

Response to Request for Information: Building A 21st Century Bioeconomy

Tulane University
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(1) Grand Challenges for the Bioeconomy

The identification of Grand Challenges must represent an interactive and collaborative process that incorporates input from individual university-based researchers and senior administrators, together with Federal agencies, and industry. Among the nation's grand challenges that are currently being addressed, Tulane University has been particularly focused on **(a) Biomedical and Bioengineering Research**: continued development of its rapidly emerging Biosciences Corridor; and **(b) Coastal Restoration, Environmental and Ecological Research**: research and development related to Gulf of Mexico coastal restoration and protection of related wetland and energy resources that drive the state's economy.

(a) Biomedical and Bioengineering Research: Advances in health care are built upon the foundation of academic biomedical, biological, and bioengineering research. Continued federal support in those core research areas is essential for the success of current and ongoing private and state investments in the New Orleans Biosciences Corridor. Examples of recent area investments include:

- New Orleans BioInnovation Center
Status: Open & Operating. Completed: June 2011. Size: 66,000 square feet of state-of-the-art wet-lab, office and conference space. Cost: \$47 million. To house biotech and life sciences entrepreneurs and startups, as well as support research at four area universities; housing about 200 employees from 80 companies at full capacity. Critical link that turns university research into privately commercializable enterprises. Five biotech start-ups and two venture capital firms have already moved into the building, and twelve more are on the way
- University Medical Center
Status: Site preparation work, construction to begin by year end. Completion: April 2011/2015. Site: 34 acres. Size: 2.2 million square feet, 424-bed public hospital. Cost: \$1.09 billion; state lawmakers approved funding September 2011. Jobs: 5,280 new and saved jobs over first five years. Part of collaborative complex with the new VA Medical Center (see above). Both will be key academic anchors for LSU, Tulane, Dillard, Xavier, SUNO, Delgado, and others throughout South Louisiana
- Louisiana Cancer Research Center

Status: Under Construction. Completion: Year End 2011. Size: Shared 175,000 square-foot, 10-story facility. Cost: \$90 million. Developed by a partnership among LSU Health Sciences Center, Tulane University, Xavier University of Louisiana, and Ochsner Health System

- Veterans Affairs Medical Center

Status: Under Construction. Completion: June 2011/Late 2014, full activation 2015. Site: 30 acres. Size: 1.6 million square feet; 200-bed complex will serve over 70,000 enrolled Veterans. Cost: \$995 million construction budget (fully funded). Jobs: 1,100 new employees

- Ochsner Health System

Relocating 500 to 750 employees to the CBD during the 1st Quarter 2012

Moving executive, corporate and business functions (no medical care)

80,000 square feet on top 4 floors of the Benson Tower (enough room to grow to 1,000 employees)

(b) Coastal Restoration, Environmental and Ecological Research: Continued federal support for basic and applied ecological and environmental and societal research is essential for the survival and growth of two of the key economic drivers of the Gulf States: the seafood industry and energy production. University-based research in core disciplines supporting those economic drivers is rapidly growing and expanding among all of the Gulf Coast States.

(2) Federal funding priorities in research, technologies, and infrastructure to provide the foundation for the bioeconomy.

- It is essential that traditional life sciences and basic science research be integral components of the new bioeconomy blueprint.
- Federal funding priorities should not neglect the importance of investing in high-risk – high reward research, including individual investigator-initiated research as well as problem-driven multidisciplinary collaborative research and development driven.
- Federal investments in critical infrastructure are of particular importance. These include programs that provide essential funding for construction, renovation, and major equipment, in addition to support for research graduate students, postdoctoral researchers, and emerging research faculty. One of the major challenges facing research universities today is recruiting and retaining motivated and energetic graduate students and faculty.

(6) Changes to Federal SBIR and STTR Programs.

- States like Louisiana that are aggressively investing in new infrastructure in order to enhance their abilities to compete in the areas of biological and biosciences technology and innovation struggle to navigate the existing SBIR and STTR programs that tend to require already existing local industry capabilities and ties. We would suggest that the Administration establish additional support mechanisms, including workshops and other outreach, to bolster SBIR/STTR competitiveness specifically in EPSCoR states in order to promote the development of new bioeconomy tools.

(9) Workforce Development.

- Attracting and retaining qualified graduate students, postdoctoral researchers, and research faculty to careers in biological and bioscience fields is one of the major challenges facing U.S. universities today. Existing programs such as the NSF Integrative Graduate Education and Research Trainee (IGERT) Research Traineeship, and Grant Opportunities for Academic Liaison with Industry (GOALI) programs, and the NIH Centers of Biomedical Research Excellence (COBRE) program are extremely important resources that facilitate the training and development of scientists and engineers and foster the skills needed for the bioeconomy workforce. Additional or enhanced programs that help universities in their efforts to mentor emerging faculty, postdoctoral researchers and graduate students from all scientific disciplines in order to accelerate their integration into the bioeconomy workforce are needed.

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