

Remarks to the
Transportation, Infrastructure, and Capitals Appropriations Subcommittee
February 17, 2011

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Senator McCoy, Representative Huseman, and members of the Subcommittee: Thank you for this opportunity to describe Iowa State's request for funding to complete the Agricultural and Biosystems Engineering Complex—the university's top capital priority.

We're very grateful for the work that you do, and for the strong support that this body and the State have shown the university in the past. Because of the economic downturn, we know that this year presents real budget challenges, and we appreciate your consideration of this appropriations request.

Let me briefly describe the ABE Complex. The first phase—a building called the Biorenewables Research Laboratory—has already been completed. It was dedicated last September, and our faculty and students are now using that laboratory to develop new technologies to produce biorenewable chemicals and fuels. Over \$8M of externally funded research will be conducted in that building this year with support from 20 companies and federal agencies—including a \$22M grant from ConocoPhillips, and an \$18M grant from the National Science Foundation. In short, the State of Iowa is realizing a good return on its investment. I invite you to visit campus for a tour: our research and courses in biorenewable technology are world-class, and truly a point of pride for our state.

We are requesting the state appropriations necessary to construct the second phase of the Ag and Biosystems Engineering Complex: two wings that will house classrooms, laboratories, and offices. Phase two will become the new home for the Department of Agricultural and Biosystems Engineering. It will be funded as a public-private partnership, with the state appropriations spread over the next two fiscal years: \$19.4M in FY12, and \$41M in FY13. It is important to note that we have already secured significant gift commitments from our alumni and corporate partners: over \$12M toward a private fundraising target of \$14.1M. Iowa State alum Virgil Elings has generously made a gift to name one of the complex's wings. The Sukup family, John Deere, and other friends of agriculture and engineering at Iowa State have likewise stepped forward with their financial commitments and endorsement of this project's importance.

The modern classrooms and laboratories of the ABE Complex will enable Iowa State to remain at the forefront of agricultural engineering and the bioeconomy, supporting our students and their learning, and building Iowa's workforce and economy. And because the current home of our agricultural engineering department is 80 years old, significant savings will be realized through lower maintenance and energy costs.

Again, thank you for your time this morning, and I would be pleased to answer any questions that you may have.

Building Iowa's Future

ABE Complex Funding

Establishing a new home for the Department of Agricultural and Biosystems Engineering (ABE) is the top capital priority for Iowa State. The buildings are a key component of the ABE complex—in September 2010, the first phase opened with the dedication of the Biorenewables Research Laboratory.

Positioning students to succeed

ABE combines the **two disciplines for which Iowa State is most famous: agriculture and engineering**. Undergraduate enrollment exceeds 500, making it the largest program of its kind in the nation. The program is also highly ranked: No. 3 in the latest US News rankings.

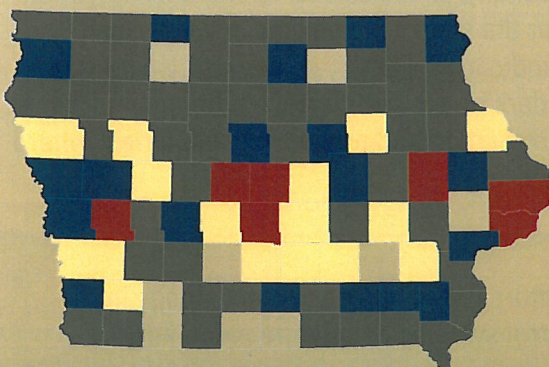


New buildings with modern classrooms and laboratories will **provide a better teaching and learning environment**.

These facilities will help Iowa State's professors **ensure success** with their lessons, as well as **encourage collaboration** and **use of technology** to prepare 21st century engineers.

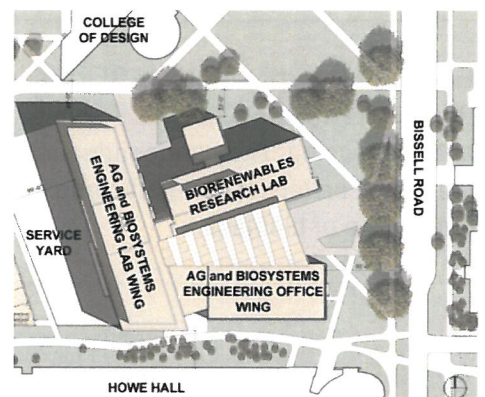
Seventy percent of graduates stay in Iowa to launch careers supporting manufacturing; grain and food processing; agricultural machinery; crop production; meat processing; and animal production.

Students from **90 Iowa counties** are enrolled in ABE.



Number of students

- 11-33 (7 counties)
- 6-10 (15 counties)
- 2-5 (49 counties)
- 1 (19 counties)



Public-private partnership—Laying the groundwork

More than **\$12M in gifts and commitments** has been secured, with a final goal of raising \$14.1M. This symbolizes **strong public and industry support** from within Iowa for this project. State appropriations of \$60.4M are needed to complete the project. Total project cost: \$74.5M allocated over 3 years.

ABE's Service to Iowa

Partnerships with Iowa-based industries. Each year faculty and staff work directly with many companies. They take an interdisciplinary, systems approach and enjoy strong connections with the most highly visible and forward-looking companies in the agricultural and technology industries. Often, faculty engage multiple industries, which leads to quicker process development and research outcomes that translate to business plan development. In 2009–2010, ABE faculty served in collaboration with companies that included POET, Vermeer, DuPont-Danisco, John Deere, Pella, Grain Processing Corp., SoyWorks, Tone's Spices, and Kinze Manufacturing.

Bioeconomy. ABE is a linchpin in how science and technology link to future prosperity in the bioeconomy. ABE is providing leadership and innovation that Iowa will depend on to keep the state in the forefront in the fast-moving, competitive bioeconomy. Recent ABE advances include: a technology licensed by John Deere to collect corn cobs for cellulosic ethanol production; and engaging multiple industries to develop solutions for economic biomass supply chains to support bioenergy and biorefining.



Energy from biomass. ABE researchers are key to fulfilling goals of Iowa State University's BioCentury Research Farm, the nation's first integrated research and demonstration farm devoted to biomass production and processing. They are conducting studies at the facility that support production-scale cellulosic biomass feedstock collection, and advance the discovery, development, and deployment of technologies for sustainable production of biomass.



Water quality. ABE faculty and staff are studying the fate and transport of contaminants in soil and water, particularly pesticides. The department is a leader in exploring new agricultural drainage systems on farmland statewide. Faculty serve to inform state and federal decision-makers on water quality policy options.

Air quality. ABE has one of the best faculty teams in the nation working on emissions, odors, and mitigation strategies for the state's multibillion dollar animal agriculture industries. Faculty scientists also serve as national leaders on air quality and environmental issues in the egg production and processing industries, where Iowa ranks #1.

Precision. ABE faculty are showing how a suite of precision agriculture technologies can put money in producers' pockets. They are developing advanced sensing and control systems to optimize machinery management. Improvements will further promote the agronomic and environmental gains from use of precision technology in crop fields.