions, government or nongovernmental organizations, and public or private companies or any combination of such entities. Research grants require 50 percent matching funds.

<sup>1</sup> The biopharmaceutical sector is defined as including pharmaceutical and medicine manufacturing and scientific research and development services.

<sup>2</sup> Archstone Consulting. *The Biopharmaceutical Sector's Impact on the U.S. Economy*, prepared for PhRMA, 2009.

<sup>3</sup> The following sectors are included in Texas' life science sector: pharmaceutical and medicine manufacturing; electronic instrument manufacturing; medical and dental equipment manufacturing; architectural, engineering, testing lab services; management and technical consulting services; scientific research and development services; market research and other professional services; and medical, diagnostic, lab and imaging centers.

<sup>4</sup> Texas Life Sciences Industry Profile, Texas Healthcare and Bioscience Institute, 2009.

<sup>5</sup> Innovation America: Cluster-Based Strategies for Growing State Economies, National Governor's Association, 02/23/2007.

<sup>6</sup> Council's Report to the Governor, Governor's Competitiveness Council, July 2008.

<sup>7</sup> "Gov. Perry Announces \$5 Million Grant to Texas A&M Health Science Center Institute of Regenerative Medicine," Press Release, Office of the Governor, 02/12/2009.

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